Appendices

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APPENDIX 1
Nutrition

Appendix 1-1 Explanation of Dietary Reference Values

AI, Adequate Intake The amount of a specific nutrient needed to achieve a specific indication (e.g., to maintain bone mass).

DRI, Dietary Reference Intake A nutrient recommendation index based on the parameters specified in the Average Intake, Estimated Average Requirement, Recommended Dietary Allowance, and Upper Intake values.

DRV, Daily Reference Value Standards for nutrient intake set for both macronutrient and micronutrient dietary components that lack a Recommended Dietary Allowance. The Dietary Reference Value for some nutrients represents their Upper Limit.

DV, Daily Value A dietary reference term that encompasses the Dietary Reference Value and Reference Daily Intake. It is used to calculate the labeled percent of each nutrient that a serving of the product provides.

EAR, Estimated Average Requirement The estimated intake of a nutrient that meets the nutritional needs of 50% of the individuals within a given age-gender cohort.

ESADDI, Estimated Safe and Adequate Daily Intake The amount of a nutrient calculated to meet the needs of half of the individuals in that age group.

RDA, Recommended Dietary Allowance The amount of a specific dietary component, as established by the National Academy of Sciences, required to meet the needs of 97% of the individuals in a given age-gender cohort. $RDA = EAR + 2SD_{EAR}$

RDI, Reference Daily Intake The nutrient intake standard established by the U.S. Food and Drug Administration as a food label reference for macronutrients and micronutrients.

RNI, Recommended Nutrient Intake The Canadian nutrient intake standard.

US RDA, U.S. Recommended Daily Allowance A nutritional standard formerly promulgated by the FDA and now replaced by the Recommended Dietary Allowance.

UL, Tolerable Upper Intake Level The highest intake per day that is likely to produce no adverse health risks.

Appendix 1–2 Recommended Daily Dietary Allowances [a] (Revised 2004)

							Fat-Soluble Vitamins			Water-Soluble Vitamins	Minerals			
Category	Age (yr) or Condition	Weight[b] (kg)	Weight[b] (lb)	Height[b] (cm)	Height[b] (in.)	Protein (g)	Vitamin A (μg RE)[c]	Vitamin E (mg α-TE)[d]	Vitamin K (μg)	Vitamin C (mg)	Iron (mg)	Zinc (mg)	Iodine (μg)	Selenium (μg)
Infants	0.0–0.5	6	13	60	24	9.1	400	4	2.0	40	0.27	2	110	15
	0.5–1.0	9	20	71	28	13.5	500	5	2.5	50	11	3	130	20
Children	1–3	13	29	90	35	13	300	6	30	15	7	3	90	20
	4–8	20	44	112	44	19	400	7	35	25	10	5	90	30
Male	9–13	45	99	157	62	34	600	11	60	45	8	8	120	40
	14–18	66	145	176	69	52	900	15	75	75	11	11	150	50
	19–30	72	160	177	70	56	900	15	120	90	8	11	150	55
	31–50	79	174	176	70	56	900	15	120	90	8	11	150	55
	51+	77	170	173	68	56	900	15	120	90	8	11	150	55
Female	9–13	46	101	157	62	34	600	11	60	45	8	8	120	40
	14–18	55	120	163	64	46	700	15	75	65	15	9	150	55
	19–30	58	128	164	65	46	700	15	90	75	18	8	150	55
	31–50	63	138	163	64	46	700	15	90	75	18	8	150	55
	51+	65	143	160	63	46	700	15	90	75	8	8	150	55
Pregnant					60	71	770	15	90	85	27	11	220	60
Lactating	1st 6 months				71		1300	19	90	120	9	12	290	70
	2nd 6 months				71		1200	19	90	120	9	12	290	70

[a] The allowances, expressed as average daily intakes over time, are intended to provide for individual variations among most normal persons living in the United States under usual environmental stresses. Diets should be based on a variety of common foods in order to provide other nutrients for which human requirements have been less well defined.

[b] Weights and heights of reference adults are actual medians for the U.S. population of the designated age, as reported by NHANES II [second National Health and Nutrition Examination Survey]. The median weights and heights of those under 19 years of age were taken from Hamill et al. [Physical Growth: National Center for Health Statistics percentiles. Am J Clin Nutr 32:607, 1979]. The use of these figures does not imply that the height-to-weight ratios are ideal.

[c] Retinol equivalents. 1RE = 1 μg retinol or 6 μg beta-carotene.

[d] Alpha-tocopherol equivalents. 1 mg d-alpha tocopherol = 1 alpha-TE.

SOURCE: From National Research Council. Dietary Reference Intakes: Applications in Dietary Assessment, Copyright 2000 and Dietary Reference Intakes: Applications in Dietary Planning, Copyright 2003 by the National Academy of Sciences. Revised 2004. Courtesy of the National Academy Press, Washington, DC. www.nap.edu

Appendix 1–3 Dietary Reference Intakes: Recommended Intakes for Individuals

Life Stage Group	*Calcium (mg/day)*	*Phosphorus (mg/day)*	*Magnesium (mg/day)*	*Vitamin D (μm/day)[a,b]*	*Fluoride (mg/day)*	*Thiamine (mg/day)*	*Riboflavin (mg/day)*	*Niacin (mg/day)[c]*	*Vitamin B_6 (mg/day)*	*Folate (μg/day)[d]*	*Vitamin B_{12} (μg/day)*	*Pantothenic Acid (mg/day)*	*Biotin (μg/day)*	*Choline (mg/day)[e]*
Infants														
0–6 months	210*	100*	30*	5*	0.01*	0.2*	0.3*	2	0.1*	65*	0.4*	1.7	5	125
7–12 months	270*	275*	75*	5*	0.5*	0.3*	0.4*	4	0.3*	80*	0.5*	1.8	6	150
Children														
1–3 years	500*	**460**	**80**	5*	0.7*	**0.5**	**0.5**	**6**	**0.5**	**150**	**0.9**	2	8	200
4–8 years	800*	**500**	**130**	5*	1*	**0.6**	**0.6**	**8**	**0.6**	**200**	**1.2**	3	12	250
Males														
9–13 years	1,300*	**1,250**	**240**	5*	2*	**0.9**	**0.9**	**12**	**1.0**	**300**	**1.8**	4	20	375
14–18 years	1,300*	**1,250**	**410**	5*	3*	**1.2**	**1.3**	**16**	**1.3**	**400**	**2.4**	5	25	550
19–30 years	1,000*	**700**	**400**	5*	4*	**1.2**	**1.3**	**16**	**1.3**	**400**	**2.4**	5	30	550
31–50 years	1,000*	**700**	**420**	5*	4*	**1.2**	**1.3**	**16**	**1.3**	**400**	**2.4**	5	30	550
51–70 years	1,200*	**700**	**420**	10*	4*	**1.2**	**1.3**	**16**	**1.7**	**400**	**2.4** [f]	5	30	550
>70 years	1,200*	**700**	**420**	15*	4*	**1.2**	**1.3**	**16**	**1.7**	**400**	**2.4** [f]	5	30	550
Females														
9–13 years	1,300*	**1,250**	**240**	5*	2*	**0.9**	**0.9**	**12**	**1.0**	**300**	**1.8**	4	20	375
14–18 years	1,300*	**1,250**	**360**	5*	3*	**1.0**	**1.0**	**14**	**1.2**	**400** [g]	**2.4**	5	25	400
19–30 years	1,000*	**700**	**310**	5*	3*	**1.1**	**1.1**	**14**	**1.3**	**400** [g]	**2.4**	5	30	425
31–50 years	1,000*	**700**	**320**	5*	3*	**1.1**	**1.1**	**14**	**1.3**	**400** [g]	**2.4**	5	30	425
51–70 years	1,200*	**700**	**320**	10*	3*	**1.1**	**1.1**	**14**	**1.5**	**400**	**2.4** [f]	5	30	425
>70 years	1,200*	**700**	**320**	15*	3*	**1.1**	**1.1**	**14**	**1.5**	**400**	**2.4** [f]	5	30	425
Pregnancy														
≤18 years	1,300*	**1,250**	**400**	5*	3*	**1.4**	**1.4**	**18**	**1.9**	**600** [h]	**2.6**	6	30	450
19–30 years	1,000*	**700**	**350**	5*	3*	**1.4**	**1.4**	**18**	**1.9**	**600** [h]	**2.6**	6	30	450
31–50 years	1,000*	**700**	**360**	5*	3*	**1.4**	**1.4**	**18**	**1.9**	**600** [h]	**2.6**	6	30	450

Lactation															
	≤18 years	1,300*	**700**	**360**	5*	3*	**1.4**	**1.6**	**17**	**2.0**	**500**	**2.8**	7	35	550
	19–30 years	1,000*	**700**	**310**	5*	3*	**1.4**	**1.6**	**17**	**2.0**	**500**	**2.8**	7	35	550
	31–50 years	1,000*	**700**	**320**	5*	3*	**1.4**	**1.6**	**17**	**2.0**	**500**	**2.8**	7	35	550

[a] As cholecalciferol. 1 μg cholecalciferol = 40 IU vitamin D.

[b] In the absence of adequate exposure to sunlight.

[c] As niacin equivalents (NE). 1 mg of niacin = 60 mg of tryptophan; 0–6 months = preformed niacin (not NE).

[d] As dietary folate equivalents (DFE). 1 DFE = 1 μg food folate = 0.6 μg of folic acid from fortified food or as a supplement consumed with food = 0.5 μg of a supplement taken on an empty stomach.

[e] Although AIs have been set for choline, there are few data to assess whether a dietary supply of choline is needed at all stages of the life cycle, and it may be that the choline requirement can be met by endogenous synthesis at some of these stages.

[f] Because 10 to 30% of older people may malabsorb food-bound B_{12}, it is advisable for those older than 50 years to meet their RDA mainly by consuming foods fortified with B_{12} or a supplement containing B_{12}.

[g] In view of evidence linking folate intake with neural tube defects in the fetus, it is recommended that all women capable of becoming pregnant consume 400 μg from supplements or fortified foods in addition to intake of food folate from a varied diet.

[h] It is assumed that women will continue consuming 400 μg from supplements or fortified food until their pregnancy is confirmed and they enter prenatal care, which ordinarily occurs after the end of the periconceptional period—the critical time for formation of the neural tube.

This table presents Recommended Dietary Allowances (RDAs) in bold type and Adequate Intakes (AIs) in ordinary type followed by an asterisk (*). RDAs and AIs may both be used as goals for individual intake. RDAs are set to meet the needs of almost all (97 to 98%) individuals in a group. For healthy breastfed infants, the AI is the mean intake. The AI for other life-stage and gender groups is believed to cover needs of all individuals in the group.

Appendix 1–4 Dietary Reference Intakes: Tolerable Upper Intake Levels (UL[a]) for Certain Nutrients and Food Components

Life-Stage Group	*Calcium (g/day)*	*Phosphorus (g/day)*	*Magnesium (mg/day)* [b]	*Vitamin D (μg/day)*	*Fluoride (mg/day)*	*Niacin (mg/day)* [c]	*Vitamin B_6 (mg/day)*	*Folate (μg/day)*	*Choline (g/day)*
0–6 months	ND [d]	ND	ND	25	0.7	ND	ND	ND	ND
7–12 months	ND	ND	ND	25	0.9	ND	ND	ND	ND
1–3 years	2.5	3	65	50	1.3	10	30	300	1.0
4–8 years	2.5	3	110	50	2.2	15	40	400	1.0
9–13 years	2.5	4	350	50	10	20	60	600	2.0
14–18 years	2.5	4	350	50	10	30	80	800	3.0
19–70 years	2.5	4	350	50	10	35	100	1,000	3.5
> 70 years	2.5	3	350	50	10	35	100	1,000	3.5
Pregnancy									
≤18 years	2.5	3.5	350	50	10	30	80	800	3.0
19–50 years	2.5	3.5	350	50	10	35	100	1,000	3.5
Lactation									
≤ 18 years	2.5	4	350	50	10	30	80	800	3.0
19–50 years	2.5	4	350	50	10	35	100	1,000	3.5

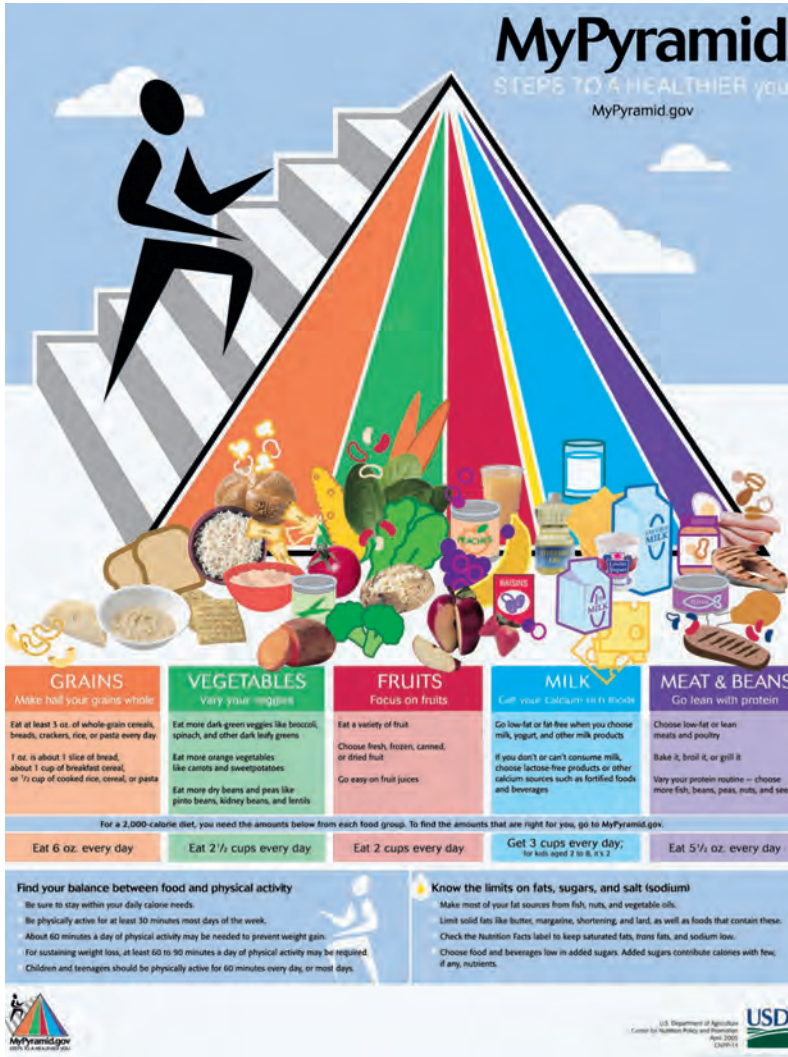
[a] UL = The maximum level of daily nutrient intake that is likely to pose no risk of adverse effects. Unless otherwise specified, the UL represents total intake from food, water, and supplements. Due to lack of suitable data, ULs could not be established for thiamine, riboflavin, vitamin B_{12}, pantothenic acid, and biotin. In the absence of ULs, extra caution may be warranted in consuming levels above recommended intakes.

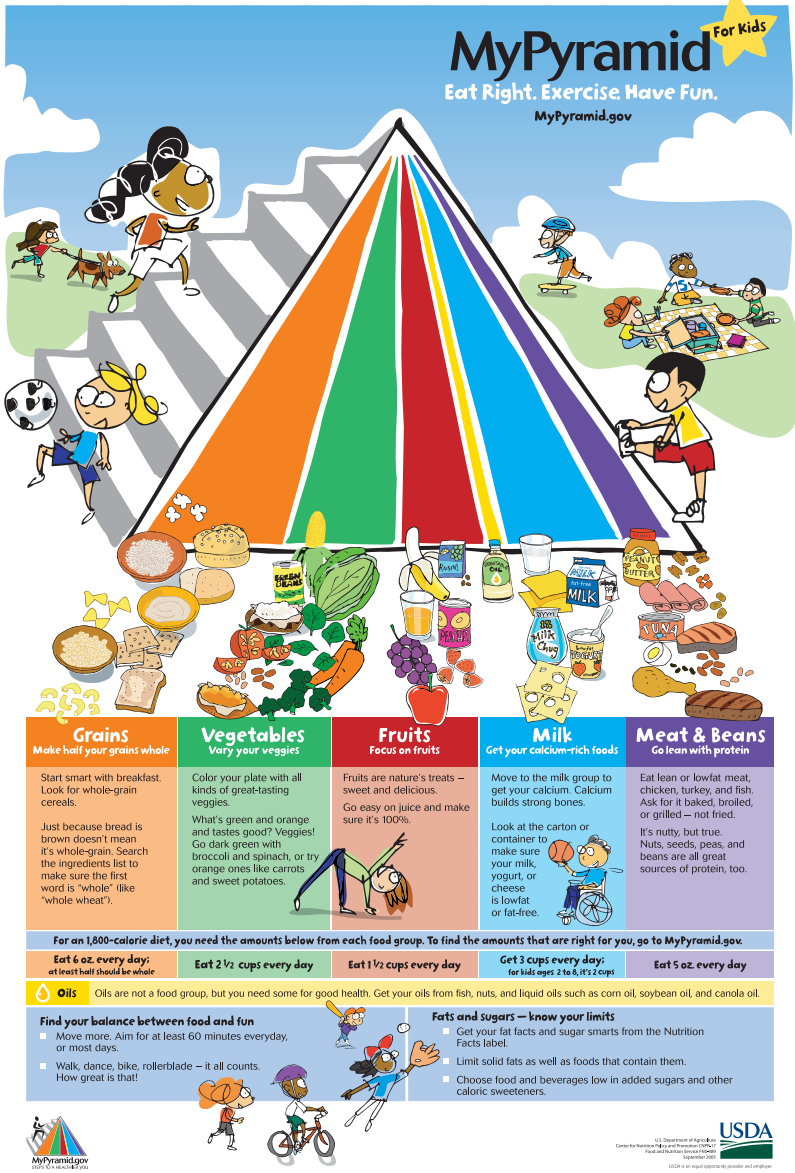
[b] The UL for magnesium represents intake from a pharmacological agent only and does not include intake from food and water.

[c] The ULs for niacin and folate apply to synthetic forms obtained from supplements, fortified foods, or a combination of the two.

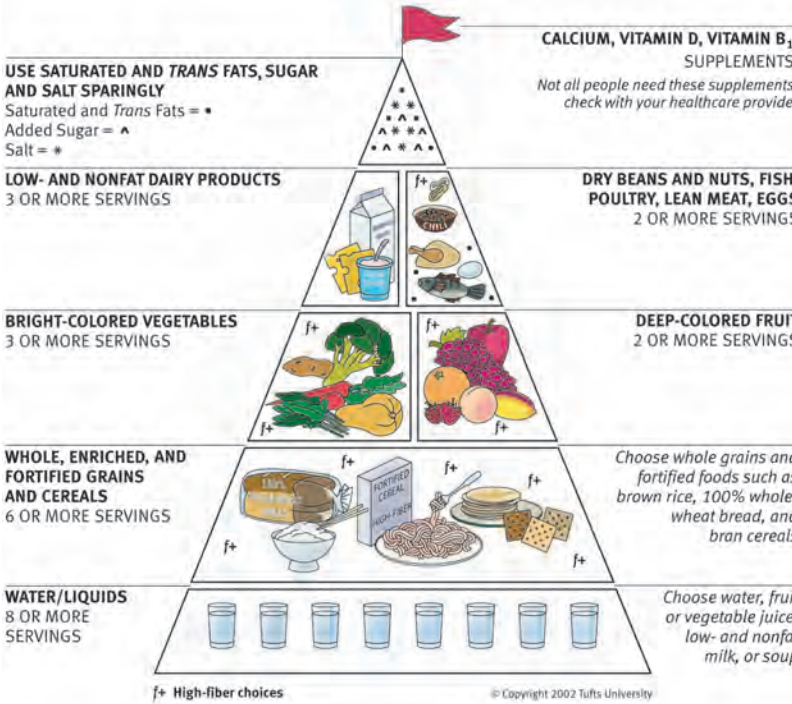
[d] ND: Not determinable due to lack of data of adverse effects in this age group and concern with regard to lack of ability to handle excess amounts. Source of intake should be from food only to prevent high levels of intake.

Appendix 1–5 Food Guide Pyramids




MyPyramid
For Kids
Eat Right. Exercise. Have Fun.
MyPyramid.gov
Grains
Make half your grains whole
Start smart with breakfast. Look for whole-grain cereals.
Just because bread is brown doesn't mean it's whole-grain. Search the ingredients list to make sure the first word is "whole" (like "whole wheat").
Eat 6 oz. every day;
at least half should be whole
Vegetables
Vary your veggies
Color your plate with all kinds of great-tasting veggies.
What's green and orange and tastes good? Veggies! Go dark green with broccoli and spinach, or try orange ones like carrots and sweet potatoes.
Eat 2 1/2 cups every day
Fruits
Focus on fruits
Fruits are nature's treats – sweet and delicious.
Go easy on juice and make sure it's 100%.
Eat 1 1/2 cups every day
Milk
Get your calcium-rich foods
Move to the milk group to get your calcium. Calcium builds strong bones.
Look at the carton or container to make sure your milk, yogurt, or cheese is lowfat or fat-free.
Get 3 cups every day:
for kids ages 2 to 8, it's 2 cups
Meat & Beans
Go lean with protein
Eat lean or lowfat meat, chicken, turkey, and fish. Ask for it baked, broiled, or grilled – not fried.
It's nutty, but true. Nuts, seeds, peas, and beans are all great sources of protein, too.
Eat 5 oz. every day
For an 1,800-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.
Oils
Oils are not a food group, but you need some for good health. Get your oils from fish, nuts, and liquid oils such as corn oil, soybean oil, and canola oil.
Find your balance between food and fun
Move more. Aim for at least 60 minutes everyday, or most days.
Walk, dance, bike, rollerblade – it all counts. How great is that!
Fats and Sugars – know your limits
Get your fat facts and sugar smarts from the Nutrition Facts label.
Limit solid fats as well as foods that contain them.
Choose food and beverages low in added sugars and other caloric sweeteners.
MyPyramid.gov
USDA

Food Guide Pyramid for Older Adults



For additional copies go to http://nutrition.tufts.edu

Modified Food Pyramid for 70+ Adults: Translating Guidelines into Daily Eating

Food Group	*What's a Senior to Do Every Day*	*Best Choices (each equals one serving)*
Bread, fortified cereal, rice, and pasta	Strive for 6 servings of high-fiber, unrefined whole grains.	1 slice whole-grain bread; $\frac{1}{2}$ cup cooked brown rice; 1 oz fortified cereal
Vegetables	Munch on 3 servings of bright-colored vegetables each day—look for dark green, red, orange, and yellow (best sources of valuable nutrients).	1 cup raw spinach; $\frac{1}{2}$ cup mashed squash; $\frac{3}{4}$ cup 100% vegetable juice. NOTE: If you boil vegetables, use the cooking water (many vitamins and minerals are in it) in sauces, soups, or stews.
Fruits	Snack on 2 servings of brightly colored fruits	1 med. orange, banana, apple; $\frac{1}{2}$ cup berries; $\frac{1}{4}$ cup raisins or prunes; $\frac{3}{4}$ cup 100% juice—select juice with calcium
Milk, yogurt, and cheese	Eat 2–3 servings of low-fat or non-fat dairy foods. These are great sources of calcium and vitamin D.	1 cup low-fat milk or yogurt; $1\frac{1}{2}$ oz low-fat natural cheese. NOTE: If you have trouble digesting milk products, try lactose-free dairy products, or add lactose enzymes to milk.
Meat, poultry, fish, dried beans, (legumes), eggs, and nuts	Eat 2 servings of these high-protein foods. Fish is great—its omega-3 fatty acids have many health benefits. Beans provide fiber and nutrients as well as protein, and are less expensive than meat.	$\frac{1}{2}$ cup cooked lentils or other legumes (dried or canned); 1 egg or 2 egg whites; 2–3 oz fish, lean meat, or skinless poultry
Fats, oils, and sweets	Choose these foods sparingly. Use oils, tub margarine, and butter instead of solids (shortening, stick butter, and margarine.	1 teaspoon oil: olive, canola, peanut, safflower, sunflower, corn, cottonseed, or flaxseed

Pay Special Attention to:
Fluid. Drink 8 eight-ounce glasses per day whether you feel thirsty or not. Don't count alcohol or caffeine-containing fluids in the 8 glasses per day.
Fiber. Dietary fiber may help to relieve constipation.
Supplements. It's tough for people over 70 to get enough calcium, vitamin B_{12} , and vitamin D in their diets. Take supplements of these three nutrients regularly.
SOURCE: Nutrition in Clinical Care, Vol 2, No. 3, 1999, p 186, with permission.

Appendix 1–6 Vitamins *

Vitamin	*Chief Functions*	*Results of Deficiency or Overdose*	*Characteristics*	*Good Sources*
VITAMIN A Retinol (animal sources) Carotene Beta-carotene (plant sources)	Maintains epithelial membranes; functions in infection resistance; needed to form rhodopsin; prevents night blindness; ensures proper bone growth; facilitates RNA transcription.	*Deficiency:* Increased susceptibility to infection; abnormal function of gastrointestinal, genitourinary, and respiratory tracts; skin dries, shrivels, thickens; sometimes pustule formation; xerophthalmia, a characteristic eye disease. *Overdose:* Bleeding disorders; bone decalcification; immune system stimulation; fatigue; nausea; diarrhea; dry skin; brittle nails; jaundice.	Fat soluble; stable during cooking; destroyed by heat and oxygen together; marked capacity for storage in the liver.	Liver; dark green leafy vegetables, esp. escarole, kale, and parsley; yellow-orange fruits, esp. carrots, apricots, and cantaloupe; butter or fortified margarine; milk and dairy products; meats, fish, and poultry.
VITAMIN B_1 Thiamine	Involved in carbohydrate metabolism; essential for normal nervous tissue function; acts as a coenzyme for cellular energy production.	*Deficiency:* Weakness; wasting; mental confusion; peripheral paralysis; edema; beriberi.	Water soluble; stable during most cooking; destroyed by alkali or sulfites; not stored in the body. Note: Deficiency often accompanies alcoholism.	Brewer's yeast; pork; soy milk; liver; milk; enriched or whole-grain cereals; beans; nuts.
VITAMIN B_2 Riboflavin	Acts as a coenzyme in cellular oxidation; essential to normal growth; participates in light adaptation; vital to protein metabolism; associated with functions of niacin and vitamin B_6.	*Deficiency:* Cheilosis; glossitis; dermatitis around mouth and nose; corneal reddening; light hypersensitivity.	Water soluble; alcohol soluble; stable during most cooking; destroyed by alkali; unstable in light.	Milk and dairy products; collard greens; broccoli; whole-grain or enriched breads and cereals; liver; meat, fish, and poultry; eggs; legumes.
VITAMIN B_6 Pyridoxine Pyridoxal Pyridoxamine	Used in hemoglobin synthesis; essential for metabolism of tryptophan to niacin; needed for utilization of other amino acids.	*Deficiency:* Anemias; depressed immunity; dermatitis around mouth and nose; neuritis; anorexia; nausea; vomiting.	Water soluble; alcohol soluble; inactivated by heat, sunlight, or air.	Meats; liver; cereal grains; bananas; nuts.

*See App. 1-2 for recommended daily allowances.

Vitamins (Continued)

Vitamin	*Chief Functions*	*Result of Deficiency or Overdose*	*Characteristics*	*Good Sources*
VITAMIN B_{12} Cyanocobalamin Hydroxycobalamin	Needed for myelin synthesis; essential for proper red blood cell development; associated with folate metabolism.	*Deficiency:* Pernicious anemia; neurological disorders.	Water soluble; alcohol soluble; unstable in hot alkaline or acid solutions.	Synthesized by gastrointestinal flora; meat; yeast; milk; eggs.
VITAMIN C Ascorbic acid	Acts as an antioxidant; essential to formation of the protein collagen; facilitates iron absorption; facilitates cholesterol conversion to bile acids; essential to serotonin synthesis.	*Deficiency:* Joint tenderness; lowered resistance to infections; susceptibility to dental caries, pyorrhea, and bleeding gums; delayed wound healing; bruising; anemia; hemorrhaging; scurvy. *Overdose:* Nausea; diarrhea; hemolytic anemia; gout; kidney stones.	Water soluble; destroyed by light; heat hastens the process; lost in cooking when water is discarded; cooking loss is increased in iron or copper utensils. Stored in the body to a limited extent.	Citrus fruit; strawberries; green peppers; mustard greens; cauliflower.
VITAMIN D Calciferol Ergocalciferol Cholecalciferol Calcitriol Antirachitic factor	Promotes gastrointestinal absorption of calcium and phosphorus; promotes bone and tooth mineralization; promotes renal calcium absorption; antirachitic.	*Deficiency:* Interferes with utilization of calcium and phosphorus in bone and tooth formation; irritability; weakness; rickets in young children; osteomalacia in adults. *Overdose:* Irritability; kidney stone formation; calcification of soft tissues.	Fat soluble; soluble in organic solvents; relatively stable when refrigerated; stored in liver; often associated with vitamin A.	Formed in the skin by sunlight exposure; fortified milk and dairy products; egg yolks; liver; fatty fish, esp. salmon, tuna, herring, and sardines; oysters.
VITAMIN E Alpha-tocopherol Beta-tocopherol Gamma-tocopherol	Prevents oxidative damage of lipids and cell membranes; promotes red blood cell stability.	*Deficiency:* Immune system suppression; red blood cell hemolysis.	Fat soluble; destroyed by heat; destroyed by oxidation.	Vegetable oils, esp. soybean and corn; wheat germ.

FOLATE Folacin Folic acid	Needed for normal hematopoiesis; important coenzyme for nucleic acid synthesis; facilitates fetal development for neural tube closure; functions interrelated with those of vitamin B_{12}.	*Deficiency:* Note: Neural tube defects including spina bifida and anencephalus are associated with maternal deficiency; alcohol interferes with absorption; diarrhea; glossitis; macrocytic anemia. *Overdose:* Masking of vitamin$_{12}$ deficiency, which may lead to nerve damage.	Slightly water soluble; destroyed by heat at low pH; loss in food stored at room temperature.	Liver; green leafy vegetables; legumes; beets; broccoli; cauliflower; citrus fruits; sweet potatoes.
VITAMIN K Phylloquinone (plant form) Menaquinone (bacterial form)	Regulates blood coagulation; regulates blood Ca^{++} levels.	*Deficiency:* Hemorrhagic disease; fat malabsorption can cause deficiency. *Overdose:* Kernicterus.	Fat soluble; stable to heat.	Produced by gastrointestinal flora; green leafy vegetables, esp. broccoli; cauliflower; liver.
NIACIN Nicotinic acid Nicotinamide	Facilitates glycolysis, tissue respiration, fat synthesis, and cellular energy production.	*Deficiency:* Dermatitis; edema; diarrhea; irritability; mental confusion. *Overdose:* Flushed skin; intestinal irritation; liver damage.	Soluble in hot water and alcohol; stable during cooking; not destroyed by light, air, or alkali.	Milk; eggs; meat; legumes; whole-grain or enriched breads and cereals.Note: Also formed in the body from dietary tryptophan (amino acid).

Appendix 1–7 FDA-Approved Dietary Health Claims

Health Claim	*Requirements*	*Sample Claim*
Calcium and osteoporosis Low calcium intake is one risk factor for osteoporosis. Lifelong adequate calcium intake helps maintain bone health by increasing, as much as genetically possible, the amount of bone formed in the teens and early adult life and by helping to slow the rate of bone loss that occurs later in life.	Food or supplement must be "high" in calcium and must not contain more phosphorus than calcium. Claims must cite other risk factors; state the need for regular exercise and a healthful diet; explain that adequate calcium early in life helps reduce fracture risk later by increasing, as much as genetically possible, a person's peak bone mass; and must indicate that those at greatest risk of developing osteoporosis later in life are white and Asian teenage and young adult women who are in their bone-forming years. Claims for products with more than 400 mg of calcium per day must state that a daily intake over 2000 mg offers no added known benefit to bone health.	*Regular exercise and a healthy diet with enough calcium help teen and young adult white and Asian women maintain good bone health and may reduce their high risk of osteoporosis later in life.*
Dietary fat and cancer Diets high in fat increase the risk of some types of cancer, such as cancers of the breast, colon, and prostate. Although scientists don't know how total fat intake affects cancer development, low-fat diets reduce the risk. Experts recommend that Americans consume 30% or less of daily calories as fat. Typical U.S. intakes are 37%.	Foods must meet criteria for "low fat." Fish and game meats must meet criteria for "extra lean." Claims may not mention specific types of fats and must use "total fat" or "fat" and "some types of cancer" or "some cancers" in discussing the nutrient-disease link.	*Development of cancer depends on many factors. A diet low in total fat may reduce the risk of some cancers.*

Dietary saturated fat and cholesterol and risk of coronary heart disease Diets high in saturated fat and cholesterol increase total and low-density (bad) blood cholesterol levels and, thus, the risk of coronary heart disease. Diets low in saturated fat and cholesterol decrease the risk. Guidelines recommend that American diets contain less than 10% of calories from saturated fat and less than 300 mg cholesterol daily. The average American adult diet has 13% saturated fat and 300 to 400 mg cholesterol a day.	Foods must meet criteria for "low saturated fat," "low cholesterol," and "low fat." Fish and game meats must meet criteria for "extra lean." Claims must use "saturated fat and cholesterol" and "coronary heart disease" or "heart disease" in discussing the nutrient-disease link.	*Although many factors affect heart disease, diets low in saturated fat and cholesterol may reduce the risk of this disease.*
Dietary soluble fiber, such as that found in whole oats and psyllium seed husk, and coronary heart disease When included in a diet low in saturated fat and cholesterol, soluble fiber may affect blood lipid levels, such as cholesterol, and thus lower the risk of heart disease. However, because soluble dietary fibers constitute a family of very heterogeneous substances that vary greatly in their effect on the risk of heart disease, FDA has determined that sources of soluble fiber for this health claim need to be considered case-by-case. To date, FDA has reviewed and authorized two sources of soluble fiber eligible for this claim: whole oats and psyllium seed husk.	Foods must meet criteria for "low saturated fat," "low cholesterol," and "low fat." Foods that contain whole oats must contain at least 0.75 g of soluble fiber per serving. Foods that contain psyllium seed husk must contain at least 1.7 g of soluble fiber per serving. The claim must specify the daily dietary intake of the soluble fiber source necessary to reduce the risk of heart disease and the contribution one serving of the product makes toward that intake level. Soluble fiber content must be stated in the nutrition label. Claims must use "soluble fiber" qualified by the name of the eligible source of soluble fiber and "heart disease" or "coronary heart disease" in discussing the nutrient-disease link. Because of the potential hazard of choking, foods containing dry or incompletely hydrated psyllium seed husk must carry a label statement telling consumers to drink adequate amounts of fluid, unless the manufacturer shows that a viscous adhesive mass is not formed when the food is exposed to fluid.	*Diets low in saturated fat and cholesterol that include 3 g of soluble fiber from whole oats per day may reduce the risk of heart disease. One serving of this whole-oats product provides [number] grams of this soluble fiber.*

FDA-Approved Dietary Health Claims (Continued)

Health Claim	*Requirements*	*Sample Claim*
Fiber-containing grain products, fruits, and vegetables and cancer Diets low in fat and rich in fiber-containing grain products, fruits, and vegetables may reduce the risk of some types of cancer. The exact role of total dietary fiber, fiber components, and other nutrients and substances in these foods is not fully understood.	Foods must meet criteria for "low fat" and, without fortification, be a "good source" of dietary fiber. Claims must not specify types of fiber and must use "fiber," "dietary fiber," or "total dietary fiber" and "some types of cancer" or "some cancers" in discussing the nutrient-disease link.	*Low-fat diets rich in fiber-containing grain products, fruits, and vegetables may reduce the risk of some types of cancer, a disease associated with many factors.*
Fruits, vegetables, and grain products that contain fiber, particularly soluble fiber, and risk of coronary heart disease Diets low in saturated fat and cholesterol and rich in fruits, vegetables, and grain products that contain fiber, particularly soluble fiber, may reduce the risk of coronary heart disease. (It is impossible to adequately distinguish the effects of fiber, including soluble fiber, from those of other food components.)	Foods must meet criteria for "low saturated fat," "low fat," and "low cholesterol." They must contain, without fortification, at least 0.6 g of soluble fiber per reference amount, and the soluble fiber content must be listed. Claims must use "fiber," "dietary fiber," "some types of dietary fiber," "some dietary fibers," or "some fibers" and "coronary heart disease" or "heart disease" in discussing the nutrient-disease link. The term "soluble fiber" may be added.	*Diets low in saturated fat and cholesterol and rich in fruits, vegetables, and grain products that contain some types of dietary fiber, particularly soluble fiber, may reduce the risk of heart disease, a disease associated with many factors.*

Folate and neural tube birth defects Defects of the neural tube occur within the first six weeks after conception, often before the pregnancy is known. The U.S. Public Health Service recommends that all women of childbearing age in the United States consume 0.4 mg (400 μg) of folic acid daily to reduce their risk of having a baby affected with spina bifida or other neural tube defects.	Foods must meet or exceed criteria for "good source" of folate—that is, at least 40 μg of folic acid per serving (at least 10% of the Daily Value). A serving of food cannot contain more than 100% of the Daily Value for vitamin A and vitamin D because of their potential risk to fetuses. Claims must use "folate," "folic acid," or "folacin" and "neural tube defects," "birth defects such as spina bifida or anencephaly," "birth defects of the brain or spinal cord, anencephaly, or spina bifida," "spina bifida and anencephaly, birth defects of the brain or spinal cord," "birth defects of the brain and spinal cord," or "brain or spinal cord birth defects" in discussing the nutrient-disease link. Folic acid content must be listed on the Nutrition Facts panel.	*Healthful diets with adequate folate may reduce a woman's risk of having a child with a brain or spinal cord birth defect.*
Fruits and vegetables and cancer Diets low in fat and rich in fruits and vegetables may reduce the risk of some cancers. Fruits and vegetables are low-fat foods and may contain fiber or vitamin A (as beta-carotene) and vitamin C. (The effects of these vitamins cannot be adequately distinguished from those of other fruit or vegetable components.)	Foods must meet criteria for "low fat" and, without fortification, be a "good source" of fiber, vitamin A, or vitamin C. Claims must characterize fruits and vegetables as foods that are low in fat and may contain dietary fiber, vitamin A, or vitamin C; characterize the food itself as a "good source" of one or more of these nutrients, which must be listed; refrain from specifying types of fatty acids; and use "total fat" or "fat," "some types of cancer" or "some cancers," and "fiber," "dietary fiber," or "total dietary fiber" in discussing the nutrient-disease link.	*Low-fat diets rich in fruits and vegetables (foods that are low in fat and may contain dietary fiber, vitamin A, or vitamin C) may reduce the risk of some types of cancer, a disease associated with many factors. Broccoli is high in vitamins A and C, and it is a good source of dietary fiber.*

FDA-Approved Dietary Health Claims (Continued)

Health Claim	*Requirements*	*Sample Claim*
Sodium and hypertension (high blood pressure) Hypertension is a risk factor for coronary heart disease and stroke deaths. The most common source of sodium is table salt. Diets low in sodium may help lower blood pressure and related risks in many people. Guidelines recommend daily sodium intakes of not more than 2400 mg. Typical U.S. intakes are 3000 to 6000 mg.	Foods must meet criteria for "low sodium." Claims must use "sodium" and "high blood pressure" in discussing the nutrient-disease link.	*Diets low in sodium may reduce the risk of high blood pressure, a disease associated with many factors.*
Dietary sugar alcohol and dental caries (cavities) Eating foods high in sugar and starches between meals may promote tooth decay. Sugarless candies made with certain sugar alcohols do not.	Foods must meet the criteria for "sugar free." The sugar alcohol must be xylitol, sorbitol, mannitol, maltitol, isomalt, lactitol, hydrogenated starch hydrolysates, hydrogenated glucose syrups, erythritol, or a combination of these. When the food contains a fermentable carbohydrate, such as sugar or flour, the food must not lower plaque pH in the mouth below 5.7 while it is being eaten or up to 30 minutes afterwards. Claims must use "sugar alcohol," "sugar alcohols," or the name(s) of the sugar alcohol present and "dental caries" or "tooth decay" in discussing the nutrient-disease link. Claims must state that the sugar alcohol present "does not promote," "may reduce the risk of," "is useful in not promoting," or "is expressly for not promoting" dental caries.	Full claim: *Frequent between-meal consumption of foods high in sugars and starches promotes tooth decay. The sugar alcohols in this food do not promote tooth decay.* On small packages only:*Does not promote tooth decay.*

Appendix 1–8 FDA-Approved Terminology for Food Labels

cholesterol-free A food for which a serving meets all of the five following requirements: contains less than 2 mg of cholesterol; contains 5 g or less of total fat; is 20% or less total fat on a dry weight basis; has 2 g or less saturated fatty acids; and is 6% or less saturated fatty acids on a dry weight basis.

extra lean Description of the fat content of meat, poultry, seafood, or game meat that contains less than 5 g fat, less than 2 g saturated fat, and less than 95 mg cholesterol per serving and per 100 g.

free A food or product that contains no amount of or physiologically inconsequential amounts of fat, saturated fat, cholesterol, sodium, sugar, or calories.

good source One serving of a food or product that contains 10% to 19% of the Daily Value for a particular nutrient.

healthy A food low in fat and saturated fat with limited amounts of cholesterol and sodium. Additionally, single-item foods must contain 10% or more of vitamin A, vitamin C, iron, protein, or fiber while not exceeding 360 mg sodium; meal-type products must provide 10% of 2 or 3 of these nutrients as well as not exceeding 480 mg of sodium per serving.

high A product that contains 20% or more of the Daily Value for a particular nutrient.

lean Description of the fat content of meat, poultry, seafood, or game meat that contains less than 10 g fat, less than 4.5 g saturated fat, and less than 95 mg cholesterol per serving and per 100 g.

less A food containing 25% less of a nutrient or of calories than the reference food.

light 1. A nutritionally altered product that contains either $\frac{1}{3}$ fewer calories or half the fat of the reference food. If the caloric content of the reference food is derived 50% or more from fat, then the reduction must reduce the fat by 50%. **2.** A reduction by 50% in the sodium content of a low-calorie, low-fat food.

low A food or product that can be consumed in large amounts without exceeding the Daily Value for the referenced nutrient.

low cholesterol A food for which a serving meets all of the six following requirements: contains 20 mg or less of cholesterol; contains 0.2 mg or less total fat on a dry weight basis; contains 5 g or less of total fat per serving; is 20% or less total fat on a dry weight basis; contains 2 g or less saturated fatty acids per serving; and is 6% or less saturated fatty acids on a dry weight basis.

more One serving of a food that contains at least 10% more of the Daily Value of a nutrient than the reference food. This 10% rule also applies to the claims of fortified, enriched, added, extra, and plus, specifically where the food has been altered to attain the increase in nutrient content.

SOURCE: The Food and Drug Administration's Final Rule on Food Labeling: Definitions of the terms Cholesterol-Free and Low Cholesterol were published in the July 19, 1990 Federal Register.

APPENDIX 2
Complementary and Alternative Medicine

Appendix 2–1 Herbal Medicines and Their Uses

Common Name	*Uses*	*Adverse Reactions and Contraindications*	*Interactions*	*Route/Commonly Used Doses*
aloe	**External:** Heals burns/sunburns, wounds, skin irritation; used as anti-infective agent, moisturizer. **Internal:** Used as laxative and for general healing.	Contact dermatitis, intestinal contractions. Avoid oral use in various GI conditions (i.e., obstruction, inflammation), ulcers, abdominal pain, menstruation, kidney conditions.	May increase risk associated with cardiac glycosides. Use with other K+-wasting drugs may add to hypokalemic effect of aloe.	**PO:** *Capsules*— 50–200 mg daily; *gel*— 30 ml t.i.d.; *tincture (1:10, 50% alcohol)* — 15–60 drops. **Top:** Aloe gel can be applied liberally to affected area 3–5 times daily.
anise	Common cold, cough/bronchitis, fevers, liver and gallbladder complaints, loss of appetite.	Occasional allergic reactions (skin, respiratory, and GI). Avoid if allergy to anise exists.	Excessive doses may interfere with anticoagulants, MAO inhibitors, and hormone therapy.	**PO:** *Dried fruit*— 0.5–1 g; *essential oil*— 50–200 ml; *tea*— 3 times daily.
arnica	**External:** Used after injuries (bruises, dislocations, contusions, muscular and joint problems). Inflammation caused by insect bites.	Prolonged use on broken skin may cause edematous dermatitis with pustular formations. Eczema (long-term use). Use of higher concentrations may cause toxic skin reactions with vesicle formation and necrosis. Avoid use on broken skin; avoid if allergy to arnica and plants in Asteraceae family exists.	None known.	**Top:** Typical strength is 2 g of flower heads in 100 ml of water. For poultice, dilute tincture 3–10 times with water. For mouthwash, dilute tincture 10 times with water.
black cohosh	Premenstrual symptoms, perimenopausal and postmenopausal symptoms such as hot flashes, depression, mood swings, profuse sweating, and sleep disorders.	GI discomfort (occasionally). Avoid during pregnancy and lactation.	None known.	**PO:** *Dried root*— 0.3–2 g 3 times daily; *liquid extract (1:1, 90% alcohol)*— 0.3–2 ml. Do not use for more than 6 mo.

brewer's yeast	Common cold, cough/bronchitis, dyspepsia, eczema, acne, fevers, inflammation (oral, pharyngeal), loss of appetite, prevention of infections.	Allergic skin reactions may occur. Migraine headaches may be triggered in susceptible patients. GI gas may result from large doses. Avoid during pregnancy and lactation.	Concurrent use with MAO inhibitors can cause an increase in BP.	**PO:** 6 g of brewer's yeast daily.
camphor	**External:** Pain relief for warts, cold sores, hemorrhoids, muscular aches. Antipruritic. Inflammatory conditions of the respiratory tract. **Internal:** Circulatory regulation disorders, catarrhal diseases of the respiratory tract (internal use is unsafe and should be avoided).	Skin irritation (local effect), contact dermatitis may occasionally occur following application of oily salves with camphor. Avoid during pregnancy and lactation. Avoid if GI conditions (infectious, inflammatory) exist.	None known.	**Top:** 0.1–3% 3–4 times daily for cold sores, antipruritic agent, hemorrhoids. **Inhaln:** 1 tbsp of camphor solution per quart of water in a hot steam vaporizer or bowl up to 3 times daily.
chamomile	**External:** Inflammation of skin and mucous membranes, bacterial skin diseases including oral cavity and gums. Respiratory tract inflammation and irritation. Anogenital inflammation. **Internal:** GI spasms and inflammatory conditions.	Contact dermatitis, severe hypersensitivity reactions, anaphylaxis, vomiting. Avoid during pregnancy and lactation.	None known.	**PO:** *Dried flower heads*— 2–8 g 3 times daily; *tea*— 1 cup of tea 3–4 times daily. Tea is made by steeping 3 g of flower heads in 150 ml of boiling water for 10 min. *Liquid extract*— 1–4 ml 3 times daily.
comfrey	**External:** Bruises and sprains.	No adverse reactions known. Avoid during pregnancy and lactation. Do not use on broken or abraded skin.	None known.	**Top:** 5–20% comfrey ointment. Use should be limited to 10 days.
dill	Dyspepsia, fever, colds, cough, bronchitis, digestive aid.	Contact dermatitis. No contraindications known.	None known.	**PO:** *Dill seeds*— 3 g; *dill oil*— 100–300 mg/day.

Herbal Medicines and Their Uses (Continued)

Common Name	*Uses*	*Adverse Reactions and Contraindications*	*Interactions*	*Route/Commonly Used Doses*
echinacea	Cold remedy, cough and bronchitis, fevers, wounds and burns, inflammation of the mouth and pharynx.	Tingling sensation on tongue, nausea, vomiting, allergic reaction, fever. Avoid if multiple sclerosis, leukoses, collagenoses, AIDS, or tuberculosis is present; avoid if hypersensitivity and cross-sensitivity exist in patients allergic to sunflower seeds and the daisy family, including ragweed; avoid during pregnancy and lactation.	May possibly interfere with immunosuppressant agents because of its immunostimulant activity.	**PO:** *Fluid extract*— 1–2 ml t.i.d.; *solid form (6.5:1)*— 300 mg t.i.d.. Should not be used for more than 8 weeks at a time.
eucalyptus	Cough/bronchitis, rheumatism, catarrhs of the respiratory tract.	Nausea, vomiting, and diarrhea may occur after ingestion of eucalyptus (rare). Avoid if severe liver disease, GI tract and bile duct inflammation, hypotension, kidney inflammation are present.	Induction of liver enzymes, which may increase the metabolism of other drugs.	**PO:** *Eucalyptus oil*— 300–600 mg/day. **Top:** *Eucalyptus oil (5–20%) in vegetable oil or semisolid preparations,* used for local application by diluting 30 ml of oil in 500 ml of lukewarm water.
fennel	Dyspepsias, catarrhs of the respiratory tract.	Allergic reactions (skin and respiratory tract) have been reported. Avoid during pregnancy and lactation.	None known.	**PO:** *Dried fruit/seed*— 5–7 g/day; *tea*— 1 cup daily. Tea is made by steeping 1–2 g of ground seed/fruit in 150 ml boiling water for 10 min and then straining.
feverfew	Prophylaxis of migraine headaches, fever, arthritis.	Dizziness, heartburn, indigestion, inflammation (lips, mouth, tongue), light-headedness, mouth ulceration, and weight gain. Allergic contact dermatitis (reported with many species of feverfew). Avoid during pregnancy and lactation.	May inhibit platelet activity (avoid use with warfarin or other anticoagulants).	**PO:** 50–125 mg of freeze-dried leaf per day with food.

garlic	Reduction of BP and serum cholesterol level.	GI irritation (rare), allergic reactions, alters intestinal flora. No contraindications known when used in normal amounts.	Decreases platelet aggregation (may affect warfarin and other anticoagulant therapy).	**PO:** One clove of fresh garlic 1–2 times daily.
ginger	Prevention and treatment of nausea and vomiting associated with motion sickness. Prevention of postoperative nausea and vomiting. May be used for dyspepsia, flatulence, and relief of joint pain in rheumatoid arthritis.	Minor heartburn, dermatitis. Avoid during pregnancy and lactation (if using amounts larger than those typically found in food); avoid if gallstones exist. Use cautiously in patients with increased risk of bleeding or diabetes.	**Natural Product–Drug:** may theoretically increase risk of bleeding when used with anticoagulants and antiplatelet agents. **Natural Product–Natural Product:** may theoretically increase risk of bleeding when used with other herbs that have anticoagulant or antiplatelet activities.	**PO:** 1000 mg ginger taken 3–60 min before travel for motion sickness or before surgery.
ginkgo	Symptomatic relief of organic brain dysfunction (dementia syndromes, short-term memory deficits, inability to concentrate, depression), intermittent claudication, vertigo and tinnitus of vascular origin.	Dizziness, headache, upset stomach, allergic skin reaction, palpitations. Avoid if hypersensitivity exists; avoid during pregnancy and lactation.	**Natural Product–Drug:** theoretically may potentiate effects of antiplatelet agents and MAO inhibitors. **Natural Product–Natural Product:** may increase risk of bleeding when used with other herbs with antiplatelet effects (some include angelica, arnica, chamomile, feverfew, garlic, ginger, and licorice).	**PO:** *native dry extract*— 120–240 mg in 2 or 3 doses for organic brain syndromes; 120–160 mg in 2 or 3 doses for intermittent claudication, vertigo, and tinnitus.

Herbal Medicines and Their Uses (Continued)

Common Name	*Uses*	*Adverse Reactions and Contraindications*	*Interactions*	*Route/Commonly Used Doses*
ginseng	Improving physical stamina, general tonic to energize during times of fatigue and inability to concentrate, sedative, sleep aid, antidepressant, diabetes.	Depression, dizziness, headaches, insomnia, hypertension, tachycardia, amenorrhea, vaginal bleeding, skin eruptions, estrogen-like effects, mastalgia, Stevens-Johnson syndrome. Avoid during pregnancy and lactation; avoid if manic-depressive disorders or psychosis exists.	**Natural Product–Food:** may potentiate effects of caffeine in coffee or tea. **Natural Product–Drug:** may decrease anticoagulant activity of warfarin. Avoid concomitant use with warfarin, heparin, aspirin, and NSAIDs. May interfere with phenelzine treatment and cause headache, tremulousness, and manic episodes. May potentiate the toxic effects of corticosteroids. **Natural Product–Natural Product:** may increase risk of bleeding when used with herbs that have antiplatelet or anticoagulant activities.	**PO:** *capsule*— 200–600 mg/day; *root powder*— 0.6–3 g 1–3 times daily.
goldenseal	Infections of the mucous membranes (bacterial and fungal), conjunctivitis, and GI infections associated with diarrhea, cirrhosis, gallbladder inflammation, and cancer. Topically used to treat eczema, acne, itching.	CNS stimulant, hallucinations, occasionally delirium, nausea, vomiting, constipation, ulceration (vaginal use), may affect production of B vitamins in colon. Avoid during pregnancy and lactation; avoid if hypertension exists.	**Natural Product–Drug:** May theoretically interfere with antacids, sucralfate, and H_2 antagonists. May interfere with antihypertensive agents and anticoagulants. May have additive effects when used concurrently with other drugs with sedative properties. **Natural Product–Natural Product:** concurrent use with herbs that have sedative properties may potentiate sedative effects.	**PO:** *dried root and rhizone*— 0.5–1 g t.i.d.; *liquid extract*— (1:1 in 60% ethanol)— 0.3–1 ml t.i.d.; *tincture*— (1:10 in 60% ethanol)— 2–4 ml t.i.d. **Top:** used as mouthwash 3–4 times daily.

hawthorn	Hypertension, mild to moderate CHF, angina, spasmolytic, sedative.	Agitation, dizziness, headache, sedation (high dose), sleeplessness, hypotension (high dose), palpitations, nausea. Avoid during pregnancy.	**Natural Product–Drug:** increases vitamin C utilization in body, may inhibit metabolism of ACE inhibitor, potentiates effect of cardiac glycosides, concurrent use with other coronary vasodilators (theophylline, caffeine, epinephrine) may potentiate vasodilatory effects, may have additive CNS depressant effect when used with other CNS depressants. **Natural Product–Natural Product:** additive effect with other cardiac glycoside–containing herbs (digitalis leaf, black hellebore, oleander leaf).	**PO:** *Hawthorn fluid extract (1:1 in 25% alcohol)*— 0.5–1 ml t.i.d.; *hawthorn fruit tincture (1:5 in 45% alcohol)*— 1–2 ml t.i.d.; *dried hawthorn berries*— 300–1000 mg t.i.d.
kava-kava	Anxiety, stress, restlessness, insomnia, mild muscle aches and pains.	Dizziness, headache, sedation, sensory disturbances, pupil dilation, visual accommodation disorders, gastrointestinal complaints, allergic skin reactions, yellow discoloration of skin, pellagroid dermopathy, weight loss, ataxia, muscle weakness. Avoid during pregnancy and lactation; avoid if endogenous depression exists. Do not give to children under 12 yr of age.	**Natural Product–Drug:** additive effect when used with alprazolam. Potentiates effect of CNS depressants (ethanol, barbiturates, benzodiazepines), has decreased the effectiveness of levodopa in a few cases. May have additive effects with antiplatelet agents and MAO inhibitors. **Natural Product–Natural Product:** May have additive sedative effects when used with other herbs with sedative properties.	**PO:** *dried kava root extract*— 100–250 mg for antianxiety; *kavalactones*— 180–210 mg for insomnia.

Herbal Medicines and Their Uses (Continued)

Common Name	*Uses*	*Adverse Reactions and Contraindications*	*Interactions*	*Route/Commonly Used Doses*
ma-huang	Asthma, hay fever, colds, weight-loss aid.	Increased BP and heart rate and cardiac arrhythmias, insomnia, motor restlessness, headaches, nausea, vomiting, anxiety. Avoid during pregnancy and lactation. Avoid if heart disease, hypertension, diabetes, hyperthyroidism, or BPH is present.	Potentiates sympathomimetic effects of antihypertensives, antidepressants, MAO inhibitors, and caffeine.	**PO:** *Ephedra*— 15–30 mg 2–3 times daily; *crude herb*— 500–1000 mg 2–3 times daily.
milk thistle	Cirrhosis, chronic hepatitis, gallstones, psoriasis.	Mild laxative, mild allergic reaction. Avoid during pregnancy and lactation.	None known.	**PO:** *Extract (70%)*— 200–400; *dried fruit/seed*— 12–15 g/day; *tea*— 3–4 times daily 30 min before meals. Tea is prepared by steeping and 3–5 g of crushed fruit/seed in 150 ml of boiling water for 10 min and then straining.
mugwort	GI ailments (colic, diarrhea, constipation), worm infestations, persistent vomiting, hysteria, epilepsy, menstrual problems and irregular periods; as a sedative.	Allergic reactions. Avoid during pregnancy and lactation.	None known.	**PO:** *Tincture*— 5 ml 30 min before bedtime or 1–4 ml up to 3 times daily.
nettle	Urinary tract infections, kidney and bladder stones. Supportive therapy for rheumatic ailments.	Allergic reactions (rare). Avoid during pregnancy and lactation.	None known.	**PO:** *Tea*— 1 cup up to 3 times daily with adequate fluid intake. Tea is made by steeping 1.5–5 g of nettle in 150 ml of boiling water for 10 min and then straining. *Dried extract (7:1)*— 770 mg twice daily; *liquid extract (1:1, 25% alcohol)*— 3–4 ml 3 times daily. **Top:** *Tincture (1:10)* for external use.

oak bark	External: Inflammatory skin disease. Internal: diarrhea (nonspecific, acute), mild inflammation of oral and pharyngeal regions and genital and anal areas.	GI disturbances, kidney damage, liver necrosis. Avoid during pregnancy and lactation. Avoid oak bark baths if weeping eczema, large areas of skin damage, febrile or infectious disease, cardiac insufficiency is present.	May reduce or inhibit the absorption of alkaloids and other alkaline drugs.	**PO:** For diarrhea, 1 cup of tea up to 3 times daily for 3–4 days. Tea is made by steeping 1 g coarsely ground bark in 150 ml of boiling water and then straining. **Top:** For rinses, compresses, gargles, use 20 g bark in 1 liter of water. For baths, use 5 g bark in 1 liter of water and add to bath water. Topical use should be limited to 2–3 weeks.
pennyroyal	External: Skin diseases. Internal: Digestive disorders, liver and gallbladder disorders, gout, colds, and increased urinary frequency.	Abortifacent in high doses. Hepatotoxicity (use not recommended because of hepatoxicity). Avoid during pregnancy and lactation.	None known.	Use not recommended because of toxicity.
peppermint	Colds, coughs, inflammation of mouth and pharynx, GI cramps and as an antiflatulent and antipyretic agent. The oil is used topically for myalgias, toothaches, pruritus, urticaria, and as an antiinfective agent.	Heartburn when taken orally. Allergic reactions (headache and flushing). External use may cause skin irritation and contact dermatitis. In small children and babies, the oil may cause bronchial spasms and collapse when applied to their facial, nasal, or chest areas. Avoid during pregnancy and lactation. Avoid use of oil on infants/small children. Avoid if hypersensitivity to peppermint exists. Avoid if bile duct obstruction, severe liver disease, or gallbladder inflammation is present.	Gastric acid–blocking drugs.	**PO:** *Peppermint oil*— 0.2–0.4 ml 3 times daily in diluted preparation; *capsules*— 1–2 capsules 3 times daily (0.2 ml/capsule). **Top:** 5–20% peppermint oil in oily preparations, 5–10% in aqueous/ethanol preparations, 1–5% in nasal preparations. To apply, rub small amount on affected skin areas. **Inhaln:** 3–4 drops of oil placed in hot water and inhaled. Inhalation contraindicated in children.

Herbal Medicines and Their Uses (Continued)

Common Name	*Uses*	*Adverse Reactions and Contraindications*	*Interactions*	*Route/Commonly Used Doses*
psyllium	Constipation, diarrhea, lowering serum cholesterol	Flatulence, abdominal distention, esophageal/bowel obstruction if not taken with water/fluid. Allergic reactions. Avoid if fecal impaction, GI tract obstruction or narrowing is present.	Interferes with absorption of other drugs taken simultaneously.	**PO:** 3.5 g 1–3 times daily of the seed husk taken with adequate fluids.
Saint John's wort	Management of mild to moderate depression. Externally used for inflammation of the skin, blunt injuries, wounds, and burns.	Dizziness, restlessness, sleep disturbances, fatigue, hypertension, GI side effects, abdominal pain, bloating, constipation, dry mouth, feeling of fullness, flatulence, nausea, vomiting, allergic skin reactions, phototoxicity, photodermatitis. Avoid during pregnancy and lactation. Do not give to children.	Concurrent use with alcohol or other antidepressants may increase the risk of adverse reactions. Concurrent use with indinavir may significantly reduce blood concentrations of indinavir.	**PO:** *hypericum extract*— 300 mg t.i.d. for depression. **Top:** *hypericin*— 0.2–1 mg daily.
saw palmetto	Urination problems in BPH, irritable bladder.	Headaches, stomach problems (rare). Avoid during pregnancy and lactation; avoid if breast cancer exists.	Oral contraceptives and hormone therapy (possible).	**PO:** *Dried berry*— 0.5–1 g of dried berry three times daily; *tea*— 1 cup of tea 3 times daily. Tea is made by steeping 0.5–1 g of dried berry in 150 ml of boiling water for 10 min and then straining. *Saw palmetto extracts with 80–90% fatty acids*— 160 mg twice daily.

spruce	Colds, cough, bronchitis, fevers, inflammation of the mouth and pharynx.	May worsen bronchial spasms. Avoid during pregnancy and lactation. Avoid if asthma or whooping cough exists. Avoid baths with spruce if extensive skin damage, acute skin diseases, fevers, infectious diseases, or cardiac insufficiency is present.	None known.	**PO:** *Fresh shoots*— 5–6 g/per day. *Essential oil*— given as 4 drops in water or with sugar 3 times daily. **Top:** 200–300 g of shoots boiled in 1 liter of water; steep for 5 min, strain, and add to full bath. **Inhaln:** Inhale 2 g of oil in hot water several times daily.
uva-ursi	Urinary tract infections.	Nausea, vomiting, GI upset, hepatotoxicity, high toxic doses (30–100 g of uva-ursi) can cause death. Avoid during pregnancy and lactation. Avoid if kidney disorders or GI irritable disorders exist. Do not give to children.	Use with urine-acidifying drugs may reduce the efficacy of uva-ursi.	**PO:** 1 cup of tea up to 4 times daily. Tea is made by steeping 3 g of dried leaf in 150 ml cold water for 12–24 hr and then straining. This herb should not be used for more than 1 week at a time, no more than 5 times a year.
valerian	Restlessness, sleeping disorders due to nervous conditions.	Morning drowsiness, headaches, excitability, insomnia. Avoid during pregnancy and lactation.	Use with alcohol and other sedatives may potentiate sedative effects.	**PO:** *Extract (0.8% valeric acid)* — 150–300 mg 30 min before bedtime. *Tea*— 1 cup 1–3 times daily. Tea is made by steeping 2–3 g of root in 150 ml of boiling water for 10 min and then straining.
woodruff	Nervousness, sleeplessness, hysteria, cardiac irregularity.	Headache, stupor (high doses). Liver damage (reversible) may occur with long-term use in susceptible patients. Avoid during pregnancy and lactation.	None known.	**PO:** 1 cup of tea once a day, shortly before bedtime. Tea is made with 2 teaspoonfuls (1.8 g) in one glass of water.

BPH: benign prostatic hyperplasia; Inhaln: Inhalation; PO: by mouth; PSA: prostate-specific antigen; Top: topical.
* NOTE : Instruct patient to consult health care professional before taking any prescription or OTC medications concurrently with any of these herbal products. The purity, safety, and effectiveness of many herbal remedies remain untested and unproven.
SOURCE: Deglin, JH and Vallerand, AH: Davis's Drug Guide for Nurses (11th ed.), F.A. Davis, Philadelphia, 2009.

Appendix 2–2 Forms of Herbal Preparations

bath A form of hydrotherapy. Immerse the full body in a bath with 500 ml or 1 pint of infusion or decoction. The full-strength herbal infusion or decoction is used for foot or hand baths.

capsule or pill Powdered herbs may be enclosed in gelatin capsules or pressed into a hard pill. The powder can also be rolled into a pill with bread or cream cheese. This is one of the most common ways herbs are supplied and used.

compress A clean cloth is soaked in an herbal infusion or decoction and applied over injured or inflamed areas. Also called a fomentation.

crude herb The fresh or dried herb in an unprocessed form. Measurements are expressed by weight.

decoction An aqueous preparation of hard and woody herbs, which are made soluble by simmering in almost boiling water for 30 minutes or more. If the active ingredients are volatile oils, it is important to cover the pan to prevent vaporization. The decoction is then strained while hot and either stored or consumed as needed.

essential oils Volatile oils, usually mixtures of a variety of odoriferous organic compounds of plants.

extract Concentrated form of natural products obtained by treating crude herb with solvent and then discarding the solvent to result in a fluid extract, solid extract, powdered extract, or tincture. Strength is expressed as the ratio of the concentration of the crude herb to the extract (e.g., 5:1 means five parts crude herb is concentrated in 1 part extract, and 1:2 means one part of extract is comparable to 0.5 parts herb).

fluid extract Concentrated tinctures with a strength of one part solvent to one part herb.

fomentation A clean cloth is soaked in an herbal infusion or decoction and applied over injured or inflamed areas.

infusion The preferred method used for soft plant parts such as leaves, flowers, or green stems, an infusion is prepared just like making a tea. In the case of volatile oils or heat-sensitive ingredients, soaking in water or milk for 6 to 12 hours in a sealed earthenware pot makes a cold infusion.

liniment Usually a mixture of herbs and alcohol or vinegar to be applied topically over muscles and ligaments.

lozenge Dissolvable tablet often used for upper respiratory and throat problems. It is made by combining a powdered herb with sugar and viscous jelly obtained from either an edible gum or mucilaginous plant.

ointment An herb or mixture of herbs in a semi-solid mixture such as petroleum jelly. This is applied externally for injuries or inflammation. If made with volatile oils, it can even be used as a respiratory anticatarrhal. Also known as a salve.

poultice A raw or mashed herb applied directly to the body or wrapped in cheesecloth or other clean cloth. It is used either hot or cold for bruises, inflammation, spasm, and pain.

powdered extract A solid extract which has been dried to a powder.

salve An herb or mixture of herbs in a semi-solid mixture such as petroleum jelly. This is applied externally for injuries or inflammation. If made with volatile oils, it can even be used as a respiratory anticatarrhal.

tea Made by steeping herbs in hot water (The same as an *infusion*). Place 1 tsp dried herb or 2 to 3 tsp fresh herb into 1 cup (250 ml) hot or boiling water. Steep for 5 to 15 minutes. For larger quantities, use 1 oz (30 g) of herb in 1 pint (500 ml) of hot water. Bruise or powder seeds before making an infusion or tea. The shelf life of these bioactive fluids is short, even in the refrigerator. Discard them after 8 to 12 hours.

tincture An alcohol-based preparation. Alcohol is a better solvent than water for many plant ingredients, so mixing herbs in alcohol such as vodka or wine with a specific water/alcohol ratio is a common method of extraction. The mixture is soaked for about 2 weeks. Then the herbs are strained out and the liquid is saved in a dark, well-stoppered bottle. Tinctures are much stronger volume-for-volume than infusions or decoctions. Strengths are typically 1:5 to 1:10.

SOURCE: Sierpina, VS: Integrative Health Care: Complementary and Alternative Therapies for the Whole Person, F.A. Davis, Philadelphia, 2001.

Appendix 2–3 Premises of Mind-Body Medicine

Mind and body are simply two aspects of a whole individual. The mind is no less medically real and significant than the body.
Every person has self-healing abilities.
Each person is unique, and must be responded to as such. To be most effective, the treatment program must be individualized for each person.
Each person is an integration of physical, psychological, intellectual, and spiritual aspects. All aspects are equally important. All must be addressed in the approach to health.
Patients' healing abilities are strongly affected by their expectations and beliefs. The expectations, attitudes, beliefs, and words of practitioners strongly influence the expectations of their patients.
Mainline medicine does not have a monopoly on the search for health.
Patients need to be actively involved in their own healing and in the decision making concerning their treatments.

SOURCE: Modified from Mind-Body Medicine: A Clinician's Guide to Psychoneuroimmunology, Watkins, A, p. 99, 1997, by permission of the publisher Churchill Livingstone, and Sierpina, VS: Integrative Health Care: Complementary and Alternative Therapies for the Whole Person, F.A. Davis, Philadelphia, 2001.

Appendix 2–4 Websites for Complementary and Alternative Medicine

This list of Websites, though not exhaustive, is intended to provide general sources of useful information on complementary and alternative medical therapies. Many of these Websites provide links to information on specific therapies and medical conditions. Inclusion of a Website on this list does not imply endorsement of the information contained on that site.

Alternative Health News Online
www.altmedicine.com

Alternative Link, LLC (information on billing codes)
www.alternativelink.com/ali/home/

Alternative Medicine Homepage, Falk Library of the Health Sciences, University of Pittsburgh
www.pitt.edu/~cbw/altm.html

American Association of Naturopathic Physicians
www.naturopathic.org

American Chiropractic Association
www.amerchiro.org

American Holistic Medical Association
www.holisticmedicine.org

American Osteopathic Association
www.am-osteo-assn.org

The Ardell Wellness Report
www.yourhealth.com

Ask Dr. Weil
www.drweil.com

Biotecnoquimica (Venezuela–Spanish language)
www.biotecnoquimica.com

Children's Hospital, Boston: Center for Holistic Pediatric Education and Research (CHPER)
www.childrenshospital.org/holistic

Choices for Health
www.choicesforhealth.com/professional.html

Duke's Phytochemical and Ethnobotanical Database
www.ars-grin.gov/duke

Fetzer Institute (a nonprofit organization promoting the study of the spiritual elements of life)
http://www.fetzer.org

Healthfinder
www.healthfinder.com

HerbalGram (American Botanical Council)
www.herbalgram.org

HerbMed
www.herbmed.org

Holistic Medicine Interest Group (Oregon Health Sciences University)
www.ohsu.edu/ohmig/index.html

Longwood Herbal Task Force
www.mcp.edu/herbal

McMaster University (Hamilton, Ontario) Alternative Medicine Health Care Information Resources
http://hsl.mcmaster.ca/tomflem/altmed.html

Medical College of Wisconsin: Alternative Medicine Resources
www.intmed.mcw.edu/gimcme/altmed.html

MEDLINE (U.S. National Library of Medicine)
www.nlm.nih.gov

National Council for Reliable Health Information (NCRHI)
www.ncahf.org

National Institutes of Health, National Center for CAM
nccam.nih.gov

Natural Healthline
www.naturalhealthvillage.com

Nurse Healers–Professional Associates International
www.therapeutic-touch.org

Office of Dietary Supplements (National Institutes of Health): The International Bibliographic Information on Dietary Supplements (IBIDS)
odp.od.nih.gov/ods/databases/ibids.html

Quackwatch
www.quackwatch.com

Tufts University Nutrition Navigator
www.navigator.tufts.edu

University of Texas Medical Board's Alternative and Integrative Healthcare Program
atc.utmb.edu/altmed

University of Washington Medicinal Herb Garden
www.nnlm.nlm.nih.gov/pnr/uwmhg

WebMD Self-Care Advisor
www.mywebmd.com

WholeHealthMD
www.wholehealthmd.com

APPENDIX 3
Normal Reference Laboratory Values

BLOOD, PLASMA, OR SERUM VALUES

Determination	Reference Range		Minimal ml Required *	Note
	Conventional	SI		
Acetoacetate plus acetone	Negative		1-B	
Aldolase	1.3–8.2 U/L	22–137 nmol · sec^{-1}/L	2-S	Use unhemolyzed serum
Ammonia	12–55 μmol/L	12–55 μmol/L	2-B	Collect in heparinized tube; deliver *immediately* packed in ice
Amylase	4–25 units/ml	4–25 arb. unit	1-S	
Ascorbic acid	0.4–1.5 mg/100 ml	23–85 μmol/L	7-B	Collect in heparinized tube before any food is given
Bilirubin	Direct: up to 0.4 mg/100 ml Total: up to 1.0 mg/100 ml	Up to 7 μmol/L Up to 17 μmol/L	1-S	
Blood volume	8.5–9.0% of body weight in kg	80–85 ml/kg		
CA-125	<20 U/ml	<20 kU/L	5	Collect in plain red top tube
Calcium	8.5–10.5 mg/100 ml (slightly higher in children)	2.1–2.6 mmol/L	1-S	
Carbamazepine	4.0–12.0 μg/ml	17–51 μmol/L		
Carbon dioxide content	24–30 mEq/L	24–30 mmol/L	1-S	Fill tube to top
Carbon monoxide	<5% of total hemoglobin		3-B	Fill tube to top
Carcinoembryonic antigen	0.0–2.5 ng/ml	0.0–2.5 μg/L	0.5	Collect in plain red top tube
Carotenoids	0.8–4.0 μg/ml	1.5–7.4 μmol/L	3-S	Vitamin A may be done on same specimen
Ceruloplasmin	27–37 mg/100 ml	1.8–2.5 μmol/L	2-S	
Chloramphenicol	10–20 μg/ml	31–62 μmol/L	0.2-S	
Chloride	100–106 mEq/L	100–106 mmol/L	1-S	
CK isoenzymes	5% MB or less		0.2-S	
Copper	Total: 100–200 μg/100 ml	16–31 μmol/L	1-S	
C reactive protein	0–1.0 mg/dl	0–10 mg/L	0.5	Collect in serum separator tube or heparinized plasma

BLOOD, PLASMA, OR SERUM VALUES (Continued)

Determination	Reference Range: Conventional	Reference Range: SI	Minimal ml Required*	Note
Creatine kinase (CK)	Female: 10–79 U/L Male: 17–148 U/L	167–1317 nmol · sec^{-1} /L 283–2467 nmol · sec^{-1} /L	1-S	
Creatinine	0.6–1.5 mg/100 ml	53–133 μmol/L	1-S	
Ethanol	0 mg/100 ml	0 mmol/L	2-B	Collect in oxalate and refrigerate
Glucose	Fasting: 70–110 mg/100 ml	3.9–5.6 mmol/L	1-P	Collect with oxalate-fluoride mixture
Iron	50–150 μg/100 ml (higher in males)	9.0–26.9 μmol/L	1-S	
Iron-binding capacity	250–410 μg/100 ml	44.8–73.4 μmol/L	1-S	
Lactic acid	0.6–1.8 mEq/L	0.6–1.8 mmol/L	2-B	Collect with oxalate-fluoride mixture; deliver immediately packed in ice
Lactic dehydrogenase	45–90 U/L	750–1500 nmol · sec^{-1} /L	1-S	Unsuitable if hemolyzed
Lead	50 μg/100 ml or less	Up to 2.4 μmol/L	2-B	Collect with oxalate-fluoride mixture
Lipase	2 units/ml or less	Up to 2 arb. unit	1-S	
Lipids				
Cholesterol	<200 mg/dl	<5.18 mmol/L	1-S	Fasting
Triglycerides	40–150 mg/100 ml	0.4–1.5 g/L	1-S	Fasting
Lipoprotein electrophoresis (LEP)			2-S	Fasting, do not freeze serum
Lithium	0.6–1.2 mEq/L	0.6–1.2 nmol/L	1-S	
Magnesium	1.5–2.0 mEq/L	0.8–1.3 mmol/L	1-S	
5′ Nucleotidase	1–11 U/L	17–183 nmol · sec^{-1}/L	1-S	
Osmolality	280–296 mOsm/kg water	280–296 mmol/kg	1-S	
Oxygen saturation (arterial)	96–100%	0.96–1.00	3-B	Deliver in sealed heparinized syringe packed in ice
P_{CO_2}	35–45 mm Hg	4.7–6.0 kPa	2-B	Collect and deliver in sealed heparinized syringe
pH	7.35–7.45	Same	2-B	Collect without stasis in sealed heparinized syringe; deliver packed in ice

Po_2	75–100 mm Hg (dependent on age) while breathing room air Above 500 mm Hg while on 100% O_2	10.0–13.3 kPa	2-B	
Phenobarbital	15–50 μg/ml	65–215 μmol/L	1-S	
Phenytoin (Dilantin)	10–20 μg/ml	20–80 μmol/L	1-S	
Phosphatase (acid)	Male–Total: 0.13–0.63 sigma U/ml Female–Total: 0.01–0.56 sigma U/ml Prostatic: 0–0.05 Fishman-Lerner U/100 ml	36–175 nmol · sec^{-1}/L 2.8–156 nmol· sec^{-1}/L	1-S	Must always be drawn just before analysis or stored as frozen serum; avoid hemolysis
Phosphatase (alkaline)	13–39 U/L, infants and adolescents up to 104 U/L	217–650 nmol · sec^{-1}/L, up to 1.26 μmol/L	1-S	
Phosphorus (inorganic)	3.0–4.5 mg/100 ml (infants in first year up to 6.0 mg/100 ml)	1.0–1.5 mmol/L	1-S	
Potassium	3.5–5.0 mEq/L	3.5–5.0 mmol/L	1-S	Serum must be separated promptly from cells
Primidone (Mysoline)	4–12 μg/ml	18–55 μmol/L	1-S	
Procainamide	4–10 μg/ml	17–42 μmol/L	1-S	
Prostate-specific antigen	<4.0 ng/ml	<4.0 μ/L	2	Serum separator or EDTA plasma
Protein: Total	6.0–8.4 g/100 ml	60–84 g/L	1-S	
Albumin	3.5–5.0 g/100 ml	35–50 g/L	1-S	
Globulin	2.3–3.5 g/100 ml	23–35 g/L		Globulin equals total protein minus albumin
Electrophoresis	(% of total protein)		1-S	Quantitation by densitometry
Albumin	52–68			
Globulin:				
$Alpha_1$	4.2–7.2			
$Alpha_2$	6.8–12			
Beta	9.3–15			
Gamma	13–23			
Pyruvic acid	0–0.11 mEq/L	0–0.11 mmol/L	2-B	Collect with oxalate fluoride. Deliver immediately packed in ice
Quinidine	1.2–4.0 μg/ml	3.7–12.3 μmol/L	1-S	
Salicylate:	0		2-P	
Therapeutic	20–25 mg/100 ml;	1.4–1.8 mmol/L		

BLOOD, PLASMA, OR SERUM VALUES (Continued)

Determination	Reference Range		*Minimal ml Required**	*Note*
	Conventional	*SI*		
	25–30 mg/100 ml to age 10 yr 3 hr post dose	1.8–2.2 mmol/L		
Sodium	135–145 mEq/L	135–145 mmol/L	1-S	
Sulfonamide	5–15 mg/100 ml		2-P	
Transaminase, aspartate amino-transferase	7–27 U/L	117–450 nmol · sec^{-1}/L	1-S	
Transaminase, alanine amino-transferase	1–21 U/L	17–350 nmol · sec^{-1}/L	1-S	
Troponin-I	0–0.5 ng/ml	0–0.5 μg/L	0.6	Collect in light green top tube
Troponin-I	0–0.5 ng/ml		0.6	Collect in light green top tube
Urea nitrogen (BUN)	8–25 mg/100 ml	2.9–8.9 mmol/L	1-S	
Uric acid	3.0–7.0 mg/100 ml	0.18–0.42 mmol/L	1-S	
Vitamin A	0.15–0.6 μg/ml	0.5–2.1 μmol/L	3-S	

URINE VALUES

Determination	Reference Range		Minimal ml Required *	Note
	Conventional	SI		
Acetone plus acetoacetate (quantitative)	0	0 mg/L	2 ml	
Amylase	24–76 units/ml	24–76 arb. unit		
Calcium	300 mg/day or less	7.5 mmol/day or less	24-hr specimen	Collect in special bottle with 10 ml of concentrated HCl
Catecholamines	Epinephrine: under 20 μg/day	<109 nmol/day	24-hr specimen	Should be collected with 10 ml of concentrated HCl (pH should be between 2.0 and 3.0)
	Norepinephrine: under 100 μg/day	<590 nmol/day		
Chorionic gonadotropin	0	0 arb. unit	1st morning void	
Copper	0–100 μg/day	0–1.6 μmol/day	24-hr specimen	
Coproporphyrin	50–250 μg/day	80–380 nmol/day	24-hr specimen	Collect with 5 g of sodium carbonate
	Children under 80 lb (36 kg): 0–75 μg/day	0–115 nmol/day		
Creatine	Under 100 mg/day or less than 6% of creatinine. In pregnancy: up to 12%. In children under 1 yr: may equal creatinine. In older children: up to 30% of creatinine.	<0.75 mmol/day	24-hr specimen	Also order creatinine
Creatinine	15–25 mg/kg of body weight/day	0.13–0.22 mmol · kg^{-1}/day	24-hr specimen	
Cystine or cysteine	0	0	10 ml	Qualitative
Hemoglobin and myoglobin	0		Freshly voided sample	Chemical examination with benzidine
5–Hydroxyindoleacetic acid	2–9 mg/day (women lower than men)	10–45 μmol/day	24-hr specimen	Collect with 10 ml of concentrated HCl
Lead	0.08μg/ml or 120 μg/day or less	0.39μmol/L or less	24-hr specimen	

URINE VALUES (Continued)

Determination	Reference Range: Conventional	Reference Range: SI	Minimal ml Required*	Note
Phosphorus (inorganic)	Varies with intake; average, 1 g/day	32 mmol/day	24-hr specimen	Collect with 10 ml of concentrated HCl
Porphobilinogen	0	0	10 ml	Use freshly voided urine
Protein:				
Quantitative	<150 mg/24 hr	<0.15 g/day	24-hr specimen	
Steroids:				
17–Ketosteroids (per day)	Age 10: Male 1–4 mg, Female 1–4 mg 20: 6–21, 4–16 30: 8–26, 4–14 50: 5–18, 3–9 70: 2–10, 1–7	3–14 μmol, 3–14 μmol 21–73, 14–56 28–90, 14–49 17–62, 10–31 7–35, 3–24	24-hr specimen	Not valid if patient is receiving meprobamate
17–Hydroxysteroids	3–8 mg/day (women lower than men)	8–22 μmol/day as tetrahydrocortisol	24-hr specimen	Keep cold; chlorpromazine and related drugs interfere with assay
Sugar:				
Quantitative glucose	0	0 mmol/L	24-hr or other timed specimen	
Urobilinogen	Up to 1.0 Ehrlich U	To 1.0 arb. unit	2-hr sample (1–3 P.M.)	
Uroporphyrin	0–30 μg/day	<36 nmol/day	Coproporphyrin	
Vanillylmandelic acid (VMA)	Up to 9 mg/24 hr	Up to 45 μmol/day	24-hr specimen	Collect as for catecholamines

SPECIAL ENDOCRINE TESTS

Steroid Hormones

Determination	Reference Range		Minimal ml Required *	Note
	Conventional	SI		
Aldosterone	Excretion:		5/day	Keep specimen cold
	5–19 μg/24 hr	14–53 nmol/day		
	Supine:		3-S, P	Fasting, at rest, 210-mEq sodium diet
	48±29 pg/ml	133±80 pmol/L		
	Upright (2 hr):			
	65± 23 pg/ml	180±64 pmol/L		Upright, 2 hr, 210-mEq sodium diet
	Supine:			
	107±45 pg/ml	279±125 pmol/L		Fasting, at rest, 110-mEq sodium diet
	Upright (2 hr):			
	239±123 pg/ml	663±341 pmol/L		Upright, 2 hr, 110-mEq sodium diet
	Supine:			
	175±75 pg/ml	485±208 pmol/L		Fasting, at rest, 10-mEq sodium diet
	Upright (2 hr):			
	532±228 pg/ml	1476±632 pmol/L		Upright, 2 hr, 10–mEq sodium diet
Cortisol	8 A.M. :		1-P	Fasting
	5–25 μg/100 ml	0.14–0.69 μmol/L		
	8 P.M. :		1-P	At rest
	Below 10 μg/100 ml	0–0.28 μmol/L		
	4-hr ACTH test:		1-P	20 U ACTH, IV per 4 hr
	30–45 μg/100 ml	0.83–1.24 μmol/L		
	Overnight suppression test:		1-P	8 A.M. sample after 0.5 mg dexamethasone by mouth at midnight
	Below 5 μg/100 ml	0.14 nmol/L		
	Excretion:		2/day	Keep specimen cold
	20–70 μg/24 hr	55–193 nmol/day		
Dehydroepiandrosterone (DHEA)	Male		2-S, P	
	0.5–5.5 ng/ml	1.7–19 nmol/L		

SPECIAL ENDOCRINE TESTS (Continued)

Steroid Hormones

Determination	Reference Range		Minimal ml Required*	Note
	Conventional	*SI*		
	Female			
	1.4–8.0 ng/ml	4.9–28 nmol/L		Adult
	0.3–4.5 ng/ml	1.0–15.6 nmol/L		Postmenopausal
Dehydroepiandrosterone sulfate (DHEA–S)	Male		2-S, P	
	151–446 μg/100 ml	3.9–11.4 μgmol/L		
	Female			
	84–433 μg/100 ml	2.2–11.1 μmol/L		Adult
	1.7–177 μg/100 ml	0.04–4.5 μmol/L		Postmenopausal
11–Deoxycortisol	Responsive		1-P	8 A.M. sample, preceded by 4.5 g of metyrapone by mouth per 24 hr or by single dose of 2.5 g by mouth at midnight
	Over 7.5 μg/100 ml	>0.22 μmol/L		
		<184 pmol/L	5-S, P	
Estradiol	Male: <50 pg/ml			
	Female: 23–361 pg/ml	84–1325 pmol/L		Adult
	<30 pg/ml	<110 pmol/L		Postmenopausal
	<20 pg/ml	<73 pmol/L		Prepubertal
Progesterone	Male: <1.0 ng/ml	<3.2 nmol/L	5-S, P	
	Female			
	0.2–0.6 ng/ml	0.6–1.9 nmol/L		Follicular phase
	0.3–3.5 ng/ml	0.95–11 nmol/L		Midcycle peak
	6.5–32.2 ng/ml	21–102 nmol/L		Postovulatory
Testosterone	Adult male:		1-P	A.M. sample
	300–1100 ng/100 ml	10.4–38.1 nmol/L		
	Adolescent male:			
	Over 100 ng/100 ml	>3.5 nmol/L		
	Female			
	25–90 ng/100 ml	0.87–3.12 nmol/L		
Unbound testosterone	Adult male:		2-P	A.M. sample
	3.06–24.0 ng/100 ml	106–832 pmol/L		
	Adult female:			
	0.09–1.28 ng/100 ml	3.1–44.4 pmol/L		

Polypeptide Hormones

Determination	Reference Range		Minimal ml Required *	Note
	Conventional	SI		
Adrenocorticotropin (ACTH)	15–70 pg/ml	3.3–15.4 pmol/L	5-P	Place specimen on ice and send promptly to laboratory. Use EDTA tube only.
Alpha subunit	<0.5–2.5 ng/ml	<0.4–2.0 nmol/L	2-S	Adult male or female
	<0.5–5.0 ng/ml	<0.4–4.0 nmol/L		Postmenopausal female
Calcitonin	Male: 0–14 pg/ml	0–4.1 pmol/L	5-S	Test done only on known or suspected cases of medullary carcinoma of the thyroid
	Female: 0–28 pg/ml	0–8.2 pmol/L		
	>100 pg/ml in medullary carcinoma	>29.3 pmol/L		
Follicle-stimulating hormone (FSH)	Male 3–18 mU/ml	3–18 arb. unit	5-S, P	Same sample may be used for LH
	Female: 4.6–22.4 mU/ml	4.6–22.4 arb. unit		Pre- or postovulatory
	13–41 mU/ml	13–41 arb. unit		Midcycle peak
	30–170 mU/ml	30–170 arb. unit		Postmenopausal
Growth hormone	Below 5 ng/ml	<233 pmol/L	1-S	Fasting, at rest
	Children: Over 10 ng/ml	>465 pmol/L		After exercise
	Male: Below 5 ng/ml	<233 pmol/L		
	Female: Up to 30 ng/ml	0–1395 pmol/L		
	Male: Below 5 ng/ml	<233 pmol/L		After glucose load
	Female: Below 5 ng/ml	<233 pmol/L		
Insulin	6–26 μU/ml	43–187 pmol/L	1-S	Fasting
	Below 20 μU/ml	<144 pmol/L		During hypoglycemia
	Up to 150 μU/ml	0–1078 pmol/L		After glucose load
Luteinizing hormone (LH)	Male: 3–18 mU/ml	3–18 arb. unit	5-S, P	Same sample may be used for FSH
	Female:			
	2.4–34.5 mU/ml	2.4–34.5 arb. unit		Pre- or postovulatory
	43–187 mU/ml	43–187 arb. unit		Midcycle peak
	30–150 mU/ml	30–150 arb. unit		Postmenopausal
Parathyroid hormone	<25 pg/ml	<2.94 pmol/L	5-P	Keep blood on ice, or plasma frozen, if it is to be sent any distance; A.M. sample
Prolactin	2–15 ng/ml	0.08–6.0 nmol/L	2-S	

SPECIAL ENDOCRINE TESTS (Continued)

Polypeptide Hormones

Determination	Reference Range: Conventional	Reference Range: SI	Minimal ml Required*	Note
Renin activity	Supine :		4-P	EDTA tubes, on ice, normal diet
	1.1±0.8 ng/ml/hr	0.9±0.6 nmol/L/hr		
	Upright:			
	1.9±1.7 ng/ml/hr	1.5±1.3 nmol/L/hr		
	Supine:			Low-sodium diet
	2.7±1.8 ng/ml/hr	2.1±1.4 nmol/L/hr		
	Upright:			
	6.6±2.5 ng/ml/hr	5.1±1.9 nmol/L/hr		
	Diuretics:			Low-sodium diet
	10.0±3.7 ng/ml/hr	7.7±2.9 nmol/L/hr		
Somatomedin C (Sm–C, IGF–1)	0.08–2.8 U/ml	0.08–2.8 arb. unit	2-P	EDTA plasma prepubertal
	0.9–5.9 U/ml	0.9–5.9 arb. unit		During puberty
	0.34–1.9 U/ml	0.34–1.9 arb. unit		Adult males
	0.45–2.2 U/ml	0.45–2.2 arb. unit		Adult females

Thyroid Hormones

Determination	Reference Range: Conventional	Reference Range: SI	Minimal ml Required *	Note
Thyroid-stimulating hormone (TSH)	0.5–5.0 μU/ml	0.5–5.0 arb. unit	2-S	
Thyroxine-binding globulin capacity	15–25 μg T_4/100 ml	193–322 nmol/L	2-S	
Total triiodothyronine (T_3)	75–195 ng/100 ml	1.16–3.00 nmol/L	2-S	
Reverse triiodothyronine (rT_3)	13–53 ng/ml	0.2–0.8 nmol/L	2-S	
Total thyroxine by RIA (T_4)	4–12 μg/100 ml	52–154 nmol/L	1-S	
T_3 resin uptake	25–35%	0.25–0.35	2-S	
Free thyroxine index (FT_4 I)	1–4		2-S	

VITAMIN D DERIVATIVES

Determination	Reference Range		Minimal ml Required *	Note
	Conventional	SI		
1,25-Dihydroxy–vitamin D	26–65 pg/ml	62–155 pmol/L	1-S	
25-Hydroxy–vitamin D	8–55 ng/ml	19.4–137 nmol/L	1-S	

HEMATOLOGIC VALUES

Determination	Reference Range		Minimal ml Required *	Note
	Conventional	SI		
Coagulation factors				
Factor I (fibrinogen)	0.15–0.35 g/100 ml	4.0–10.0 μmol/L	4.5-P	Collect in Vacutainer containing sodium citrate
Factor II (prothrombin)	60–140%	0.60–1.40	4.5-P	Collect in plastic tubes with 3.8% sodium citrate
Factor V (accelerator globulin)	60–140%	0.60–1.40	4.5-P	Collect as in factor II
Factor VII–X (proconvertin-Stuart)	70–130%	0.70–1.30	4.5-P	Collect as in factor II
Factor X (Stuart factor)	70–130%	0.70–1.30	4.5-P	Collect as in factor II
Factor VIII (antihemophilic globulin)	50–200%	0.50–2.0	4.5-P	Collect as in factor II
Factor IX (plasma thromboplastic cofactor)	60–140%	0.60–1.40	4.5-P	Collect as in factor II
Factor XI (plasma thromboplastic antecedent)	60–140%	0.60–1.40	4.5-P	Collect as in factor II
Factor XII (Hageman factor)	60–140%	0.60–1.40	4.5-P	Collect as in factor II
Coagulation screening tests:				
Bleeding time (Simplate)	3–9.5 min	180–570 sec		
D-dimer	<500 ng/ml	<500 μg/L	4.5 ml	Collect in 3.8% sodium citrate
Prothrombin time	Less than 2-sec deviation from control	Less than 2-sec deviation from control	4.5-P	Collect in Vacutainer containing 3.8% sodium citrate

HEMATOLOGIC VALUES (Continued)

Determination	Reference Range: Conventional	Reference Range: SI	Minimal ml Required*	Note
International Normalized Ratio (INR)	1.0	1.0	4.5 ml	Collect in 3.8% sodium citrate
Partial thromboplastin time (activated)	25–38 sec	25–38 sec	4.5-P	Collect in Vacutainer containing 3.8% sodium citrate
Whole-blood clot lysis	No clot lysis in 24 hr	0/day	2.0-whole blood	Collect in sterile tube and incubate at 37°C
Fibrinolytic studies:				
Euglobin lysis	No lysis in 2 hr	0/2 hr	4.5-P	Collect as in factor II
Fibrinogen split products	Negative reaction at >1:4 dilution	0 (at 1:4 dilution)	4.5-S	Collect in special tube containing thrombin and epsilon aminocaproic acid
Thrombin time	Control ±5 sec	Control ± 5 sec	4.5-P	Collect as in factor II
"Complete" blood count:				
Hematocrit	Male: 45–52% Female: 37–48%	Male: 0.45–0.52 Female: 0.37–0.48	1-B	Use EDTA as anticoagulant; the seven listed tests are performed automatically on the Ortho ELT 800, which directly determines cell counts, hemoglobin (as the cyanmethemoglobin derivative), and MCV and computes hematocrit, MCH, and MCHC
Hemoglobin	Male: 13–18 g/100 ml Female: 12–16 g/100 ml	Male: 8.1–11.2 mmol/L Female: 7.4–9.9 mmol/L		
Leukocyte count	4,300–10,800/mm^3	4.3–10.8 × 10^9/L		
Erythrocyte count	4.2–5.9 million/mm^3	4.2–5.9 × 10^{12}/L		
Mean corpuscular volume (MCV)	86–98 μm^3 /cell	86–98 fl		
Mean corpuscular hemoglobin (MCH)	27–32 pg/RBC	1.7–2.0 pg/cell		
Mean corpuscular hemoglobin concentration (MCHC)	32–36%	0.32–0.36		

Erythrocyte sedimentation rate	Male: 1–13 mm/hr Female: 1–20 mm/hr	Male: 1–13 mm/hr Female: 1–20 mm/hr	5-B	Use EDTA as anticoagulant
Erythrocyte enzymes				
Glucose-6-phosphate dehydrogenase	5–15 U/g Hb	5–15 U/g	9-B	Use special anticoagulant (ACD solution)
Pyruvate kinase	13–17 U/g Hb	13–17 U/g	8-B	Use special anticoagulant (ACD solution)
Ferritin (serum)				
Iron deficiency	0–12 ng/ml 13–20 Borderline	0–4.8 nmol/L 5.2–8 nmol/L Borderline		
Iron excess	>400 ng/L	>160 nmol/L		
Folic acid				
Normal	>3.3 ng/ml	>7.3 nmol/L	1-S	
Borderline	2.5–3.2 ng/ml	5.75–7.39 nmol/L	1-S	
Haptoglobin	40–336 mg/100 ml	0.4–3.36 g/L	1-S	
Hemoglobin studies:				
Electrophoresis for abnormal hemoglobin			5-B	Collect with anticoagulant
Electrophoresis for:			5-B	Use oxalate as anticoagulant
A_2 hemoglobin	3.0%	0.015–0.035		
Borderline	0.3–3.5%	0.03–0.035		
Hemoglobin F (fetal hemoglobin)	Less than 2%	<0.02	5-B	Collect with anticoagulant
Hemoglobin, met- and sulf-	0	0	5-B	Use heparin as anticoagulant
Serum hemoglobin	2–3 mg/100 ml	1.2–1.9 μmol/L	2-S	
Thermolabile hemoglobin	0	0	1-B	Any anticoagulant
Lupus anticoagulant	0	0	4.5-P	Collect as in factor II
LE (lupus erythematosus) preparation:				
Method I	0	0	5-B	Use heparin as anticoagulant
Method II	0	0	5-B	Use defibrinated blood
Leukocyte alkaline phosphatase:			20-Isolated blood leukocytes	Special handling of blood necessary
Qualitative method	Males: 33–188 U Females (off contraceptive pill): 30–160 U	33–188 U 30–160 U	Smear-B	

HEMATOLOGIC VALUES (Continued)

Determination	Reference Range		Minimal ml Required*	Note
	Conventional	SI		
Muramidase	Serum, 3–7 μg/ml Urine, 0–2 μg/ml	3–7 mg/L 0–2 μg/L	1-S 1-U	
Osmotic fragility of erythrocytes	Increased if hemolysis occurs in over 0.5% NaCl; decreased if hemolysis is incomplete in 0.3% NaCl		5-B	Use heparin as anticoagulant
Peroxide hemolysis	Less than 10%	0.10	6-B	Use EDTA as anticoagulant
Platelet count	150,000–350,000/mm^3	150–350 x 10^9 /L	0.5-B	Use EDTA as anticoagulant; counts are performed on Clay Adams Ultraflow; when counts are low, results are confirmed by hand counting
Platelet function tests:				
Clot retraction	50–100%/2 hr	0.50–1.00/2 hr	4.5-P	Collect as in factor II
Platelet aggregation	Full response to ADP, epinephrine, and collagen	1.0	18-P	Collect as in factor II
Platelet factor 3	33–57 sec	33–57 sec	4.5-P	Collect as in factor II
Reticulocyte count	0.5–2.5% red cells	0.005–0.025	0.1-B	
Vitamin B_{12}	205–876 pg/ml	150–674 pmol/L	12-S	
Borderline	140–204 pg/ml	102.6–149 pmol/L		

CEREBROSPINAL FLUID VALUES

Determination	Reference Range		Minimal ml Required *	Note
	Conventional	SI		
Bilirubin	0	0	2	
Cell count	0–5 mononuclear cells		0.5	
Chloride	120–130 mEq/L	120–130 mmol/L	0.5	
Colloidal gold	0000000000–0001222111	Same	0.1	

Albumin	Mean: 29.5 mg/100 ml ±2 SD: 11–48 mg/100 ml	0.295 g/L ±2 SD: 0.11–0.48	2.5
IgG	Mean: 4.3 mg/100 ml ±2 SD: 0–8.6 mg/100 ml	0.043 g/L ±2 SD: –0.086	
Glucose	50–75 mg/100 ml	2.8–4.2 mmol/L	0.5
Pressure (initial)	70–180 mm of water	70–180 arb. unit	
Protein:			
Lumbar	15–45 mg/100 ml	0.15–0.45 g/L	1
Cisternal	15–25 mg/100 ml	0.15–0.25 g/L	1
Ventricular	5–15 mg/100 ml	0.05–0.15 g/L	1

MISCELLANEOUS VALUES

Determination	*Reference Range*		*Minimal ml Required **	*Note*
	Conventional	*SI*		
Carcinoembryonic antigen (CEA)	0–2.5 ng/ml	0–2.5 μg/L	20-P	Must be sent on ice
Chylous fluid				Use fresh specimen
Digitoxin	17±6 ng/ml	22±7.8 nmol/L	1-S	Medication with digitoxin or digitalis
Digoxin	1.2±0.4 ng/ml	1.54±0.5 nmol/L	1-S	Medication with digoxin 0.25 mg per day
	1.5±0.4 ng/ml	1.92±0.5 nmol/L	1-S	Medication with digoxin 0.5 mg per day
Duodenal drainage				pH should be in proper range with minimal amount of gastric juice
pH (urine)	5–7	5–7		
Gastric analysis	Basal:			
	Females: 2.0±1.8 mEq/hr	0.6±0.5 μmol/sec		
	Males: 3.0±2.0 mEq/hr	0.8±0.6 μmol/sec		
	Maximal (after histalog or gastrin)			
	Females: 16±5 mEq/hr	4.4±1.4 μmol/sec		
	Males: 23±5 mEq/hr	6.4±1.4 μmol/sec		

MISCELLANEOUS VALUES (Continued)

Determination	Reference Range		Minimal ml Required*	Note
	Conventional	SI		
Gastrin-I	0–200 pg/ml	0–95 pmol/L	4-P	Heparinized sample
Immunologic tests:				
Alpha-fetoprotein	Undetectable in normal adults		2-S	
Alpha-1-antitrypsin	85–213 mg/100 ml	0.85–2.13 g/L	10-B	
Rheumatoid factor	<60 IU/ml		10 ml clotted blood	Fasting sample preferred
Antinuclear antibodies	Negative at a 1:8 dilution of serum		2-S	Send to laboratory promptly
Anti-DNA antibodies	Negative at a 1:10 dilution of serum		2-S	
Antibodies to Sm and RNP (ENA)	None detected		10 ml clotted blood	
Antibodies to SS-A (Ro) and SS-B (La)	None detected		10 ml clotted blood	
Autoantibodies to:				
Thyroid colloid and microsomal antigens	Negative at a 1:10 dilution of serum		2-S	Low titers in some elderly normal women
Gastric parietal cells	Negative at a 1:20 dilution of serum		2-S	
Smooth muscle	Negative at a 1:20 dilution of serum		2-S	
Mitochondria	Negative at a 1:20 dilution of serum		2-S	
Interstitial cells of the testes	Negative at a 1:10 dilution of serum		2-S	
Skeletal muscle	Negative at a 1:60 dilution of serum		2-S	
Adrenal gland	Negative at a 1:10 dilution of serum		2-S	
Bence Jones Protein	No Bence Jones protein detected in a 50-fold concentrate of urine		50-U	
Complement, total hemolytic	150–250 U/ml		10-B	Must be sent on ice

Cryoprecipitable proteins	None detected	0 arb. unit	10-S	Collect and transport at 37°C
C3	Range, 83–177 mg/100 ml	0.83–1.77 g/L	2-S	
C4	Range, 15–45 mg/100 ml	0.15–0.45 g/L	2-S	
Factor B	12–30 mg/100 ml		5 ml clotted blood	
C1 esterase inhibitor	13.2–24 mg/100 ml		5 ml clotted blood	
Hemoglobin A_{1e}	3.8–6.4%	0.038–0.064	5-P	Send EDTA tube on ice promptly to laboratory
Hypersensitivity pneumonitis screen	No antibodies to those antigens assayed		5 ml clotted blood	
Immunoglobulins:				
IgG	639–1349 mg/100 ml	6.39–13.49 g/L	2-S	
IgA	70–312 mg/100 ml	0.7–3.12 g/L	2-S	
IgM	86–352 mg/100 ml	0.86–3.52 g/L	2-S	
Viscosity	1.4–1.8 relative viscosity units		10-B	Expressed as the relative viscosity of serum compared with water
Iontophoresis	Children: 0–40 mEq sodium/L Adults 0–60 mEq sodium/L	0–40 mmol/L 0–60 mmol/L		Value given in terms of sodium
Propranolol (includes bioactive 4-OH metabolite)	100–300 ng/ml	386–1158 nmol/L	1-S	Obtain blood sample 4 hr after last dose of beta-blocking agent
Stool fat	Less than 5 g in 24 hr or less than 4.0% of measured fat intake in 3-day period	<5 g/day	24-hr or 3-day specimen	
Stool nitrogen	Less than 2 g/day or 10% of urinary nitrogen	<2 g/day	24-hr or 3-day specimen	
Synovial fluid:				
Glucose	Not less than 20 mg/100 ml lower than simultaneously drawn blood sugar	Blood glucose	ml of fresh fluid	Collect with oxalate–fluoride mixture
D -Xylose absorption	5–8 g/5 hr in urine; 40 mg per 100 ml in blood 2 hr after ingestion of 25 g of D -Xylose	33–53 mmol/day 2.7 mmol/L	5-U 5-B	For directions see Benson et al.: N Engl J Med 256:335, 1957

* Abbreviations used: SI, Système International d'Unités; P, plasma; S, serum; B, blood; and U, urine.

SOURCE: Adapted from Scully, Robert E. (ed): Case Records of the Massachusetts General Hospital, New England Journal of Medicine, vol. 314, pp. 39–49, January 2, 1986, with permission, and other sources.

APPENDIX 4
Prefixes, Suffixes, and Combining Forms

a-, an-. Without; away from; not.
ab-, abs-. From; away from; absent.
abdomin-, abdomino-. Abdomen.
abort-, aborto-. To miscarry.
abs-. SEE: *ab-*.
acanth-, acantho-. Thorn; spine.
acous-, acoust-, acousto-. Hearing.
acro-. Extremity; top; extreme point.
actin-, actino-. Ray; some form of radiation.
ad-. Adherence; increase; toward.
-ad. Toward; in the direction of.
aden-, adeno-. Gland.
adip-, adipo-. Fat.
adren-, adreno-. Adrenal glands.
adrenal-, adrenalo-. Adrenal glands.
-aemia. Blood.
aer-, aero-. Air or gas.
-aesthesia, aesthesio-. SEE: *-esthesia.*
af-. Toward.
-agogue. An agent that promotes the expulsion of a specific substance.
-agra. Sudden severe pain.
-al. Relating to (e.g., abdominal, intestinal). In chemistry, an aldehyde.
albumin-, albumino-. Albumin.
-algesia, -algia. Suffering; pain.
algi-. Pain.
all-. SEE: *allo-*.
allo-, all-. Other.
amb-, ambi-. Both; on both sides; around; about.
amph-, amphi-, ampho-. Both; on both sides; on all sides; double; around; about.
an-. SEE: *a-*.
ana-, an-. Up; against; back.
andro-. Man; male; masculine.
angi-, angio-. Blood or lymph vessels.
aniso-. Unequal; asymmetrical; dissimilar.
ankyl-, ankylo-. Crooked; bent; fusion or growing together of parts.
ant-, anti-. Against.
ante-. Before.
antero-. Anterior; front; before.
anthropo-. Human beings; human life.
antr-, antro-. Antrum.
apo-. From; derived from; separated from; opposed.
arch-, arche-, archi-. First; principal; beginning; original.
arteri-, arterio-. Artery.
arthr-, arthro-. Joint.
-ase. Enzyme.
-asis, -esis, -iasis, -isis, -sis. Condition; pathological state.
astro-. Star; star-shaped.
atelo-. Imperfect; incomplete.
ather-, athero-. Fatty plaque.
atmo-. Steam; vapor.
atreto-. Absence of an opening.
aut-, auto-. Self.
axio-. Axis; the long axis of a tooth.
axo-. Axis; axon.
azot-, azoto-. Nitrogenous compounds.
bacteri-, bacterio-. Bacteria; bacterium.
balan-, balano-. Glans clitoridis; glans penis.
bar-, baro-. Weight; pressure.
basi-, basio-. Base; foundation.
bi-, bis-. Two; double; twice.
bili-. Bile.
bio-. Life.
bis-. SEE: *bi-*.
blast-, -blast. Germ; bud; embryonic state of development.
blenn-, blenno-. Mucus.
blephar-, blepharo-. Eyelid.
brachio-. Arm.
brachy-. Short.
brady-. Slow.
brom-, bromo-. Bromine.
bronch-, bronchi-, broncho-. Airway.
bronchiol-, bronchiolo-. Bronchiole.
cac-, caci-, caco-. Bad; ill.
calc-, calco-. Calcium.
calcan-, calcaneo-. Calcaneum (heel bone).
carcin-, carcino-. Cancer.
cardi-, cardio-. Heart.
carpo-. Carpus.
cary-, caryo-. SEE: *kary-*.
cat-, cata-, cath-, kat-, kata-. Down; downward; destructive; against; according to.
cath-. SEE: *cat-*.
cel-, celo-. 1. Tumor; hernia. **2.** Cavity.
-cele. Tumor; swelling; hernia.
cent-. Hundred.
cephal-, cephalo-. Head.
cerebell-, cerebello-. Cerebellum.
cervic-, cervico-. Neck; the neck of an organ.
cheil-, cheilo-. SEE: *chil-*.
chem-, chemo-. Chemical; drug.
chil-, chilo-. Lip; lips.
chir-, chiro-. Hand.
chlor-, chloro-. Green.
chol-, chole-. Bile; gall.
cholangi-, cholangio-. Bile vessel.
cholecyst-, cholecysto-. Gallbladder.
choledoch-, choledocho-. Bile duct.
chondr-, chondro-. Cartilage.
chrom-, chromo-. Color.
-cide. Causing death.
cine-. Movement.
circum-. Around.
clavicul-, claviculo-. Clavicle.
-cle, -cule. Little (e.g., molecule, corpuscle).
cleid-, cleido-. Clavicle.
co-, com-, con-. Together.
colp-, colpo-. SEE: *kolp-*.
contra-. Against; opposite.
crani-, cranio-. Skull; cranium.
cry-, cryo-. Cold.
-cusia,-cusis. Hearing.
cyan-, cyano-. Blue.

cycl-, cyclo-. Circular; cyclical; ciliary body of the eye.
cyst-, cysto-, -cyst. Cyst; urinary bladder.
cyt-, cyto-, -cyte. Cell.
dacry-. Tears.
dactyl-, dactylo-. Finger; toe.
de-. From; down; not.
dec-, deca-. Ten.
deci-. One tenth.
demi-. Half.
dent-, denti-, dento-. Teeth.
derm-, derma-, dermato-, dermo-. Skin.
deuter-, deutero-, deuto-. Second; secondary.
dextro-. Right.
di-. Double; twice; two; apart from.
dia-. Through; between; asunder.
dipla-, diplo-. Double; twin.
dips-, dipso-. Thirst.
dis-. Negative; double; twice; apart; absence of.
dors-, dorsi-, dorso-. Back.
duoden-, duodeno-. Duodenum.
-dynia. Pain.
dys-. Difficult; bad; painful.
-eal. Pertaining to.
ec-, ecto-. Out; on the outside.
-ectomy. Excision.
ectro-. Congenital absence of a part.
ef-, es-, ex-, exo-. Out.
electr-, electro-. Electricity.
embol-, embolo-. Plug.
-emesis. Vomiting.
-emia. Blood.
en-. In; into.
enantio-. Opposite.
end-, endo-. Within.
ent-, ento-. Within; inside.
enter-, entero-. Intestine.
ep-, epi-. Upon; over; at; in addition to; after.
episi-, episio-. Vulva.
erythr-, erythro-. Red.
eschar-, escharo-. Scab.
-esis. SEE: *-asis.*
esophag-, esophago-. Esophagus.
-esthesia. Sensation.
etio-. Causation.
eu-. Well; good; healthy; normal.
eury-. Broad.
ex-. Out; away from; completely.
exo-. Out; outside of; without.
extra-. Outside of; in addition; beyond.
-facient. Causing; making happen.
femor-, femoro-. Thigh.
-ferous. Producing.
ferri-, ferro-. Iron.
fibro-. Fibers; fibrous tissues.
fluo-. Flow.
fluor-, fluoro-. Luminous; fluorescence.
fore-. Before; in front of.
-form. Form.
-fuge. To expel; to drive away; fleeing.
galact-, galacto-. Milk.
gam-, gamo-. Marriage; sexual union.
gaster-, gastero-, gastr-, gastro-. Stomach.
gen-. Producing; forming.
-gen, -gene, -genesis, -genetic, -genic. Producing; forming.
genito-. Organs of reproduction.
gero-. Old age.
giga-. Billion.
gingiv-, gingivo-. Gums (of the mouth).
glauc-, glauco-. Gray.
-globin. Protein.
gloss-, glosso-. Tongue.
gluc-, gluco-, glyc-, glyco-. Sugar; glycerol or similar substance.
gnath-, gnatho-. Jaw; cheek.
-gog, -gogue. To make flow.
gon-, gono-. Semen; seed; genitals; offspring.
-gram. A tracing; a mark.
-graph. Instrument used to make a drawing or record.
-graphy. Writing; record.
-gravida. Pregnant.
gyn-, gyne-, gyneco-, gyno-. Woman; female.
gyro-. Circle; spiral; ring.
hem-, hema-, hemato-, hemo-. Blood.
hemi-. Half.
hepat-, hepato-. Liver.
hept-, hepta-. Seven.
heredo-. Heredity.
heter-, hetero-. Other; different.
hex-, hexa-. Six.
histo-. Tissue.
hol-, holo-. Complete; entire; homogeneous.
homeo-. Likeness; resemblance; constant unchanging state.
homo-. Same; likeness.
hydra-, hydro-, hydr-. Water.
hyo-. Hyoid bone.
hyp-, hyph-, hypo-. Less than; below or under; beneath; deficient.
hyper-. Above; excessive; beyond.
hypno-. Sleep; hypnosis.
hyster-, hystero-. Uterus.
-ia. Condition, esp. an abnormal state.
-iasis. SEE: *asis.*
-iatric. Medicine; medical profession; physicians.
-ic. Pertaining to; relating to.
ichthyo-. Fish.
-id. Secondary skin eruption distant from primary infection site.
ideo-. Mental images.
idio-. Individual; distinct.
ileo-. Ileum.
ilio-. Ilium; flank.
im-. SEE: *in-.* Used before b,m, or p.
immun-, immuno-. Immune; immunity.
in-. In; inside; within; intensive action; negative.
infra-. Below; under; beneath; inferior to; after.
inter-. Between; in the midst.
intra-, intro-. Within; in; into.
ipsi-. Same; self.
irid-, irido-. Iris.
ischio-. Ischium.
-isis. SEE: *-asis.*
-ism. Condition; theory.
iso-. Equal.
-ite. 1. Of the nature of. **2.** In chemistry, a salt of an acid with the termination *-ous*.

-itis. Inflammation of.
-ize. To treat by special method.
jejuno-. Jejunum.
juxta-. Close proximity.
kary-, karyo-, cary-, caryo-. Nucleus; nut.
kat-, kata-. SEE: *cat-*.
kera-, kerato-. Horny substance; cornea.
ket-, keto-. Ketone bodies (acids and acetones).
kilo-. Thousand.
kinesi-, kino-, -kinesis. Movement.
klepto-. To steal.
kolp-, kolpo-, colp-, colpo-. Vagina.
kypho-. Humped.
kysth-, kystho-. Vagina.
lab-, labi-. Lip.
lact-. Milk.
laparo-. Flank; abdominal wall.
laryng-, laryngo-. Larynx.
latero-. Side.
leio-. Smooth.
lepido-. Flakes; scales.
-lepsy. Seizure.
lepto-. Thin; fine; slight; delicate.
leuk-, leuko-, leuc-. White; white blood cell.
linguo-. Tongue.
lip-, lipo-. Fat.
-lite, -lith, lith-, litho-. Stone; calculus.
-logia, -logy. Science of; study of.
lord-, lordo-. Curve; swayback.
lumbo-. Loins.
lyo-. Loosen; dissolve.
-lysis. 1. Loosen; dissolve. **2.** In medicine, reduction of; relief from.
macr-, macro-. Large; long.
mal-. Ill; bad; poor.
mamm-, mammo-. Breast.
-mania. Frenzy; madness.
mast-, masto-. Breast.
meat-, meato-. Opening; meatus.
med-, medi-, medio-. Middle.
medull-, medullo-. Soft inner part; medulla.
mega-, megal-, megalo-. Large; of great size.
-megalia, -megaly. Enlargement of a body part.
meio-, mio-. Less; smaller.
melan-, melano-. Black.
mening-, meningo-. Meninges.
menta-, mento-. Mind.
mes-, meso-. 1. Middle. **2.** In anatomy, the mesentery. **3.** In medicine, secondary; partial.
mesio-. Toward the middle.
meta-. 1. Change; transformation; next in a series. **2.** In chemistry, the 1,3 position of benzene derivatives.
metacarp-, metacarpo-. Metacarpus (bones of the hand).
-meter. Measure.
metr-, metra-, metro-. Uterus.
micr-, micro-. Small.
mio-. SEE: *meio-*.
mon-, mono-. Single; one.
muc-, muci-, muco-, myxa-, myxo-. Mucus.
multi-. Many; much.
musculo-, my-, myo-. Muscle.
my-, myo-. SEE: *musculo-*.
myc-, myco-. Fungus.
myel-, myelo-. Spinal cord; bone marrow.
myring-, myringo-. Tympanic membrane, eardrum.
myx-, myxo-. SEE: *muc-*.
nano-. 1. One billionth. **2.** Dwarfism (nanism).
narco-. Numbness; stupor.
naso-. Nose.
necr-, necro-. Death; necrosis.
neo-. New; recent.
nephr-, nephra-, nephro-. Kidney.
neur-, neuri-, neuro-. Nerve; nervous system.
nitr-, nitro-. Nitrogen.
non-. No.
normo-. Normal; usual.
noso-. Disease.
noto-. The back.
nucleo-. Nucleus.
nyct-, nycto-. Night; darkness.
ob-. Against.
occipit-, occipito-. Occiput.
octa-, octo-. Eight.
oculo-. Eye.
-ode, -oid. Form; shape; resemblance.
odont-, odonto-. Tooth; teeth.
-odynia, odyno-. Pain.
-oid. SEE: *-ode*.
oleo-. Oil.
olig-, oligo-. Few; small.
-ology. Science of; study of.
-oma. Tumor.
omo-. Shoulder.
omphal-, omphalo-. Navel.
onco-. Tumor; swelling; mass.
onych-, onycho-. Fingernails; toenails.
oo-, ovi-, ovo-. Egg; ovum.
oophor-, oophoro-, oophoron-. Ovary.
ophthalm-, ophthalmo-. Eye.
-opia. Vision.
opisth-, opistho-. Backward.
-opsy. View of.
optico-, opto-. Eye; vision.
orchi-, orchid-, orchido-. Testicle.
-orexia. Appetite.
oro-. Mouth.
orth-, ortho-. Straight; correct; normal; in proper order.
os-. Mouth; bone.
oscheo-. Scrotum.
-ose. 1. Carbohydrate. **2.** Primary alteration of a protein.
-osis. Condition; status, process; abnormal increase.
osmo-. 1. Odor; smell. **2.** Impulse. **3.** Osmosis.
oste-, osteo-. Bone.
-ostomosis, -ostomy, -stomosis, -stomy. A created mouth or outlet.
ot-, oto-. Ear.
-otomy. Cutting.
-ous. 1. Possessing; full of. **2.** Pertaining to.
ovi-, ovo-. SEE: *oo-*.
ox-. Oxygen.
oxy-. 1. Sharp; keen; acute; acid; pungent. **2.** Oxygen in a compound. **3.** Hydroxyl group.
pach-, pachy-. Thick.

-pagus. Twins joined at a specific site (e.g., craniopagus).
pali-, palin-. Recurrence; repetition.
pan-. All; entire.
pant-, panto-. All or the whole of something.
papulo-. Pimple; papule.
para-, -para. 1. Prefix: near; alongside of; departure from normal. **2.** Suffix: Bearing offspring.
patell-, patello-. Patella; kneecap.
path-, patho-, -path, -pathic, -pathy. Disease; suffering.
ped-, pedi-, pedo-. Foot.
pedia-. Child.
pedicul-, pediculo-. Louse.
-penia. Decrease from normal; deficiency.
pent-, penta-. Five.
-pepsia. Digestion.
per-. Throughout; through; utterly; intense.
peri-. Around; about.
perineo-. Perineum.
peritoneo-. Peritoneum.
pero-. Deformed.
petro-. Stone; the petrous portion of the temporal bone.
-pexy. Fixation, usually surgical.
phaco-. Lens of the eye.
phag-, phago-. Eating; ingestion; devouring.
phalang-, phalango-. Phalanges (bones of fingers and toes).
phall-. Penis.
pharmaco-. Drug; medicine.
pharyng-, pharyngo-. Pharynx.
-phasia. Speech.
-phil, -philia, -philic. Love for; tendency toward; craving for.
phlebo-. Vein.
-phobia. Abnormal fear or aversion.
phono-. Sound; voice.
-phoresis. Transmission.
-phoria. In ophthalmology, a turning with reference to the visual axis.
photo-. Light.
phren-, phreno-, -phrenia. Mind; diaphragm.
-phylaxis. Protection.
physico-. Physical; natural.
physio-. Rel. to nature.
physo-. Air; gas.
phyt-, phyto-. Plant; something that grows.
pico-. One trillionth.
picr-, picro-. Bitter.
-piesis. Pressure.
pimel-, pimelo-. Fat.
plagio-. Slanting; oblique.
-plakia. Plaque.
-plasia. Growth; cellular proliferation.
plasm-, -plasm. 1. Prefix: Living substance or tissue. **2.** Suffix: To mold.
-plastic. Molded; indicates restoration of lost or badly formed features.
platy-. Broad.
-plegia. Paralysis; stroke.
pleur-, pleuro-. Pleura; side; rib.
-ploid. Chromosome pairs of a specific number.
plur-, pluri-. Several; more.
pneo-. Breath; breathing.
pneum-, pneuma-, pneumato-. Air; gas; respiration.
pneumo-, pneumono-. Air; lung.
pod-, podo-. Foot.
-poiesis, -poietic. Production; formation.
poikil-, poikilo-. Varied, irregular.
polio-. Gray matter of the nervous system.
poly-. Much; many.
post-. After.
postero-. Posterior; behind; toward the back.
-praxis. 1. Act; activity. **2.** Practice; use.
pre-. Before; in front of.
presby-. Old age.
pro-. Before; in behalf of.
proct-, procto-. Anus; rectum.
proso-. Forward, anterior.
prostat-, prostato-. Prostate gland.
proto-. 1. First. **2.** In chemistry, the lowest of a series of compounds with the same elements.
pseud-, pseudo-. False.
psych-, psycho-. Mind; mental processes.
psychro-. Cold.
-ptosis. Prolapse, downward displacement.
pubio-, pubo-. Pubic bone or region.
pulmo-. Lung.
py-, pyo-. Pus.
pycn-, pycno-, pykn-, pykno-. Dense; thick; compact; frequent.
pyelo-. Pelvis.
pyg-, pygo-. Buttocks.
pykn-, pykno-. SEE: *pycn-*.
pyle-. Orifice, esp. of the portal vein.
pyloro-. Gatekeeper; applied to the pylorus.
pyreto-. Fever.
pyro-. Heat; fire.
quadr-, quadri-. Four.
quinqu-. Five.
rachi-, rachio-. Spine.
radio-. 1. Radiant energy; a radioactive substance. **2.** In chemistry, a radioactive isotope.
re-. Back; again.
recto-. Straight; rectum.
ren-, reno-. Kidney.
reticulo-. Reticulum.
retro-. Backward; back; behind.
rhabdo-. Rod.
rheo-, -(r)rhea. Current; stream; to flow; to discharge.
rhino-. Nose.
rhizo-. Root.
rhodo-. Red.
roseo-. Rose-colored.
-(r)rhage, -(r)rhagia. Rupture; profuse fluid discharge.
-(r)rhaphy. A suturing or stitching.
-(r)rhexis. Rupture of a specific body part.
sacchar-, saccharo-. Sugar.
sacro-. Sacrum.
salping-, salpingo-. Auditory tube; fallopian tube.
sapro-. Putrid; rotten.
sarco-. Flesh.
scapho-. Boat-shaped; scaphoid.
scapulo-. Shoulder.
scato-. Dung; fecal matter.

schisto-. Split; cleft.
schizo-. Division.
scirrho-. Hard; hard tumor or scirrhus.
sclero-. Hard; relating to the sclera.
-sclerosis. Dryness; hardness.
-scope. Instrument for viewing or examining (includes other methods of examination).
-scopy. Examination.
scoto-. Darkness.
sebo-. Fatty substance.
semi-. Half.
septi-. Seven.
sero-. Serum.
sesqui-. One and one half.
sial-, sialo-. Saliva.
sidero-. Iron; steel.
-sis. SEE: *-asis.*
sitio-, sito-. Bread; made from grain; food.
skeleto-. Skeleton.
skia-. Shadow.
sodio-. Sodium.
somat-, somato-. Body.
spectro-. Appearance; image; form; spectrum.
sperma-, spermat-, spermato-. Sperm; spermatozoa.
spheno-. Wedge; sphenoid bone.
sphygmo-. Pulse.
spir-, spiro-. Breathe.
spleno-. Spleen.
spondyl-, spondylo-. Vertebra.
spongio-. Spongelike.
staphylo-. Uvula; bunch of grapes; *Staphylococcus.*
steato-. Fat.
steno-. Narrow; short.
sterco-. Feces.
stere-, stereo-. Three dimensions.
sterno-. Sternum.
stetho-. Chest.
stomato-. Mouth.
-stomosis, -stomy. SEE: *-ostomosis.*
strepto-. Twisted.
sub-. Under; beneath; in small quantity; less than normal.
super-. Above; beyond; superior.
supra-. Above; beyond; on top.
sym-. With; together with; along; beside.
syn-. Joined; together.
tachy-. Swift; rapid.
taen-, taeni-, ten-, teni-. Tapeworm.
tarso-. Flat of the foot; edge of the eyelid.
tauto-. Same.
techno-. Art; skill.
tel-, tele-. 1. End. **2.** Distant.
teleo-. Perfect; complete.
temporo-. Temples of the head.
ten-, teni-. SEE: *taen-.*
tendo-, teno-. Tendon.
ter-. Three.
tera-. One trillionth.
terato-. Severely malformed fetus.
tetra-. Four.
thalamo-. Chamber; part of the brain where a nerve originates; thalamus.
thanato-. Death.
theco-. Sheath; case; receptacle.
thermo-. Hot; heat.
thio-. Sulfur.
thorac-, thoraci-, thoraco-. Chest; chest wall.
thrombo-. Blood clot; thrombus.
thy-, thyro-. Thyroid gland; oblong; shield.
thymo-. 1. Thymus. **2.** Soul; emotions.
thyroid-, thyroido-. Thyroid gland.
toco-. Childbirth.
-tome. Cutting instrument.
tomo-. Section; layer.
-tomy. Cutting operation; excision.
ton-, tono-. Tension.
top-, topo-. Place; locale.
tox-, toxi-, toxico-, toxo-, -toxic. Toxin; poison; toxic.
trachelo-. Neck.
tracheo-. Trachea; windpipe.
trans-. Across; over; beyond; through.
traumato-. Trauma.
tri-. Three.
trich-, trichi-, tricho-. Hair.
troph-, tropho-, -trophic. Nourishment.
-tropin. Stimulation of a target organ by a substance, esp. a hormone.
tubo-. Tube.
tympan-, tympano-. Eardrum; tympanum.
typhlo-. 1. Cecum. **2.** Blindness.
typho-. Fever; typhoid.
ulo-. Scar; scarring.
ultra-. Beyond; excess.
uni-. One.
uretero-. Ureter.
urethro-. Urethra.
-uria. Urine.
urin-, urino, uro-. Urine.
uter-, utero-. Uterus.
vagin-, vagino-. Vagina.
varic-, varico-. Dilated vein.
vaso-. Vessel (e.g., blood vessel).
veno-. Vein.
ventro-, ventr-, ventri-. Abdomen; anterior surface of the body.
vertebro-. Vertebra; vertebrae.
vesico-. Bladder; vesicle.
viscero-. Viscera.
vitr-, vitro-, vitre-, vitreo-. Vitreous body (eye); glassy.
vulvo-. Covering; vulva.
xanth-. Yellow.
xeno-. Strange; foreign.
xero-. Dry.
xiph-, xiphi-, xipho-. Xiphoid cartilage.
zoo-. Animal; animal life.

APPENDIX 5
Medical Abbreviations

A	accommodation; acetum; angström unit; anode; anterior
a	artery
$\overline{a}$	before
A_2	aortic second sound
aa	of each; arteries
abd	abdominal/abdomen
ABG	arterial blood gas
ABO	three basic blood groups
AC	alternating current; air conduction; axiocervical; adrenal cortex
a.c.	before a meal
acc.	accommodation
A/CA	accommodative/convergence accommodation ratio
ACE	angiotensin-converting enzyme
ACh	acetylcholine
ACLS	advanced cardiac life support
ACTH	adrenocorticotropic hormone
AD	advance directive
ad	to; up to
ADH	antidiuretic hormone
ADHD	attention deficit-hyperactivity disorder
ADL	activities of daily living
ad lib.	freely; as desired
admov.	apply
ad sat.	to saturation
AF	atrial fibrillation
AFB	acid-fast bacillus
AFP	alpha-fetoprotein
A/G; A-G ratio	albumin/globulin ratio
Ag	silver; antigen
$AgNO_3$	silver nitrate
ah	hypermetropic astigmatism
AHF	antihemophilic factor
AI	aortic incompetence; aortic insufficiency
AICD	automatic implantable cardiac defibrillator
AIDS	acquired immunodeficiency syndrome
AK	above the knee
Al	aluminum
Alb	albumin
ALS	amyotrophic lateral sclerosis
ALT	alanine aminotransferase
alt. dieb.	every other day
alt. hor.	every other hour
alt. noc.	every other night
AM	morning
Am	mixed astigmatism
a.m.a.	against medical advice
AMI	acute myocardial infarction
AMLS	Advanced Medical Life Support
amp	ampule; amputation
ANA	antinuclear antibody
anat	anatomy or anatomic
ANNA	anti-neuronal nuclear antibody
ant.	anterior
Ao.	aorta
A-P	anterior-posterior
A&P	auscultation and percussion
ap	before dinner
AQ, aq	water
aq. dest.	distilled water
aq. frig.	cold water
ARC	AIDS-related complex
ARDS	acute respiratory distress syndrome
ARMD	age-related macular degeneration
AS	ankylosing spondylitis; aortic stenosis; auris sinistra (left ear)
As.	astigmatism
asc.	ascending
ASCVD	atherosclerotic cardiovascular disease
ASD	atrial septal defect
AsH	hypermetropic astigmatism
AsM	myopic astigmatism
AST	aspartate aminotransferase
Ast	astigmatism
ATCC	American Type Culture Collection
at. wt.	atomic weight
Au	gold
A-V; AV; A/V	arteriovenous; atrioventricular
av.	avoirdupois
B	boron; bacillus
Ba	barium
BAC	blood alcohol concentration
BBB	blood-brain barrier
BBT	basal body temperature
BCLS	basic cardiac life support
BE	barium enema
Be	beryllium
Bi	bismuth
b.	bone
bib.	drink
b.i.d.	twice a day
b.i.n.	twice a night
bipap	bilevel positive airway pressure
BK	below the knee
BLS	basic life support

BM	bowel movement
BMR	basal metabolic rate
bol.	pill
BP	blood pressure
B.P.	British Pharmacopeia
BPH	benign prostatic hyperplasia
bpm	beats per minute
BSA	body surface area
BSE	breast self-examination
BUN	blood urea nitrogen
BW	birth weight; body weight
Bx	biopsy
C	Calorie (kilocalorie); Celsius
c	calorie (small calorie)
$\overline{c}$	with
ca.	about; approximately; cancer
CABG	coronary artery bypass graft
$CaCO_3$	calcium carbonate
CAD	coronary artery disease
CAH	chronic active hepatitis
Cal	large calorie
CAP	let (the patient) take
cap.	a capsule
cath	catheter
CBC	complete blood count
CBRNE	chemical, biological, radiological, nuclear, and explosive agents
CC	chief complaint
cc	cubic centimeter
CCl_4	carbon tetrachloride
CCU	coronary care unit; critical care unit
CDC	Centers for Disease Control and Prevention
CF	cystic fibrosis; Christmas factor
cg	centigram
CHD	congenital heart disease; coronary heart disease
ChE	cholinesterase
CHF	congestive heart failure
CI	cardiac index
Ci	curie
CIS	carcinoma in situ
CK	creatine kinase
Cl	chlorine
cm	centimeter
c.m.s.	to be taken tomorrow morning
CMT	certified medication technician
CMV	cytomegalovirus
c.n.	tomorrow night
CNS	central nervous system
c.n.s.	to be taken tomorrow night
CO	carbon monoxide; cardiac output
CO_2	carbon dioxide
Co	cobalt
c/o	complains of
COLD	chronic obstructive lung disease
comp.	compound; compounded of
COPD	chronic obstructive pulmonary disease
CP	cerebral palsy; cleft palate
CPAP	continuous positive airway pressure
CPC	clinicopathologic conference
CPD	cephalopelvic disproportion
CPR	cardiopulmonary resuscitation
CR	crown-rump length; conditioned reflex
CS	cesarean section; culture and sensitivity
CSF	cerebrospinal fluid
CSH	combat support hospital
CT	computed tomography
Cu	copper
CV	cardiovascular
CVA	cerebrovascular accident; costovertebral angle
CVP	central venous pressure
CVRB	critical value read back
CVS	chorionic villi sampling
CXR	chest X-ray
D	diopter; dose
d	density; right
/d	per day
D and C	dilatation and curettage
dB	decibel
DC	direct current; doctor of chiropractic
dc	discontinue
det.	let it be given
DIC	disseminated intravascular coagulation
dieb. alt.	every other day
dieb. tert.	every third day
dil.	dilute; diluted
dim.	halved
DJD	degenerative joint disease
DKA	diabetic ketoacidosis
dl	deciliter
DM	diabetes mellitus
DNA	deoxyribonucleic acid
DNH	do not hospitalize
DNR	do not resuscitate
DOA	dead on arrival
DOB	date of birth
DOE	dyspnea on exertion
DPat	diphtheria-acellular pertussis tetanus (vaccine)
DPT	diphtheria-pertussis-tetanus (vaccine)
dr.	dram
DRG	diagnosis-related group
DT's	delirium tremens
DTR	deep tendon reflex

dur. dolor	while pain lasts
Dx	diagnosis
D5W	dextrose 5% in water
DWI	driving while intoxicated
E	eye; *Escherichia*
EBV	Epstein-Barr virus
ECF	extended care facility; extracellular fluid
ECG	electrocardiogram, electrocardiograph
ECHO	echocardiography
ECMO	extracorporeal membrane oxygenation
ECT	electroconvulsive therapy
ED	emergency department; effective dose; erythema dose; erectile dysfunction
EDD	estimated date of delivery (formerly EDC: estimated date of confinement)
EEG	electroencephalogram
EENT	eye, ear, nose, and throat
EIA	enzyme immunosorbent assay
EKG	electrocardiogram; electrocardiograph
elix.	elixir
Em	emmetropia
EMG	electromyogram
EMS	emergency medical service
ENT	ear, nose, and throat
EOM	extraocular muscles
ER	Emergency Room
ESR	erythrocyte sedimentation rate
ESRD	end-stage renal disease
EST	electroshock therapy
ext.	extensor; external
F	Fahrenheit
f	female
FA	fatty acid
FD	fatal dose; focal distance
Fe	iron
FEV	forced expiratory volume
fl.	flexor
Fld	fluid
FP	family practice; family practitioner
FSH	follicle-stimulating hormone
FTT	failure to thrive
FUO	fever of unknown origin
g, gm	gram
garg	gargle
GB	gallbladder
GC	gonococcus or gonorrheal
GDM	gestational diabetes mellitus
GDS	Geriatric Depression Scale
GERD	gastroesophageal reflux disease
GFR	glomerular filtration rate
GH	growth hormone
GI	gastrointestinal
GP	general practitioner
G6PD	glucose-6-phosphate dehydrogenase
gr	grain
grad	by degrees
GRAS	generally recognized as safe
GSW	gunshot wound
GTT	glucose tolerance test
Gtt, gtt	drops
GU	genitourinary
guttat.	drop by drop
GYN	gynecology
H	hydrogen
H^+	hydrogen ion
h, hr	hour
HAV	hepatitis A virus
HBV	hepatitis B virus
HCG	human chorionic gonadotropin
HCT	hematocrit
HCV	hepatitis C virus
HD	hearing distance
HDL	high-density lipoprotein
HEENT	head, eye, ear, nose, and throat
HF	heart failure
Hg	mercury
hgb	hemoglobin
Hib	*Haemophilus influenzae* type B
HIV	human immunodeficiency virus
h/o	history of
H_2O	water
H_2O_2	hydrogen peroxide
hor. decub.	bedtime
hor. som, h.s.	bedtime
HPI	history of present illness
HR	heart rate
HSV	herpes simplex virus
HTLV-III	human T lymphotropic virus type III
HTN	hypertension
hx, Hx	history
Hy	hyperopia
Hz	hertz (cycles per second)
I	iodine
^{131}I	radioactive isotope of iodine (atomic weight 131)
^{132}I	radioactive isotope of iodine (atomic weight 132)
I&O	intake and output
IBW	ideal body weight
IC	inspiratory capacity
ICP	intracranial pressure

ICS	intercostal space
ICSH	interstitial cell-stimulating hormone
ICU	intensive care unit
Id.	the same
IDDM	insulin-dependent diabetes mellitus
IED	improvised explosive device
Ig	immunoglobulin
IM	intramuscular
in d.	daily
INF	interferon
inf.	inferior
inj.	injection
instill.	instillation
int.	internal
IOP	intraocular pressure
IPPB	intermittent positive pressure breathing
IQ	intelligence quotient
IRV	inspiratory reserve volume
I.U.*	international unit
IUCD	intrauterine contraceptive device
IUD	intrauterine device
IUFD	intrauterine fetal death
IV	intravenous
IVP	intravenous pyelogram
J	joule
JRA	juvenile rheumatoid arthritis
jt.	joint
K	potassium
kg	kilogram
KI	potassium iodine
KUB	kidney, ureter, and bladder
kv	kilovolt
KVO	keep vein open
L	liter
L&D	labor and delivery
lab	laboratory
lat	lateral
lb	pound
LBW	low birth weight
LD_{50}	lethal dose, median
LDL	low-density lipoprotein
LE	lower extremity; lupus erythematosus
LGA	large for gestational age
LH	luteinizing hormone
Li	lithium
lig	ligament
liq.	liquid; fluid
LLE	left lower extremity
LLL	left lower lobe
LLQ	left lower quadrant
lmp	last menstrual period
LOC	level/loss of consciousness
LP	lumbar puncture
LR	lactated Ringer's
LTD	lowest tolerated dose
LUE	left upper extremity
LUL	left upper lobe
LUQ	left upper quadrant
LV	left ventricle
LVH	left ventricular hypertrophy
M	master; medicine; molar; thousand; muscle
m	male; meter; minim; mole; meta; muscle
MA	mental age
man. prim.	first thing in the morning
MAP	mean arterial pressure
MAT	Miller Analogies Test
MBD	minimal brain dysfunction
mc; mCi	millicurie
mcg	microgram
MCH	mean corpuscular hemoglobin
MCHC	mean corpuscular hemoglobin concentration
MCV	mean corpuscular volume
MD	muscular dystrophy
MDI	metered-dose inhaler
MED	minimum effective dose
med	medial
μEq	microequivalent
mEq	milliequivalent
mEq/L	milliequivalent per liter
ME ratio	myeloid/erythroid ratio
Mg	magnesium
μg	microgram
mg	milligram
MI	myocardial infarction
MID	minimum infective dose
mist.	a mixture
ml	milliliter
MLD	minimum lethal dose
MLF	medial longitudinal fasciculus
MM	mucous membrane
mm	millimeter
mm Hg	millimeters of mercury
mMol	millimole
MMR	measles-mumps-rubella (vaccine)
MMSE	Mini-Mental Status Examination
Mn	manganese
mol wt	molecular weight
mor. dict.	as directed
mor. sol.	as accustomed
MPC	maximum permitted concentration
MPN	most probable number
mr	milliroentgen
MRA	magnetic resonance angiography
MRI	magnetic resonance imaging
MS	mitral stenosis; multiple sclerosis
MV	mitral valve
mV	millivolt
MVA	motor vehicle accident
MW	molecular weight
My	myopia
N	nitrogen

n	nerve
N/A	not applicable
Na	sodium
NAD	no acute distress
n.b.	note well
nCi	nanocurie
NDC	National Drug Code
NG, ng	nasogastric
NH_3	ammonia
Ni	nickel
NICU	neonatal intensive care unit
NIDDM	noninsulin-dependent diabetes mellitus
NIH	National Institutes of Health
NKA	no known allergies
nn	nerves
noct.	in the night
noct. maneq.	night and morning
non rep; n.r.	do not repeat
NPN	nonprotein nitrogen
n.p.o.	nothing by mouth
NRC	normal retinal correspondence
NS	normal saline
NSAID	nonsteroidal anti-inflammatory drug
NSR	normal sinus rhythm
N&V, N/V	nausea and vomiting
O	pint
O_2	oxygen
OB	obstetrics
OC	oral contraceptive
O.D.	right eye
ol.	oil
om. mane vel noc.	every morning or night
omn. hor.	every hour
omn. noct.	every night
OOB	out of bed
OPD	outpatient department
OR	operating room
ORIF	open reduction and internal fixation
O.S.	left eye
os	mouth
OT	occupational therapy
OTC	over-the-counter
OU	each eye
oz	ounce
P, p	melting point
p	after
P_2	pulmonic second sound
P-A; PA; pa	posteroanterior; pulmonary artery
PABA	para-aminobenzoic acid (vitamin B10)
PACU	postanesthesia care unit
PALS	pediatric advanced life support
Pap test	Papanicolaou smear
part. vic	in divided doses
Pb	lead
PBI	protein-bound iodine
p.c.	after meals
PCA	patient-controlled analgesia
P_{CO_2}	carbon dioxide pressure
PCP	*Pneumocystis carinii* pneumonia; primary care physician; primary care provider
PCWP	pulmonary capillary wedge pressure
PD	interpupillary distance
pd	prism diopter; pupillary distance
PDA	patent ductus arteriosus
PDR	*Physicians' Desk Reference*
PE	physical examination
PEEP	positive end expiratory pressure
PEFR	peak expiratory flow rate
PEG	percutaneous endoscopic gastrostomy
per	through or by
PERRLA	pupils equal, regular, react to light and accommodation
PET	positron emission tomography
PFP, P4P	pay for performance
pH	hydrogen ion concentration
Pharm; Phar.	pharmacy
PI	present illness; previous illness
PICC	peripherally inserted central catheter
PID	pelvic inflammatory disease
pil.	pill
PIP	proximal interphalangeal
PKU	phenylketonuria
PM	afternoon/evening
PMH	past medical history
PMI	point of maximal impulse
PMN	polymorphonuclear neutrophil leukocytes
PMS	premenstrual syndrome
PND	paroxysmal nocturnal dyspnea
PNH	paroxysmal nocturnal hemoglobinuria
PNS	peripheral nervous system
PO; p.o.	orally (per os)
POLST	physician orders for life-sustaining therapy
post.	posterior
PPD	purified protein derivative (TB test)
ppm	parts per million
p.r.	through the rectum
p.r.n.	as needed
pro time/PT	prothrombin time
PSA	prostate-specific antigen
PT	prothrombin time; physical therapy

Pt	platinum; patient
pt	pint
PTT	partial thromboplastin time
Pu	plutonium
PUBS	percutaneous blood sampling
p.v.	through the vagina
PVC	premature ventricular contraction
q	every
q.d.*	every day
q.h.	every hour
q.2h.	every 2 hours
q.3h.	every 3 hours
q.4h.	every 4 hours
q.i.d.*	four times a day
q.l.	as much as wanted
qns	quantity not sufficient
q.o.d.*	every other day
q.p.	as much as desired
q.s.	as much as needed
qt	quart
q.v.	as much as you please
RA	rheumatoid arthritis
Ra	radium
rad	radiation absorbed dose
RAI	radioactive iodine
RAIU	radioactive iodine uptake
RBC	red blood cell; red blood count
RDA	recommended daily/ dietary allowance
RDS	respiratory distress syndrome
RE	right eye
Re	rhenium
REM	rapid eye movement
Rh	symbol of rhesus factor; symbol for rhodium
RHD	rheumatic heart disease
RLE	right lower extremity
RLL	right lower lobe
RLQ	right lower quadrant
RML	right middle lobe of lung
Rn	radon
RNA	ribonucleic acid
R/O	rule out
ROM	range of motion
ROS	review of systems
RPM	revolutions per minute
RQ	respiratory quotient
RR	recovery room; respiratory rate
RT	radiation therapy; respiratory therapy
R/T	related to
RUE	right upper extremity
RUL	right upper lobe
RUQ	right upper quadrant
S	mark
$\overline{s}$	without
S.	sacral
S-A; S/A; SA	sinoatrial
SB	small bowel
Sb	antimony
SC, sc, s.c.	subcutaneous(ly)
S.D.	standard deviation
S.E.	standard error
Se	selenium
Sed rate	sedimentation rate
semih.	half an hour
SGA	small for gestational age
SI	international system of units (stroke index)
Si	silicon
SIDS	sudden infant death syndrome
Sig.	write on label
SLE	systemic lupus erythematosus
SLP	speech-language pathology
Sn	tin
SNF	skilled nursing facility
SNRI	serotonin and norepinephrine reuptake inhibitor
SOB	shortness of breath
sol	solution, dissolved
s.o.s.	if necessary
S/P	no change after
sp gr	specific gravity
sph	spherical
spt.	spirit
s.q.	subcutaneous(ly)
Sr	strontium
ss	a half
SSS	sick sinus syndrome
st.	let it (them) stand
Staph	*Staphylococcus*
stat.	immediately
STD	sexually transmitted disease
Strep	*Streptococcus*
STS	serologic test for syphilis
STU	skin test unit
sup.	superior
supf.	superficial
SV	stroke volume; supraventricular
SVC	superior vena cava
Sx	symptoms
syr.	syrup
T	temperature
T_3	triiodothyronine
T_4	thyroxine
TA	toxin-antitoxin
Ta	tantalum
T&A	tonsillectomy and adenoidectomy
TAH	total abdominal hysterectomy
TAT	thematic apperception test
T.A.T.	toxin-antitoxin
TB	tuberculin; tuberculosis; tubercle bacillus
Tb	terbium
t.d.s.	to be taken three times daily
Te	tellurium; tetanus
TENS	transcutaneous electrical nerve stimulation

Th	thorium
TIA	transient ischemic attack
TIBC	total iron-binding capacity
t.i.d.	three times a day
t.i.n.	three times a night
tinct., tr	tincture
Tl	thallium
TLC, tlc	tender loving care; thin layer chromatography; total lung capacity
TM	tympanic membrane
TMJ	temporomandibular joint
TNT	trinitrotoluene
TNTM	too numerous to mention
top.	topically
TORB	telephone order read back
TPI	*Treponema pallidum* immobilization test for syphilis
TPN	total parenteral nutrition
TPR	temperature, pulse, and respiration
Treg	regulatory T cell
trit.	triturate or grind
TSD	time since death
TSE	testicular self-examination
TSH	thyroid-stimulating hormone
TUR	transurethral resection
TURP	transurethral resection of the prostate
Tx	treatment
U	uranium; unit*
UA	urinalysis
UE	upper extremity
UHF	ultrahigh frequency
ult. praes.	the last ordered
Umb; umb	umbilicus
ung.	ointment
URI	upper respiratory infection
US	ultrasonic
USAN	United States Adopted Name
USP	United States Pharmacopeia
ut. dict.	as directed
UTI	urinary tract infection
UV	ultraviolet
v	vein
VA	visual acuity
VC	vital capacity
VD	venereal disease
VDRL	Venereal Disease Research Laboratories
Vf	field of vision
VLBW	very low birth weight
VLDL	very low density lipoprotein
VMA	vanillylmandelic acid
VOE	VistA-Office Electronic Health Record
vol.	volume
vol %	volume percent
VORB	verbal order read back
VS	volumetric solution; vesicular sound; vital signs
VSD	ventricular septal defect
vv	veins
VZIG	varicella zoster immune globulin
W	tungsten
w	watt
WAIS	Wechsler Adult Intelligence Scale
WAP	written action plan
WBC	white blood cell; white blood count
WDWN	well-developed, well–nourished
WF/BF	white female/black female
WH	well–hydrated
WM/BM	white male/black male
WN	well-nourished
WNL	within normal limits
wt.	weight
w/v.	weight in volume
x	multiplied by
y	yocto-
yo	years old
yr	year
Z	atomic number
Zn	zinc

* To avoid errors in the administration of medications and infusions, spell out the word instead of using the indicated abbreviation. For example, use “international unit” instead of I.U.”; “every day” instead of “q.d.”; “every other day” instead of “q.o.d.”; and “unit” instead of “U.”

APPENDIX 6
Symbols

GENERAL SYMBOLS

$\overline{3}$	Ounce
O	Pint
$\overline{lb}$	Pound
℞	Recipe (L. take)
M	Misce (L. mix)
$\overline{aa}$	Of each
A, Å, AU	angström unit
C-1, C-2, etc.	Complement
c, $\overline{c}$	cum (L. with)
Δ	Change; heat
E_0	Electroaffinity
F_1	First filial generation
F_2	Second filial generation
mμ	Millimicron, nanometer
μg	Microgram
mEq	Milliequivalent
mg	Milligram
mg%	Milligrams percent; milligrams per 100 ml
n	Subscripted n indicates the number of the molecules can vary from two to greater
Q_{O_2}	Oxygen consumption
m-	Meta-
o-	Ortho-
p-	Para-
$\overline{p}$	After
P_{O_2}	Partial pressure of oxygen
P_{CO_2}	Partial pressure of carbon dioxide
$\overline{s}$	Without
$\overline{ss}$, ss	[L. semis]. One half
μm	Micrometer
μ	Micron (former term for micrometer)
$\mu\mu$	Micromicron
+	Plus; excess; acid reaction; positive
−	Minus; deficiency; alkaline reaction; negative
±	Plus or minus; either positive or negative; indefinite
#	Number; following a number, pounds
÷	Divided by
×	Multiplied by; magnification
/	Divided by
=	Equals
≈	Approximately equal
>	Greater than; from which is derived
<	Less than; derived from
≮	Not less than
≯	Not greater than
≤	Equal to or less than
≥	Equal to or greater than
≠	Not equal to
$\sqrt{\ }$	Root; square root; radical
$\sqrt[2]{\ }$	Square root
$\sqrt[3]{\ }$	Cube root
∞	Infinity
:	Ratio; "is to"
::	Equality between ratios, "as"
∴	Therefore
°	Degree
%	Percent
π	3.1416—ratio of circumference of a circle to its diameter
□, ♂	Male
○, ♀	Female
⇌	Denotes a reversible reaction
↑	Increase
↓	Decrease

SPECIAL SYMBOLS USED IN TABERS

Caution/Safety note

Provided on Taber's*Plus* DVD

APPENDIX 7
Units of Measurement (Including SI Units)

Appendix 7–1 Scientific Notation

Sometimes it is necessary to use very large and very small numbers. These can best be indicated and handled in calculations by use of scientific notation, which is to say by use of exponents. Use of scientific notation requires writing the number so that it is the result of multiplying some whole number power of 10 by a number between 1 and 10. Examples are:

$$1234 = 1.234 \times 10^{3}$$

$$0.01234 = 1.234 \times \frac{1}{100} = 1.234 \times 10^{-2}$$

$$0.001234 = 1.234 \times \frac{1}{1000} = 1.234 \times 10^{-3}$$

To convert a number to its equivalent in scientific notation:

Place the decimal point to the right of the first non-zero digit. This will now be a number between 1 and 9.

Multiply this number by a power of 10, the exponent of which is equal to the number of places the decimal point was moved. The exponent is positive if the decimal point was moved to the left, and negative if it was moved to the right. For example:

$$\frac{1{,}234{,}000.0 \times 0.000072}{6000.0} = \frac{1.234 \times 10^{6} \times \ 7.2 \times 10^{-5}}{6.0 \times 10^{3}}$$

Now, by simply adding or subtracting the exponents of ten, and remembering that moving an exponent from the denominator of the fraction to the numerator changes its sign,

$$= \frac{1.234 \times 10^{6} \times 10^{-5} \times 10^{-3} \times 7.2}{6} = \frac{1.234 \times 10^{-2} \times 7.2}{6}$$

Now, dividing by 6,

$$= 1.234 \times 10^{-2} \times 1.2 = 1.4808 \times 10^{-2} = \frac{1.4808}{100} = 0.014808$$

The last operation changed 1.4808×10^{-2} into the final value, 0.014808, which is not expressed in scientific notation.

Appendix 7–2 SI Units (Système International d'Unités or International System of Units)

This system includes two types of units important in clinical medicine. The *base units* are shown in the first table, derived units in the second table, and derived units with special names in the third table.

SI BASE UNITS

Quantity	*Name*	*Symbol*
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Temperature	kelvin	K
Luminous intensity	candela	cd
Amount of a substance	mole	mol

SOME SI DERIVED UNITS

Quantity	*Name of Derived Unit*	*Symbol*
Area	square meter	m^2
Volume	cubic meter	m^3
Speed, velocity	meter per second	m/s
Acceleration	meter per second squared	m/s^2
Mass density	kilogram per cubic meter	kg/m^3
Concentration of a substance	mole per cubic meter	mol/m^3
Specific volume	cubic meter per kilogram	m^3 /kg
Luminescence	candela per square meter	cd/m^2
Body mass index	kilogram per meter squared	kg/m^2

SI DERIVED UNITS WITH SPECIAL NAMES

Quantity	*Name*	*Symbol*	*Expressed in Terms of Other Units*
Frequency	hertz	Hz	s^{-1}
Force	newton	N	$kg{\cdot}m{\cdot}s^{-2}$ or $kg{\cdot}m/s^2$
Pressure	pascal	Pa	$N{\cdot}m^{-2}$ or N/m^2
Energy, work, amount of heat	joule	J	$kg{\cdot}m^2{\cdot}\ s^{-2}$ or N·m
Power	watt	W	J·s or J/s
Quantity of electricity	coulomb	C	A·s
Electromotive force	volt	V	W/A
Capacitance	farad	F	C/V
Electrical resistance	ohm	Ω	V/a
Conductance	siemens	S	A/V
Inductance	henry	H	$W\phi/A$
Illuminance	lux	lx	ln/m^2
Absorbed (radiation) dose	gray	Gy	J/kg
Dose equivalent (radiation)	sievert	Sv	J/kg
Activity (radiation)	becquerel	Bq	s^{-1}

PREFIXES AND MULTIPLES USED IN SI

Prefix	*Symbol*	*Power*	*Multiple or Portion of a Multiple*
tera	T	10^{12}	1,000,000,000,000.
giga	G	10^9	1,000,000,000.
mega	M	10^6	1,000,000.
kilo	k	10^3	1,000.
hecto	h	10^2	100.
deca	da	10^1	10.
unity			1
deci	d	10^{-1}	0.1
centi	c	10^{-2}	0.01
milli	m	10^{-3}	0.001
micro	μ	10^{-6}	0.000001
nano	n	10^{-9}	0.000000001
pico	p	10^{-12}	0.000000000001
femto	f	10^{-15}	0.000000000000001
atto	a	10^{-18}	0.000000000000000001

Appendix 7–3 Metric System

MASSES

Mass		*Grams*
1 Kilogram	=	1000.0
1 Hectogram	=	100.0
1 Decagram (Dekagram)	=	10.0

MASSES (Continued)

Mass		*Grams*
1 gram	=	1.0
1 decigram	=	0.1
1 centigram	=	0.01
1 milligram	=	0.001
1 microgram	=	10^{-6}
1 nanogram	=	10^{-9}
1 picogram	=	10^{-12}
1 femtogram	=	10^{-15}
1 attogram	=	10^{-18}

Arabic numbers are used with masses and measures, as 10 g, or 3 ml. Portions of masses and measures are usually expressed decimally, e.g., 10^{-1} indicates 0.1; $10^{-6} = 0.000001$. Appendix 7–1: Scientific Notation Appendix.

Appendix 7–4 Weights and Measures

Arabic numerals are used with masses and measures, as 10 g, or 3 ml. Portions of masses and measures are usually expressed decimally. For practical purposes, 1 cm^3 (cubic centimeter) is equivalent to 1 ml (milliliter) and 1 drop (gtt.) of water is equivalent to a minim (m).

LENGTH

Millimeters (mm)	*Centimeters (cm)*	*Inches (in)*	*Feet (ft)*	*Yards (yd)*	*Meters (m)*
1.0	0.1	0.03937	0.00328	0.0011	0.001
10.0	1.0	0.3937	0.03281	0.0109	0.01
25.4	2.54	1.0	0.0833	0.0278	0.0254
304.8	30.48	12.0	1.0	0.333	0.3048
914.40	91.44	36.0	3.0	1.0	0.9144
1000.0	100.0	39.37	3.2808	1.0936	1.0

1 μm = 1 micrometer = 0.001 millimeter. 1 mm = 100 μm.
1 km = 1 kilometer = 1000 meters = 0.62137 statute mile.
1 statute mile = 5280 feet = 1.609 kilometers.
1 nautical mile = 6076.042 feet = 1852.276 meters.

VOLUME (FLUID)

Milliliters (ml)	*Cubic Inches (in^3)*	*U.S. Fluid Quarts (qt)*	*Liters (L)*
1.0	0.061	0.00106	0.001
3.697	0.226	0.00391	0.00369
16.3866	1.0	0.0173	0.01639
29.573	1.8047	0.03125	0.02957
946.332	57.75	1.0	0.9463
1000.0	61.025	1.0567	1.0

1 gallon = 4 quarts = 8 pints = 3.785 liters.
1 pint = 473.16 ml.

WEIGHT

Grains (gr)	*Grams (g)*	*Apothecaries' Ounces ($f\overline{3}$)*	*Kilograms (kg)*
1.0	0.0648	0.00208	0.000065
15.432	1.0	0.03215	0.001
480.0	31.1	1.0	0.0311
7000.0	453.5924	14.583	0.45359
15432.358	1000.0	32.15	1.0

1 microgram (μg) = 0.001 milligram.
1 mg = 1 milligram = 0.001 g; 1000 mg = 1 g.

CIRCULAR MEASURE

60 seconds = 1 minute
60 minutes = 1 degree
90 degrees = 1 quadrant
4 quadrants = 360 degrees = circle

LIQUID MEASURE

16 ounces = 1 pint
4 quarts = 1 gallon
1 quart = 946.35 milliliters
1000 milliliters = 1 liter
31.5 gallons = 1 barrel (U.S.)
1 liter = 1.0566 quart
4 gills = 1 pint
2 pints = 1 quart

A U.S. gallon is equal to 0.8327 British gallon; therefore, a British gallon is equal to 1.201 U.S. gallons. 1 liter is equal to 1.0567 quarts.

LINEAR MEASURE

1 inch = 2.54 centimeters
40 rods = 1 furlong
8 furlongs = 1 statute mile
12 inches = 1 foot
3 feet = 1 yard
5.5 yards = 1 rod
1 statute mile = 5280 feet
3 statute miles = 1 statute league
1 nautical mile = 6076.042 feet

HOUSEHOLD MEASURES AND WEIGHTS*

Approximate Equivalents: 60 gtt. = 1 teaspoonful
= 5 ml = 60 minims = $\frac{1}{8}$ ounce

1 teaspoon = $\frac{1}{6}$ fl oz
16 teaspoons (liquid) = 1 cup
3 teaspoons = 1 tablespoon
12 tablespoons (dry) = 1 cup
1 tablespoon = $\frac{1}{2}$ fl oz
1 cup = 8 fl oz
1 tumbler or glass = 8 fl oz; $\frac{1}{2}$ pint

* Household measures are not precise. For instance, a household tsp will hold from 3 to 5 ml of liquid. Therefore, household equivalents should not be substituted for medication prescribed by the physician.
NOTE: Traditionally, the word "weights" is used in these tables, but "masses" is the correct term.

Appendix 7–5 Conversion Rules and Factors

To convert units of one system into the other, multiply the number of units in column I by the equivalent factor opposite that unit in column II.

WEIGHT

1 gram	=	0.03527 avoirdupois ounce
1 gram	=	0.03215 apothecaries' ounce
1 kilogram	=	35.274 avoirdupois ounces
1 kilogram	=	32.151 apothecaries' ounces
1 kilogram	=	2.2046 avoirdupois pounds
1 grain	=	64.7989 milligrams
1 grain	=	0.0648 gram
1 avoirdupois ounce	=	28.3495 grams
1 apothecaries' ounce	=	31.1035 grams
1 avoirdupois pound	=	453.5924 grams

VOLUME (AIR OR GAS)

1 cubic centimeter (cm^3)	=	0.06102 cubic inch
1 cubic meter (m^3)	=	35.314 cubic feet
1 cubic meter	=	1.3079 cubic yard
1 cubic inch (in^3)	=	16.3872 cubic centimeters
1 cubic foot (ft^3)	=	0.02832 cubic meter

CAPACITY (FLUID OR LIQUID)

1 liter	=	2.1134 pints
1 liter	=	1.0567 quart
1 liter	=	0.2642 gallon
1 fluid dram	=	3.697 milliliters
1 fluid ounce	=	29.573 milliliters
1 pint	=	473.1765 milliliters
1 quart	=	946.353 milliliters
1 gallon	=	3.785 liters

TIME

1 millisecond = one thousandth (0.001) of a second
1 second = 1/60 of a minute
1 minute = 1/60 of an hour
1 hour = 1/24 of a day

TEMPERATURE

Given a temperature on the Fahrenheit scale, to convert it to degrees Celsius, subtract 32 and multiply by 5/9. Given a temperature on the Celsius scale, to convert it to degrees Fahrenheit, multiply by 9/5 and add 32. Degrees Celsius are equivalent to degrees Centigrade. SEE: *thermometer, Celsius* for table.

PRESSURE

TO OBTAIN	*MULTIPLY*	*BY*
lb/sq in	atmospheres	14.696
lb/sq in	in of water	0.03609
lb/sq in	ft of water	0.4335
lb/sq in	in of mercury	0.4912
lb/sq in	kg/sq meter	0.00142
lb/sq in	kg/sq cm	14.22
lb/sq in	cm of mercury	0.1934
lb/sq ft	atmospheres	2116.8
lb/sq ft	in of water	5.204
lb/sq ft	ft of water	62.48
lb/sq ft	in of mercury	70.727
lb/sq ft	cm of mercury	27.845
lb/sq ft	kg/sq meter	0.20482
lb/cu in	g/ml	0.03613
lb/cu ft	lb/cu in	1728.0
lb/cu ft	gm/ml	62.428
lb/U.S. gal	gm/L	8.345
in of water	in of mercury	13.60
in of water	cm of mercury	5.3543
ft of water	atmospheres	33.95
ft of water	lb/sq in	2.307
ft of water	kg/sq meter	0.00328
ft of water	in of mercury	1.133
ft of water	cm of mercury	0.4461
atmospheres	ft of water	0.02947
atmospheres	in of mercury	0.03342
atmospheres	kg/sq cm	0.9678
bars	atmospheres	1.0133
in of mercury	atmospheres	29.921
in of mercury	lb/sq in	2.036
mm of mercury	atmospheres	760.0
g/ml	lb/cu in	27.68
g/sq cm	kg/sq meter	0.1
kg/sq meter	lb/sq in	703.1
kg/sq meter	in of water	25.40
kg/sq meter	in of mercury	345.32
kg/sq meter	cm of mercury	135.95
kg/sq meter	atmospheres	10332.0
kg/sq cm	atmospheres	1.0332

FLOW RATE

TO OBTAIN	*MULTIPLY*	*BY*
cu ft/hr	cc/min	0.00212
cu ft/hr	L/min	2.12
L/min	cu ft/hr	0.472

PARTS PER MILLION

Conversion of parts per million (ppm) to percent:
1 ppm = 0.0001%, 10 ppm = 0.001%, 100 ppm = 0.01%, 1000 ppm = 0.1%,
10,000 ppm = 1%, etc.

ENERGY

1 foot pound = 1.35582 joule
1 joule = 0.2389 Calorie (kilocalorie)
1 Calorie (kilocalorie) = 1000 calories = 4184 joules
A large Calorie, or kilocalorie, is always written with a capital C.

pH

The pH scale is simply a series of numbers stating where a given solution would stand in a series of solutions arranged according to acidity or alkalinity. At one extreme (high pH) lies a highly alkaline solution; at the other extreme (low pH) is an acid solution containing 3.65 g of hydrogen chloride per liter of water. Halfway between lies purified water, which is neutral. All other solutions can be arranged on this scale, and their acidity or alkalinity can be stated by giving the numbers that indicate their relative positions. If the pH of a certain solution is 5.3, it falls between gastric juice and urine on the above scale, is moderately acid, and will turn litmus red.

Tenth-normal HCl	−1.00	Litmus is red in this acid range
Gastric juice	1.4	
Urine	* 6.0	
Water	7.00	—Neutral
Blood	7.35–7.45	Litmus is blue in this alkaline range.
Bile	* 7.5	
Pancreatic juice	8.5	
Tenth-normal NaOH	13.00	

* These body fluids vary rather widely in pH; typical figures have been used for simplicity. Urine samples obtained from healthy individuals may have pH readings anywhere between 4.7 and 8.0.

APPENDIX 8
The Interpreter in Three Languages
Basic Medical Diagnosis and Treatment in English, Spanish, and French

TABLE OF CONTENTS

INTRODUCTION

When attempting to communicate with a patient whose language is foreign to you, it is important to establish that while you may be able to say a few words in his or her language you will not be able to understand the patient's replies. The patient may need to use signs in replying. The following paragraphs are given for your convenience in explaining your language difficulty to the patient.

English

Hello. I want to help you. I do not speak (English) but will use this book to ask you some questions. I will not be able to understand your spoken answers. Please respond by shaking your head or raising one finger to indicate "no"; nod your head or raise two fingers to indicate "yes."

Spanish

Translation	**Phonetic**
Saludos. Quiero ayudarlo. Yo no hablo español, pero voy a usar este libro para hacerle algunas preguntas. No voy a poder entender sus respuestas; por eso haga el favor de contestar, negando con la cabeza o levantando un dedo para indicar "no" y afirmando con la cabeza o levantando dos dedos para indicar "sí."	Sah-loo′dohs. Ki-air′oh ah-joo-dar′loh. Joh noh ah′bloh es′panyohl, pair′oh voy ah oo-sawr′ es′tay lee′broh pahr′ah ah-sair′lay ahl-goo′nahs pray-goon′tahs. Noh voy ah poh-dair′ en-ten-dair′ soos res-poo-es′tahs; pore es-soh ah′gah el fah-vohr′ day kohn-tes-tahr′, nay-gahn′doh kohn lah kah-bay′thah oh lay-vahn-tahn′doh oon day′doh pahr′ah een-dee-kahr′ noh ee ah-feer-mahn′doh kohn lah kah-bay′thah oh lay-vahn-tahn′doh dohs day′dohs pahr′a een-dee-kahr′ see.

French

Translation	Phonetic
Bonjour. Je veux bien vous aider. Je ne parle pas français mais tout en me servant de ce livre je vais vous poser des questions. Je ne comprendrai pas ce que vous dites en français. Je vous en prie, pour répondre: pour indiquer "non", secouez la tête ou levez un seul doigt; pour indiquer "oui", faites un signe de tête ou levez deux doigts.	Bon-zhoor′. Zheh veh bih-ehn′ vooz ay-day′. Zheh neh parl pah frahn-say′ may toot ahn meh sehr-vahn′ d′ seh lee′vrah zheh vay voo poh-say′ day kehs-tih-on′. Zheh neh kahm-prahn′dry pah seh keh voo deet ahn frahn-say′. Zheh vooz ahn pree, por ray-pahn′drah; por ahn-dee-kay nohn, seh-kway′ lah teht oo leh-vay′ oon sool dwoit; por ahn-dee-kay wee′, fayt oon seen deh teht oo leh-vay′ duh dwoit.

GENERAL

Basic Questions and Replies

English	*Spanish*	*French*
Good morning.	Buenos días.	Bonjour.
My name is . . . I am a (nurse, physician, social worker, psychologist, etc.).	Me llamo . . . soy (enfermera, médico, trabador social, psicólogo, etc.)	Je m'appelle . . . Je suis (infirmière, médecin, assistante sociale, psychologue, etc.)
What is your name?	¿Cómo se llama?	Quel est votre nom?
How old are you?	¿Cuántos años tiene?	Quel âge avez-vous?
Do you understand me?	¿Me entiende?	Me comprenez-vous?
Answer only . . .	Contestesolamente . . .	Répondez seulement . . .
Yes No	Sí No	Oui Non
What do you say?	¿Qué dice?	Que dites-vous?
Speak slower.	Hable más despacio.	Parlez plus lentement.
Say it once again.	Repítalo, por favor.	Répétez ça.
Don't be afraid.	No tenga miedo.	N'ayez pas peur.
Try to recollect.	Trate de recordar.	Cherchez à vous rappeler.
You cannot remember?	¿No recuerda?	Vous ne vous en souvenez pas?
Come to my office.	Venga a mi oficina.	Venez à mon bureau.
Please remove all your clothes and put on this gown.	Por favor, quítese la ropa y póngase esta bata.	S'il vous plaît, déshabillez-vous et mettez cette robe.
You will?	¿Ud. quiere? Ud.—Usted.	Vous voulez bien?
You will not?	¿No quiere Ud.?	Vous ne voulez pas?
You don't know?	¿No sabe?	Vous ne savez pas?
Is it impossible?	¿Es imposible?	C'est impossible?
It is necessary.	Es necesario.	C'est necéssaire.
That is right.	Está bien.	C'est bien.
Show me . . .	Enséñeme . . .	Montrez-moi . . .
Here There	Aquí Allí	Ici Là
Which side?	¿En qué lado?	Quel côté?
Since when?	¿Desde cuándo?	Depuis quand?
Right	Derecha	A droite
Left	Izquierda	A gauche
More or less	Más o menos	Plus ou moins
How long?	¿Cuánto tiempo?	Combien de temps?
Not much	No mucho	Pas beaucoup
Try again.	Trate otra vez.	Essayez encore une fois.
Never	Nunca	Jamais
Never mind.	Olvídelo.	Ça ne fait rien.
That will do.	Suficiente.	Ça suffit.
About how much daily?	¿Más o menos qué cantidad diaramente?	A peu près combien par jour?

English	*Spanish*	*French*
	Seasons	
Spring	Primavera	Printemps
Summer	Verano	Été
Autumn	Otoño	Automne
Winter	Invierno	Hiver
	Months	
January	Enero	Janvier
February	Febrero	Février
March	Marzo	Mars
April	Abril	Avril
May	Mayo	Mai
June	Junio	Juin
July	Julio	Juillet
August	Agosto	Août
September	Septiembre	Septembre
October	Octubre	Octobre
November	Noviembre	Novembre
December	Diciembre	Décembre
	Days of the Week	
Sunday	Domingo	Dimanche
Monday	Lunes	Lundi
Tuesday	Martes	Mardi
Wednesday	Miércoles	Mercredi
Thursday	Jueves	Jeudi
Friday	Viernes	Vendredi
Saturday	Sábado	Samedi
	Numbers and Time	
One	Uno	Un
Two	Dos	Deux
Three	Tres	Trois
Four	Cuatro	Quatre
Five	Cinco	Cinq
Six	Seis	Six
Seven	Siete	Sept
Eight	Ocho	Huit
Nine	Nueve	Neuf
Ten	Diez	Dix
Twenty	Veinte	Vingt
Thirty	Treinta	Trente
Forty	Cuarenta	Quarante
Fifty	Cincuenta	Cinquante
Sixty	Sesenta	Soixante
Seventy	Setenta	Soixante-dix
At 10:00	A las diez	A dix heures
At 2:30	A las dos y media	A deux heures et demie
Early in the morning	Temprano por la mañana	De bon matin
In the daytime	En el día	Pendant la journée
At noon	Al mediodía	A midi
At bedtime	Al acostarse	A l'heure de se coucher
At night	Por la noche	Le soir
With meals	Con las comidas	Avec les repas
Before meals	Antes de las comidas	Avant les repas
After meals	Después de las comidas	Après les repas
Today	Hoy	Aujourd'hui
Tomorrow	Mañana	Demain
Every day	Todos los días	Chaque jour
Every other day	Cada dos días	Tous les deux jours
Every hour	Cada hora	Chaque heure
How long have you felt this way?	¿Desde cuándo se siente así?	Depuis quand vous sentez-vous comme ça?

English	*Spanish*	*French*
It came all of a sudden?	¿Vino de repente?	Ça vous est arrivé tout à coup?
For how many days or weeks?	¿Cuántos días o semanas?	Depuis combien de jours ou semaines?
Do they come every day?	¿Los tiene todos los días?	Ça vous gêne tous les jours?
At the same hour?	¿A la misma hora?	A la même heure?
At intervals?	¿De vez en cuando?	De temps à autre?
It will be too late.	Será demasiado tarde.	Çe sera trop tard.

Colors

Black	Negro	Noir
Blue	Azul	Bleu
Green	Verde	Vert
Pink	Rosado	Rose
Red	Rojo	Rouge
White	Blanco	Blanc
Yellow	Amarillo	Jaune

Parts of Body

In the abdomen	En el vientre	Dans l'abdomen
The ankle	El tobillo	La cheville
The arm	El brazo	Le bras
The back	La espalda	Le dos
The bones	Los huesos	Les os
The chest	El pecho	La poitrine
The ears	Los	Les oreilles
The elbow	El codo	Le coude
The eye	El ojo	L'oeil
The foot	El pie	Le pied
The gums	Las encías	Les gencives
The hand	La mano	La main
The head	La cabeza	La tête
The heart	El corazón	Le coeur
The leg	La pierna	La jambe
The liver	El hígado	Le foie
The lungs	Los pulmones	Les poumons
The mouth	La boca	La bouche
The muscles	Los músculos	Les muscles
The neck	El cuello	Le cou
The nerves	Los nervios	Les nerfs
The nose	La nariz	Le nez
The penis	El pene	Le pénis
The perineum	El perineo	Le périnée
The rectal area	La parte rectal	La partie rectale
The ribs	Las costillas	Les côtes
The shoulder blades	Las paletillas	Les omoplates
The side	El flanco	Le côté
The skin	La piel	La peau
The skull	El cráneo	Le crâne
The stomach	El estómago	L'estomac
The teeth	Los dientes	Les dents
The temples	Las sienes	Les tempes
The thigh	El muslo	La cuisse
The throat	La garganta	La gorge
The thumb	El dedo pulgar	Le pouce
The tongue	La lengua	La langue
The wrist	La muñeca	Le poignet
The vagina	La vagina	Le vagin

English	*Spanish*	*French*
	HISTORY	
	Family	
Are you married?	¿Es Ud. casado?	Etes-vous marié?
A widower?	¿Viudo?	Veuf?
A widow?	¿Viuda?	Veuve?
Do you have children?	¿Tiene Ud. hijos?	Avez-vous des enfants?
Are they still living?	¿Viven todavía?	Sont-ils encore vivants?
Do you have any sisters?	¿Tiene hermanas?	Avez-vous des soeurs?
Do you have any brothers?	¿Tiene hermanos?	Avez-vous des frères?
Of what did your mother die?	¿De qué murió su madre?	De quoi est morte votre mère?
And your father?	¿Y su padre?	Et votre père?
Your grandfather?	¿Su abuelo?	Votre grand-père?
Your grandmother?	¿Su abuela?	Votre grand-mère?
	General	
Do you have . . . ?	¿Tiene . . . ?	Avez-vous . . . ?
Have you ever had . . . ?	¿Ha tenido . . . ?	Avez-vous jamais eu . . . ?
Chills	Escalofrios	Les frissons
Dizziness	El vértigo	Le vertige
Shortness of breath	Corto de aliento	Essoufflement
Night sweats	Sudores de noche	Transpiration dans la nuit
An attack of fever	Un ataque de calentura	Une attaque de fièvre
Toothache	Dolor de muelas	Mal aux dents
Hemorrhage	Hemorragia	Hémorragie
Hoarseness	Ronquera	Enrouement
Nosebleeds	Hemorragia por la nariz	Saignements de nez
Unusual vaginal bleeding	Hemorragia vaginal fuera de los períodos	Du saignement vaginal anormal
When did you last have a period?	¿Cuándo tuvo Ud. su última menstruación?	Quand avez-vous eu vos règles pour la dernière fois?
Are you menopausal?	¿Padece de la menopausia?	Passez-vous par la ménopause?
Are you on hormone therapy?	¿Sigue un tratamiento hormonal?	Faites-vous un traitment hormonal?
Do you take birth control pills?	¿Toma. Ud. píldoras anticonceptivas?	Est-ce que vous prenez des médicaments anticonceptionnels?
How many pregnancies (abortions or miscarriages) have you had?	¿Cuántos embarazos (abortos, abortos involuntarios) ha tenido Ud.?	Combien de grossesses (avortements, fausses couches) avez-vous eu?
How many living children do you have? What are their ages?	¿Cuántos hijos vivos tiene Ud.? ¿Cuántos años de edad tienen?	Combien d'enfants vivants avez-vous? Quel âge ont-ils?
Any difficulties in pregnancies? Deliveries?	¿Dificultades con el embarazo? ¿En el parto?	Des difficultés avec la grossesse? Avec l'accouchement?
Do you have any sexual difficulties?	¿Tiene problemas sexuales?	Avez-vous des problèmes sexuels?
	Work History	
What work do you do?	¿Cuál es su ocupación?	Quelle est votre profession?
Is it heavy physical work?	¿Es un trabajo corporal pesado?	Est-ce que c'est un travail physiquement fatigant?
What work have you done?	¿Qué trabajo ha hecho?	A quoi avez-vous travaillé?

English	*Spanish*	*French*
	Diseases	
What diseases have you had?	¿Qué enfermedades ha tenido?	Quelles maladies avez-vous eu?
What type of allergy (types of allergies) do you have?	¿Qué clase de alergia tiene Ud.?	Quelle sorte d'allergie avez-vous?
What is the reaction?	¿Cuál es la reacción?	Quelle est la réaction?
What is the treatment?	¿Cuál es el tratamiento?	Quel est le traitement?
Anemia	Anemia	L'anémie
Bleeding tendency	Tendencia a sangrar	Une tendance à saigner
Bowel problems	Problemas de vientre (evacuación)	Problèmes au ventre (évacuation)
Broken bones	Huesos partidos	Des os cassés
Cancer	Cáncer	Le cancer
Chickenpox	Varicela	La varicelle
Diabetes	Diabetes	Le diabète
Diphtheria	Difteria	La diphthérie
German measles	Rubéola	Rubéole
Gonorrhea	Gonorrea	La gonorrhée
Heart disease	Enfermedad del corazón	Une maladie de coeur
High blood pressure	Presíon sanguínea elevada	La tension artérielle trop élevée
HIV (AIDS)	HIV (SIDA)	HIV (SIDA)
Influenza	Gripe (influenza)	La grippe
Injuries	Daños	Blessures
Lead poisoning	Envenenamiento con plomo	Empoisonnement causé par le plomb
Liver disease	Enfermedad del hígado	Une maladie de foie
Malaria	Malaria (paludismo)	La malaria
Measles	Sarampión	La rougeole
Mental disease	Enfermedades mentales	Une maladie mentale
Mumps	Paperas	Les oreillons
Nervous disease	Enfermedades nerviosas	Une maladie nerveuse
Pleurisy	Pleuresía	Une pleurésie
Pneumonia	Pulmonía	Pneumonie
Rheumatic fever	Reumatismo (fiebre reumática)	La fièvre rhumatismale
Rheumatism	Reumatismo	Le rhumatisme
Scarlet fever	Escarlatina	La fièvre scarlatine
Seizures	Ataques	Des crises
Skin rashes	Erupciones de la piel	Eruptions de la peau
Smallpox	Viruela	La variole
Syphilis	Sífilis	La syphilis
Tuberculosis	Tuberculosis	Tuberculose
Typhoid fever	Tifoidea	La fièvre typhoide
What immunizations have you had?	¿Qué inmunizaciones ha tenido Ud.?	Quelles immunisations avez-vous eu?
	EXAMINATION	
	General	
How do you feel?	¿Cómo se siente?	Comment vous sentez-vous?
Good	Bien	Bien
Bad	Mal	Mal
Let me look at . . . ; listen to your heart/lungs.	Déjeme reconocerle el corazón/los pulmones.	Permettez-moi de vous examiner le coeur/les poumons.
Let me feel your pulse.	Déjeme tomarle el pulso.	Permettez-moi de vous tâter le pouls.
Let me check your temperature.	Déjeme tomarle la temperatura.	Permettez-moi de vous prendre la température.
Whisper: one, two, three.	Repita en voz baja: uno, dos, tres.	Dites tout bas: un, deux, trois.

English	*Spanish*	*French*
Say it out loud.	Dígalo en voz alta.	Dites-le à voix haute.
Sit down.	Siéntese.	Asseyez-vous.
Stand up.	Levántese.	Levez-vous.
Walk a little way.	Ande algunos pasos.	Faites quelques pas.
Turn back and come this way.	Dé la vuelta y regrese por aquí.	Faites demi-tour et revenez par ici.
Do you feel like falling?	¿Le parece que se va a caer?	Vous sentez vous comme si vous allez tomber?
Do you feel dizzy?	¿Tiene Ud. vértigo?	Avez-vous le vertige?
Are you tired?	¿Está Ud. cansado?	Êtes vous fatigué?
Do you exercise? What type? How often? How long?	¿Hace ejercicio? ¿De qué tipo? ¿Con qué frecuencia? ¿Por cuánto tiempo?	Prenez-vous de l'exercice? De quelle sorte? Combien de fois? Pour combien de temps?
Do you sleep well?	¿Duerme Ud. bien?	Dormez-vous bien?
Do you wake up feeling rested?	¿Se despierta Ud. descansado(a)?	Vous réveillez-vous bien reposé(e)?
Do you have any difficulty in breathing?	¿Tiene dificultad para respirar?	Avez-vous du mal à réspirer?
Have you lost weight?	¿Ha perdido Ud. peso?	Avez-vous maigri?
How long have you had this skin rash?	¿Desde cuándo tiene Ud. esta erupción en la piel?	Depuis quand avez-vous cette éruption sur la peau?
Are you usually (now) cold?	¿Tiene Ud. frío usualmente (ahora)?	Avez-vous froid d'habitude (maintenant)?
Are you usually (now) warm?	¿Tiene Ud. calor usualmente (ahora)?	Avez-vous chaud d'habitude (maintenant)?
Can you swallow easily?	¿Puede Ud. tragar facilmente?	Pouvez-vous avaler facilement?
Have you a good appetite?	¿Tiene Ud. buen apetito?	Avez-vous bon appétit?
Are you thirsty?	¿Tiene sed?	Avez-vous soif?
Do you feel weak?	¿Se siente Ud. débil?	Vous sentez-vous faible?
Had you been drinking alcohol? Have you been drinking alcohol?	¿Había tomado Ud. alcohol? ¿Ha tomado Ud. alcohol?	Aviez-vous bu de l'alcool? Avez-vous bu de l'alcool?
Do you drink wine? Beer? Whisky? Gin? Rum? Vodka? Something else?	¿Toma Ud. vino? ¿Cerveza, whisky, gin, ron, vodka? ¿Otra cosa?	Buvez-vous du vin? Bière, whisky, gin, rhum, vodka? Quelque chose d'autre?
Are you a drinking person?	¿Toma Ud. bebidas alcohólicas normalmente?	Buvez-vous de l'alcool d'habitude?
How much do you drink at one time?	¿Cuánto toma Ud. cada vez?	Combien buvez-vous chaque fois?
How often do you drink? Every day? On weekends?	¿Con qué frecuencia toma Ud.? ¿Cada día? ¿El fin de semana?	Combien de fois buvez-vous? Tous les jours? Le weekend?
Do you smoke tobacco? Cigarettes? Pipe? Cigars?	¿Fuma Ud. tobaco? ¿Cigarrillos? ¿Pipa? ¿Cigarros?	Fumez-vous le tabac? Cigarettes? Pipe? Cigares?
How many do you smoke per day?	¿Cuántos fuma Ud. al día?	Combien fumez-vous par jour?
For how many years?	¿Por cuántos años?	Depuis combien d'années?
Do you inhale?	¿Traga Ud. el humo?	Avalez-vous la fumée?
Do you use caffeine? What beverages?	¿Usa Ud. la cafeína? ¿Qué bebidas?	Prenez-vous de la caféine? Quelles boissons?
How much/how frequently?	¿Cuántas/con qué frecuencia?	Combien/combien de fois?
What drugs do you take (prescriptions, over-the-counter, street)?	¿Qué medicinas/drogas toma Ud. (recetas, sin-recetas, droga de la calle)?	Quels médicaments/ drogues prenez-vous (ordonnances, sans-ordonnance, drogues de la rue)?

English	*Spanish*	*French*
Are you nervous?	¿Está Ud. nervioso?	Etes-vous nerveux?
When were you first taken sick?	¿Cuándo le empezó esta enfermedad?	Quand êtes-vous tombé malade d'abord?
How did this illness begin?	¿Cómo empezó esta enfermedad?	Comment cette maladie a-t-elle commencé?
Did you take anything for it?	¿Tomó algo para mejorarla?	Avez-vous pris quelque chose pour cela?
Have you taken the (any) medicine?	¿Ha tomado Ud. la (alguna) medicina?	Avez-vous pris du (quelque) médicament?
Did it (the medicine) help?	¿Le ayudó (la medicina)?	Il vous a fait du bien (le médicament)?
Did a dog bite you?	¿Le mordió un perro?	Est-ce qu'un chien vous a mordu?
Did an insect sting you?	¿Le picó un insecto?	Un insecte vous a piqué?
Did you prick yourself with a pin?	¿Se ha pinchado con un alfiler?	Vous êtes-vous piqué avec une épingle?
Did you burn yourself?	¿Se quemó?	Vous êtes-vous brûlé?
Did you twist your ankle?	¿Se torció Ud. el tobillo?	Vous êtes-vous tordu la cheville?
	Pain	
Have you any pain?	¿Tiene dolor?	Avez-vous mal quelque part?
Show me where it hurts.	Enséñeme donde le duele.	Montrez-moi où vous avez mal.
Does it move to another area?	¿Se mueve para otra parte?	Cela se déplace à un autre endroit?
What did you feel in the beginning?	¿Qué sentía cuando empezó?	Qu'avez-vous senti au commencement?
Sharp pain	Dolor agudo	Elancement
Shooting pains	Dolores agudos	Des élancements
Dull pain	Dolor sordo	Douleur sourde
Heavy aching pain	Dolor continuo fuerte	Grosse et vive douleur
Is the pain always there?	¿Le duele constantemente?	Ça vous fait mal continuellement?
Does it come and go?	¿Se va y vuelve?	Ça s'en va et revient?
How bad is the pain now? usually?	¿Cuánto le duele ahora? ¿Usualmente?	Combien de mal avez-vous maintenant? D'habitude?
Small/little	Un poco/muy poco	Un peu/très peu
Very bad	Muchísimo	Beaucoup
In between	Así, así	Entre les deux
Does anything make it worse?	¿Hay algo que lo hace peor?	Quelque chose le rend pire?
Does anything make it better/easier?	¿Hay algo que lo hace mejor/más fácil?	Quelque chose le rend mieux/plus facile?
Is the pain better since the medicine I gave you?	¿El dolor está mejor con la medicina que le di?	La douleur va mieux depuis le médicament que je vous ai donné?
A little better? A lot?	¿Un poco mejor? ¿Mucho mejor?	Un peu mieux? Beaucoup mieux?
	Head	
How does your head feel?	¿Cómo siente la cabeza?	Comment va votre tête?
Can you remember things that happened?	¿Puede Ud. recordar lo que le ha pasado?	Pouvez-vous vous souvenir de ce qui s'est passé?
Can you remember what you did today? yesterday? Last month/year? Many years ago?	¿Puede Ud. recordar lo que hizo hoy? ¿Ayer? ¿El mes/año pasado? ¿Muchos años atrás?	Pouvez-vous vous souvenir de ce que vous avez fait aujourd'hui? Hier? Le mois dernier? L'année dernière? Il y a beaucoup d'années?
Have you any pain in the head?	¿Le duele la cabeza?	Avez-vous mal à la tête?

English	*Spanish*	*French*
Did you fall?	¿Se cayó?	Etes-vous tombé?
How did you fall?	¿Cómo se cayó?	Comment êtes-vous tombé?
Did you faint?	¿Se desmayó?	Vous êtes-vous évanoui?
Have you ever had fainting spells?	¿Ha tenido desmayos alguna vez?	Avez-vous jamais eu des évanouissements?
Do you feel dizzy?	¿Tiene Ud. vértigo?	Avez-vous le vertige?
	Ears	
Do you have ringing in the ears?	¿Le pitan los oídos?	Avez-vous des bourdonnements d'oreilles?
Can you hear me speaking? [Examiner then repeats more loudly and more softly.] [Examiner should look for discharge from ears rather than ask about it.]	¿Puede Ud. oírme cuando hablo?	Pouvez-vous m'entendre quand je parle?
	Eyes	
Do you wear eyeglasses? Contact lenses? What type?	¿Usa Ud. anteojos? ¿Lentes de contacto? ¿Qué tipo?	Portez-vous des lunettes? Des verres de contact? Quelle sorte?
When did you last have your eyes examined?	¿Cuándo fue la última vez que le examinaron los ojos?	Quand est-ce que vous vous êtes fait examiner les yeux la dernière fois?
Look up.	Mire para arriba.	Regardez en haut.
Look down.	Mire para abajo.	Regardez en bas.
Look toward your nose.	Mire la nariz.	Regardez le nez.
Look at me.	Míreme.	Regardez-moi.
Can you see what is on the wall?	¿Puede ver lo que está en la pared?	Pouvez-vous voir ce qu'il y a contre le mur?
Can you see it now?	¿Puede verlo ahora?	Le voyez-vous maintenant?
And now?	¿Y ahora?	Et maintenant?
What is it?	¿Qué es esto?	Qu'est-ce que c'est?
Tell me what number it is.	Dígame qué número es éste.	Dites-moi quel est le numéro.
Tell me what letter it is.	Dígame qué letra es ésta.	Dites-moi quelle est la lettre.
Can you see clearly?	¿Puede ver claramente?	Pouvez-vous voir clairement?
Better at a distance?	¿Mejor a cierta distancia?	Mieux à distance?
(Can you see) better at close range?	¿Puede Ud. ver mejor de cerca?	Pouvez-vous voir mieux de près?
Is your vision cloudy? Blurred? Double?	¿Tiene Ud. la vista velada? ¿Borrosa? ¿Doble?	Avez-vous la vue trouble? Voilée? Double?
Do you see haloes/rings around things?	¿Ve Ud. halos/anillos alrededor de las cosas?	Voyez-vous des halos/ronds autour des choses?
Do you see flashing lights?	¿Ve Ud. destellos?	Voyez-vous des lumières à éclats?
Does light (sun) bother your eyes?	¿La luz (el sol) le molesta los ojos?	La lumière (le soleil) vous gêne les yeux?
Do(es) your eye(s) hurt? Sting? Burn? Itch?	¿Le duele(n) el ojo (los ojos)? ¿Le pica(n)? ¿Está(n) irritado(s)? ¿Le arde(n)?	Avez-vous mal à l'oeil (aux yeux)? Cela pique, brûle, démange?
Can you read?	¿Puede Ud. leer?	Pouvez-vous lire?
Can you read a newspaper/newsprint?	¿Puede Ud. leer el periódico?	Pouvez-vous lire le journal?

English	*Spanish*	*French*
Do your eyes water a good deal?	¿Le lagrimean mucho los ojos?	Est-ce que les yeux vous coulent beaucoup?
Can't you open your eye?	¿No puede abrir el ojo?	Ne pouvez-vous pas ouvrir l'oeil?
Did anything get into your eye?	¿Le entró algo en el ojo?	Est-ce que quelque chose est entré dans l'oeil?
Does the eyeball feel as if it were swollen?	¿Le parece que el ojo está hinchado?	L'oeil vous semble-t-il gonflé?
Wear this patch (shield) on your eye [give time frame].	Use Ud. este parche en el ojo.	Mettez-vous ce couvre-oeil.
It would harm your eyes.	Le haría daño a los ojos.	Cela vous abîmerait les yeux.
How long has your eyesight been failing?	¿Desde cuando ha bajado su vista?	Depuis quand diminue votre vue?
	Nose, Throat, and Mouth	
How long have you been hoarse?	¿Desde cuando está Ud. ronco(a)?	Depuis quand êtes-vous enroué(e)?
Can you breathe through your nose?	¿Puede Ud. respirar por la nariz?	Pouvez-vous réspirer par le nez?
Can you breathe through each nostril?	¿Puede Ud. respirar por cada ventana de la nariz?	Pouvez-vous réspirer par chaque narine?
Open your mouth.	Abra la boca.	Ouvrez la bouche.
Can you swallow easily?	¿Puede Ud. tragar facilmente?	Pouvez-vous avaler facilement?
Does it hurt you to open your mouth?	¿Le duele al abrir la boca?	Ouvrir la bouche vous fait-il mal?
Do you go to (have you been to) a dentist?	¿Consulta Ud. (ha consultado) a un dentista?	Consultez-vous (avez-vous consulté) un OW>
Do you go regularly? When was the last time?	¿Lo consulta regularmente? ¿Cuándo fue la última vez?	Vous le consultez regulièrement? Quand a été la dernière fois?
Do you brush your teeth?	¿Se lava Ud. los dientes?	Vous lavez-vous les dents?
Do you floss?	¿Usa Ud. hilo dental?	Utilizez-vous le fil dentaire?
Do you wear dentures?	¿Usa Ud. dentadura postiza?	Portez-vous des dentiers?
Please remove your denture(s).	Por favor, quítese la(s) dentadura(s).	S'il vous plaît, enlevez le(s) dentier(s).
Take a deep breath.	Respire profundamente.	Respirez profondément.
Cough.	Tosa.	Toussez.
Cough again.	Tosa otra vez.	Toussez encore une fois.
How long have you had this cough?	¿Desde cuándo tiene la tos?	Depuis quand avez-vous la toux?
Is it worse at night? In the morning?	¿Está peor por la noche? ¿Por la mañana?	C'est pire dans la nuit? Pendant le matin?
Do you expectorate much?	¿Escupe mucho?	Crachez-vous beaucoup?
What is the color of your expectorations?	¿De qué color es el esputo?	De quelle couleur sont vos crachats?
Does your tongue feel swollen?	¿Siente Ud. la lengua hinchada?	Est-ce que la langue vous paraît gonflée?
Do you have a sore throat?	¿Le duele la garganta?	Avez-vous mal à la gorge?
Does it hurt to swallow?	¿Le duele al tragar?	Ça vous fait mal quand vous avaler?
	Upper Extremities	
Let me see your hand.	Enséñeme la mano.	Montrez-moi la main.
Grasp my hand.	Apriete mi mano.	Serrez-moi la main.
Squeeze (my hand) harder.	Apriete Ud. (mi mano) más fuerte.	Serrez-moi (la main) plus fort.

English	*Spanish*	*French*
Can you not do it better than that?	¿No puede hacerlo más fuerte?	Vous ne pouvez pas serrer plus fort que cela?
Your arm feels paralyzed?	¿Parece que el brazo está paralizado?	Est-ce que le bras vous paraît paralysé?
Raise your arm.	Levante el brazo.	Levez le bras.
Raise it more.	Más alto.	Plus haut.
Now the other.	Ahora el otro.	Maintenant l'autre.
Hold both arms out in front of you and push against my hand.	Extienda los brazos delante de Ud. y empuje contra mi mano.	Tendez vos bras devant vous et poussez contre ma main.
Your arm feels weak?	¿El brazo le parece débil?	Le bras vous semble faible?
How long have you had no strength in your arm?	¿Desde cuándo no tiene fuerza en el brazo?	Depuis quand vous n'avez pas de force dans le bras?
Had you been sleeping on your arm?	¿Ha dormido encima del brazo?	Vous êtes-vous endormi sur le bras?
	Cardiopulmonary	
Do you experience a rapid (irregular) heartbeat?	¿Siente el latido del corazón rápido (irregular)?	Eprouvez-vous le battement du coeur rapide (irrégulier)?
Do you have pain in your chest? Your jaw? Your arm?	¿Le duele el pecho? ¿La mandíbula? ¿El brazo?	Avez-vous mal à la poitrine? A la mâchoire? Au bras?
Do you get short of breath? With exertion?	¿Se le corta la respiración? ¿Después de un esfuerzo?	Vous vous essoufflez? Après de l'effort?
Do you breathe more easily sitting upright?	¿Respira mejor cuando está sentado?	Respirez-vous mieux quand vous êtes assis?
How many pillows do you need to sleep?	¿Cuántas almohadas necesita Ud. para dormir?	Vous avez besoin de combien d'oreillers pour dormir?
Does it hurt you to breathe?	¿Le duele cuando respira?	Vous avez mal quand vous respirez?
Do you breathe in dust or chemicals at home? At work?	¿Respira Ud. polvos o productos químicos en casa? ¿En el trabajo?	Respirez-vous des poussières ou des produits chimiques chez vous? Au travail?
Do you cough up mucus (phlegm/sputum)?	¿Tose mocos (flema/esputo)?	Toussez-vous gras (flegme/crachats)?
What is the color of your sputum?	¿De qué color es el esputo?	De quelle couleur sont les crachats?
[Examiner should demonstrate any desired motion for patient.]		
	Gastrointestinal	
Do you have stomach cramps?	¿Tiene calambres en el estómago?	Avez-vous des crampes de l'estomac?
How long has your tongue been that color?	¿Desde cuándo tiene la lengua de ese color?	Depuis quand votre langue a-t-elle cette couleur?
Have you a pain in the pit of your stomach?	¿Tiene dolor en la boca del estómago?	Est-ce que ça vous fait mal dans le creux de l'estomac?
Does eating make you vomit?	¿El comer le hace vomitar?	Rendez-vous ce que vous mangez?
Are you constipated?	¿Está estreñido?	Etes-vous constipé?
Do you have diarrhea?	¿Tiene diarrea?	Avez-vous la diarrhée?
Do you pass any blood?	¿Con sangre?	Y-a-t-il du sang?
Do you belch gas?	¿Eructa Ud. (gases)?	Eructez-vous (des gaz)?
Do you have burning pain (indigestion)?	¿Padece Ud. de la rescoldera (indigestión)?	Avez-vous des brûlures d'estomac (indigestions)?

English	*Spanish*	*French*
What have you been eating? How much? How often?	¿Qué come? ¿Cuánto? ¿Con qué frecuencia?	Qu'est-ce que vous mangez? Combien? Combien de fois?
Are your stools formed? Soft? Hard? Liquid?	¿Cómo son sus evacuaciones de vientre? ¿Sueltas? ¿Duras? ¿Líquidas?	Comment sont vos évacuations de ventre? Molles? Dures? Liquides?
When do you usually have a bowel movement?	¿Cuándo evacúa el vientre usualmente?	Quand évacuez-vous le ventre d'habitude?
Do you pass gas?	¿Suelta gases del vientre?	Lâchez-vous des gaz du ventre?
Do you pass stools involuntarily?	¿Evacúa el vientre sin querer?	Evacuez-vous le ventre involontairement?
Do you feel nauseated (sick to your stomach)?	¿Tiene náuseas (asco grande)?	Avez-vous la nausée (mal au coeur)?
Have you been vomiting? How long? How many times?	¿Ha vomitado? ¿Desde cuándo? ¿Cuántas veces?	Avez-vous vomi? Depuis quand? Combien de fois?
What does the vomitus look like?	¿A qué se parece el vómito?	A quoi ressemble le vomissement?
Is the vomitus (or stool) brown? Black?	¿Es de color café el vómito (o la evacuación)? ¿Negro?	Le vomissement est brun (ou la selle)? Noir?
	Genitourinary	
Have you any difficulty passing water?	¿Tiene dificultad en orinar?	Avez-vous de la difficulté à uriner?
Do you pass water involuntarily?	¿Orina sin querer?	Urinez-vous involontairement?
Are any of your limbs swollen?	¿Están hinchados algunos de sus miembros?	Avez-vous des membres gonflés?
How long have they been swollen like this?	¿Desde cuándo estan hinchados así?	Depuis quand sont-ils gonflés comme ça?
Were they ever swollen before?	¿Han estado hinchados alguna vez antes?	Ont-ils jamais été gonflés autrefois?
What color is your urine? Is it clear?	¿De qué color es su orina? ¿Clara?	De quelle couleur est votre urine? Claire?
Do you have any burning when you urinate?	¿Le arde al orinar?	Cela brûle quand vous urinez?
Do you have vaginal itching? Burning? Discharge?	¿Tiene irritación vaginal? ¿Sensaciones ardientes? ¿Derrames?	Avez-vous de l'irritation vaginale? Sensations de chaleur? Ecoulements?
What does the discharge look like?	¿A qué se parece el derrame?	A quoi ressemblent les écoulements?
Do your breasts hurt?	¿Le duelen los senos?	Avez-vous mal aux seins?
Are there any lumps?	¿Hay alguna masa?	Il y a des grosseurs?
Is there any discharge from the nipples?	¿Hay derrame de los pezones?	Les bouts des seins écoulent?
Were they ever swollen before?	¿Han estado hinchados antes?	Ils ont été gonflés avant?
Have you ever breastfed? Are you breastfeeding?	¿Ha criado al pecho alguna vez? ¿Cría al pecho ahora?	Avez-vous allaité un enfant? Vous allaitez maintenant?
	Back and Lower Extremities	
Is your movement limited in any way?	¿Está Ud. limitado para moverse de alguna forma?	Etes-vous limité pour vous déplacer de quelque manière?
Do your legs/feet hurt? Feel cold? Numb?	¿Le duelen las piernas/los pies? ¿Sensación de frío? ¿Entumecidas/entumecidos?	Avez-vous mal aux jambes/aux pieds? Sensation de froid? Engourdies/engourdis?

English	*Spanish*	*French*
Do you have pins and needles?	¿Tiene sensaciones de pinchazos?	Eprouvez-vous des fourmillements?
Is the pain/symptom worse when you walk?	¿El dolor/síntoma está peor cuando Ud. anda?	La douleur/le symptôme est pire quand vous marchez?
Is it eased when you stop walking?	¿Se alivia cuando deja de andar?	Ça se calme quand vous arrêtez de marcher?
Raise your right leg (your left leg) (both legs).	Levante su pierna derecha (su pierna izquierda) (las dos piernas).	Levez la jambe droite (la jambe gauche) (les deux jambes).
Bend your knees.	Doble las rodillas.	Pliez les genoux.
Wiggle your toes.	Mueva los dedos (de pie).	Remuez les doigts (de pied).
Do you have back pain? Where?	¿Le duele la espalda? ¿Dónde?	Avez-vous mal au dos? Oú?
Bend forward at the waist.	Inclínese hacia adelante.	Penchez-vous en avant.
Bend from side to side. [Examiner should demonstrate desired motion for patient.]	Inclínese de lado en lado.	Penchez-vous d'un côté à l'autre.
I need to check other pulses in your legs.	Necesito tomarle otros pulsos en sus piernas.	J'ai besoin de vous tâter d'autres pouls dans vos jambes.

TREATMENT

General

It is nothing serious.	No es nada grave.	Ce n'est rien de grave.
You will get better.	Ud. se mejorará.	Vous vous remettrez.
You will need to follow these directions.	Tiene Ud. que seguir estas instrucciones.	Vous devez suivre ces indications.
You will need to take this medicine until it is finished.	Tiene Ud. que tomar esta medicina hasta que se le acabe.	Il faut prendre ce médicament jusqu'à le terminer.
You will need to take this treatment until your doctor (nurse) tells you to stop.	Tiene Ud. que seguir este tratamiento hasta que el médico (la enfermera) diga que lo deje.	Vous devez suivre ce traitement jusqu'à ce que le médecin (l'infirmière) vous dise de l'arrêter.
Take a bath.	Tome un baño.	Prenez un bain.
A sponge bath.	Un baño de esponja.	Un bain à l'éponge.
An oatmeal bath.	Un baño de harina de avena.	Un bain de farine d'avoine.
A cornmeal bath.	Un baño de harina de maíz.	Un bain de farine de maïs.
Soak in warm water (for 20 minutes three times a day for the next week). [Length and duration of treatment are specified.]	Báñese en agua caliente (por 20 minutos tres veces al día durante la semana que viene).	Baignez-vous dans de l'eau chaude (pour 20 minutes trois fois par jour pendant la semaine prochaine).
Apply ice (for 20 minutes of every hour for the next 2 days). [Length and duration of treatment are specified.]	Ponga hielo (por 20 minutos de cada hora durante los 2 próximos días).	Mettez de la glace (pour 20 minutes de chaque heure pendant les 2 jours suivants).
Wash the wound with . . .	Lave la herida con . . .	Lavez la blessure avec . . .
Apply a bandage to . . .	Ponga un vendaje a . . .	Mettez un bandage à . . .
Keep the bandage dry and clean.	Mantenga el vendaje limpio y seco.	Gardez le bandage propre et sec.
Wash your hands thoroughly before and after treatment (caring for the wound/applying drops).	Lávese las manos completamente antes y después del tratamiento (cuidando la herida/aplicando gotas).	Lavez-vous les mains complètement avant et après le traitement (soignant la blessure/ applicant les gouttes).

English	*Spanish*	*French*
Apply ointment (lotion/cream/powder).	Aplíquese ungüento (loción, crema, polvos).	Appliquez un onguent (lotion, crème, poudre).
Keep very quiet.	Estése muy quieto.	Restez tranquille.
You must not speak.	No debe hablar.	Vous ne devez pas parler.
Swallow small pieces of ice.	Trague pedacitos de hielo.	Avalez de petits morceaux de glace.
	Diet	
In a few days you may eat food.	Dentro de algunos días podrá comer.	Après quelques jours vous pouvez prendre de la nourriture.
You will need to eat a special (high-protein/low-fat/diabetic) diet.	Tiene que estar a una dieta de (alta proteína/baja grasa/diabética).	Vous devez suivre un régime de (haute protéine/basses graisses/diabétique).
You may eat . . .	Puede comer . . .	Vous pouvez manger . . .
Soft foods only.	Solamente comida blanda.	Seulement de la nourriture molle.
Your regular diet when your symptoms are gone.	Su dieta normal cuando terminados sus síntomas.	Votre régime normal quand vos symptômes seront terminés.
You may drink . . .	Puede tomar . . .	Vous pouvez boire . . .
Water	Agua	De l'eau
Clear liquids (tea, bouillon, Jell-O)	Líquidos claros (té, caldo, Jell-O)	Liquides clares (thé, bouillon, Jell-O)
All liquids including milk and juices	Todo líquido, inclusive leche y jugo	Toute liquide, lait et jus y compris
No caffeine (coffee, tea, chocolate, cola)	Ninguna cafeína (café, té, chocolate, cola)	Pas de caféine (café, thé, chocolat, cola)
Only decaffeinated drinks	Unicamente bebidas descafeínadas	Seulement les boissons décaféinées
	Surgery	
You will need an operation on your . . . (to remove . . .)	Tendrá Ud. que operarse en su . . . (para quitarle . . .)	Il faut que l'on vous fasse une opération (pour enlever votre . . .)
You will need tests before the operation (blood tests, chest radiograph, electrocardiogram).	Tendrá que hacerse análisis antes de la operación (análisis de sangre, radiografía del pecho, electrocardiograma).	Il faut que l'on vous fasse des analyses avant l'opération (analyse du sang, radiographie de la poitrine, electrocardiogramme).
[Examiner explains nature of tests and tells patient when and where they will be given.]		
You will be in the hospital for [length of time].	Ud. estará en el hospital por [cuanto tiempo].	Vous resterez à l'hôpital pour [combien de temps].
[Examiner tells patient when and where the surgery will take place.]		
	Medication (Use with Numbers and Time)	
I will give you something for that.	Le daré algo para eso.	Je vous donnerai quelque chose pour cela.
I will leave a prescription.	Le dejaré una receta.	Je laisserai une ordonnance.
Use it as directed [give dosing intervals] until it is gone (until you are told to stop).	Tómelo según indicado [intervalo de dósis] hasta terminarlo (hasta que se le diga dejarlo).	Prenez-le [intervalle de dose] jusqu'au bout (jusqu'à ce que l'on vous dise d'arrêter).

English	*Spanish*	*French*
Take 1 teaspoonful three times daily (in water).	Tome 1 cucharadita tres veces al día, con agua.	Prenez-en une cuillerée à café trois fois par jour (avec de l'eau).
Take 1 tablespoonful.	Tome una cucharada.	Prenez-en une cuillerée à soupe.
Mix in [amount] of water (juice) and drink the entire amount.	Mescle en [cantidad] de agua (jugo) y beba lo todo.	Mélangez avec [quantité] d'eau jus) et buvez le tout.
Gargle.	Haga gárgaras.	Gargarissez-vous.
Inject the drug into your abdomen (arm, leg, buttock, muscle tissue).	Inyéctese la medicina en el abdomen (el brazo, la pierna, la nalga, el tejido muscular).	Faites-vous une piqûre du médicament dans l'abdomen (le bras, la jambe, la fesse, le tissu musculaire).
Insert the suppository into your rectum (vagina).	Métase el supositorio en el recto (la vagina).	Mettez le suppositoire dans votre rectum (votre vagin).
A pill	Una píldora	Une pilule
Do not crush the tablet (open the capsule).	No aplaste el comprimido (no abra la cápsula).	N'écrasez pas le comprimé (n'ouvrez pas la capsule).
Drop [number of drops] into the right (left) eye.	Vierta [número de gotas] en el ojo derecho (izquierdo).	Versez [nombre de gouttes] dans l'oeil droit (gauche).
Drop [number of drops] into each eye.	Vierta [número de gotas] en cada ojo.	Versez [nombre de gouttes] dans chaque oeil.
Who is available to assist you at home? With medications? With diet?	¿Quién está disponible en su casa para atenderle a Ud.? ¿Con las medicinas? ¿Con la dieta?	Qui est disponible chez vous pour vous aider? Avec les médicaments? Avec le régime?
Who is available to transport you to the doctor (hospital) (home)?	¿Quién está disponible para llevarle al médico (hospital) (a casa)?	Qui est disponible pour vous conduire au médecin (à l'hôpital) (chez vous)?
NURSING CARE CONCERNS		
Do you need to pass water?	¿Necesita Ud. orinar?	Avez-vous besoin d'uriner?
Do you need to have a bowel movement?	¿Necesita Ud. evacuar el vientre?	Avez-vous besoin d'évacuer le ventre?
Do you need a drink of water?	¿Necesita Ud. tomar agua?	Avez-vous besoin de prendre de l'eau?
Do you need your mouth rinsed?	¿Necesita que le limpien la boca?	Avez-vous besoin de vous faire rincer la bouche?
Do you need something to eat?	¿Necesita Ud. algo de comer?	Avez-vous besoin de manger quelque chose?
Do you need your position changed?	¿Necesita que le cambien de posición?	Avez-vous besoin de vous faire changer de position?
Do you need medicine for pain?	¿Necesita medicina contra el dolor?	Avez-vous besoin d'un médicament pour la douleur?
You will be getting oxygen.	Le van a poner oxígeno.	On va vous donner de l'oxigène.
You will be getting a breathing treatment.	Le van a dar un tratamiento de respiración.	On va vous donner un traitement de respiration.
You will be getting intravenous fluid.	Le van a dar un flúido intravenoso.	On va vous donner un fluide intraveineux.
You will be getting a bland diet.	Le van a poner una dieta blanda.	On va vous mettre au régime simple.
You will be getting an injection.	Le van a dar una inyección.	On va vous faire une piqûre.

APPENDIX 9
Medical Emergencies

Appendix 9–1 Poisons and Poisoning

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Acetaminophen	Production of toxic intermediate metabolite that cannot be detoxified due to glutathione depletion.	Phase 1 (0–24 hr): Sometimes asymptomatic—anorexia, nausea, vomiting. Phase 2 (24–48 hr): GI symptoms resolve; hepatotoxicity is subclinical, but liver function tests and coagulation tests are abnormal. If liver damage is significant, patient may progress to phase 3. Phase 3 (48–96 hr): Problems due to severe hepatic compromise—bleeding disorders, hypoglycemia, hepatic encephalopathy. Phase 4 (>96 hr): Recovery period. Laboratory values return to normal and symptoms resolve.	Administer activated charcoal. Toxicity is unlikely at a dose <140 mg/kg. For significant serum levels of acetaminophen, acetylcysteine can be administered orally in a loading dose followed by a maintenance regimen.	Patients with toxic levels of acetaminophen 4 hr after ingestion require hospitalization for observation and supportive measures. Hepatic failure can occur several days after the ingestion, and renal complications or failure can also develop. Most patients recover fully without further sequelae. In some instances, hepatic failure may require transplantation. Check acetaminophen levels routinely in patients with any oral overdose.
Acids Acetic Hydrochloric Nitric Phosphoric Sulfuric Any other strong acid	Immediate destruction and necrosis with eschar formation of mucous membranes and tissues on contact.	Burning pain on contact with mucous membranes of the mouth and throat, dysphagia, abdominal pain, nausea, hematemesis, thirst, esophageal or gastric perforation, shock, death.	Establishment of airway patency, aggressive volume resuscitation, radiographic evaluation of damage, irrigation of exposed tissues. Surgical intervention may be required.	Permanent damage to the esophagus and stomach can result in chronic dysphagia and stricture formation.

Alkalis	Irreversible destruction and liquefactive tissue necrosis that penetrates beyond surface contact with alkali.	Immediate burning and blistering of tissue on contact; severe pain of mouth, esophagus, and chest; esophageal or gastric perforation; pancreatitis; hematemesis; shock; death.	Establishment of airway patency, aggressive volume resuscitation, radiographic evaluation of damage, irrigation of exposed tissues. Surgical intervention may be required.	Permanent damage to the esophagus and stomach can result in chronic dysphagia, stricture formation, and necrosis of tissue.
Ammonia and ammonium hydroxide	Tissue destruction due to alkaline injury on contact with mucous membranes. Degree of destruction depends on alkalinity of product and amount and length of exposure.	Burning of mouth and throat, chest pain, esophageal and gastric damage, hematemesis. Inhalation of gas can cause coughing, bronchospasm, and pulmonary edema.	Airway protection if needed, supplemental humidified oxygen and bronchodilators for inhalation exposures, moderate amounts of water or milk to dilute ingestion, analgesics for pain. Additional procedures may be required to assess extent of tissue injury.	Most significant damage is seen with intentional massive ingestions or occupational exposures to concentrated strengths of ammonia. Most accidental exposures to household strength products resolve without residual damage.
Amphetamines and amphetamine-like agents	Excessive stimulation of the CNS and of peripheral alpha and beta receptor sites.	Excitement, restlessness, tremors, hyperactive reflexes, nausea, vomiting, diarrhea, palpitations, arrhythmias, hypertension, hyperthermia, dehydration, mydriasis, agitation, seizures, coma, death.	Supportive care including airway maintenance and cardiac monitoring; administration of activated charcoal and a cathartic; cooling measures for hyperthermia; benzodiazepines for seizures; vasodilators and beta-adrenergic blockers.	Toxicity can occur with slightly higher than therapeutic doses. Tolerance can readily develop with repeated use.
Antidepressants: selective serotonin reuptake inhibitors (SSRI) Fluoxetine Paroxetine Sertraline Bupropion Fluvoxamine	CNS depression, excessive stimulation of serotonin receptors.	Serotonin syndrome: hypomania, confusion, myoclonus, diaphoresis, hyperreflexia, tremor, hyperthermia, agitation, restlessness, insomnia, nausea, vomiting, drowsiness, ataxia, seizures, coma.	Maintenance of airway, breathing, and circulation; oral adminstration of activated charcoal to adsorb ingested drug from the gastrointestinal tract. Cooling measures for febrile patients, e.g., those with serotonin excess.	SSRIs are less likely than tricyclic antidepressants to cause airway compromise, cardiac dysrhythmias, coma, ICU admission, or death. Drugs (such as alcohol or sedatives) that are coingested with SSRIs may pose health risks.

Poisons and Poisoning (Continued)

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Antidepressants: cyclic Amitriptyline Amoxapine Clomipramine Desipramine Doxepin Imipramine Nortriptyline Protriptyline	Toxic cardiovascular and CNS effects secondary to anticholinergic activity, inhibited reuptake of neurotransmitters, peripheral alpha-adrenergic blockade, alteration of cardiac cells resulting in conduction disturbances.	Confusion, dizziness, altered mental status (lethargy to coma), hypotension, tachycardia, hyperthermia, mydriasis, dry mucous membranes, prolonged QRS complex, cardiac dysrhythmias, seizures.	Cardiac monitoring; assessment of width of QRS complex on the 12–lead ECG; gastric decontamination with activated charcoal; alkalinization of the urine with bicarbonate-containing solutions.	Patients with wide QRS complexes (>0.12s) or cardiac dysrhythmias are monitored in the CCU or ICU.
Antihistamines: sedating (major classes) Alkylamines Ethanolamines Ethylenediamines Phenothiazines Piperazines	Excessive central and peripheral anticholinergic effects.	Lethargy, agitation, confusion, miosis, tachycardia, hyperthermia, decreased GI motility, hypotension, respiratory depression, ataxia, stupor, seizures, dysrhythmias, coma, circulatory collapse, death.	Maintenance of airway, breathing, circulation, and fluids for hypotension; gastric decontamination by activated charcoal. If patient is sedated, intubate the airway. Give IV physostigmine for anticholinergic toxicity, benzodiazepines for seizures.	Most ingestions are complex to manage because many antihistamines are commercially available in combination with various analgesics and decongestants. With early intervention, most overdoses have excellent outcomes without consequences.
Arsenic and arsenic salts	Disruption of enzymatic reactions that are essential for cellular metabolism; possible phosphate replacement or interaction with sulfhydryl groups.	Nausea, vomiting, hemorrhagic gastritis, severe watery diarrhea, dehydration, pulmonary edema, hypotension, delirium, encephalopathy, arrhythmias, convulsions, shock, death. Symptoms may have delayed onset.	Aggressive fluid replacement, activated charcoal or gastric lavage for larger ingestions, dimercaprol (BAL) 3–5 mg/kg IM every 4–6 hr for symptomatic patients.	Toxicity depends on the type of arsenic, amount involved, and route of exposure. Systemic toxicity can result from percutaneous absorption. Arsenic is a carcinogen.
Aspirin —SEE: *salicylates*				

Atropine and anticholinergic agents	Acetylcholine blockade at muscarinic receptor sites; affects exocrine glands and cardiac tissue.	Dry mouth and burning pain in throat, thirst, blurred vision, mydriasis, dry, hot, flushed skin, hyperpyrexia, tachycardia, palpitations, restlessness, excitement, confusion, convulsions, delirium; rarely, death.	Airway maintenance and ventilation assistance, gastric lavage, activated charcoal and cathartic, diazepam for sedation and control of convulsions, physostigmine 0.5–1 mg IV for severe atropine toxicity, cooling measures for hyperthermia.	Classes of drugs that possess anticholinergic activity include antihistamines, antipsychotics, antispasmodics, cyclic antidepressants, and skeletal muscle relaxants. Atropine in ophthalmic preparations may be toxic to infants/young children.
Barbiturates Amobarbital Aprobarbital Butabarbital Mephobarbital Methohexital Pentobarbital Phenobarbital Secobarbital Talbutal Thiopental	Depressed neuronal activity of the brain, hypotension caused by depression of central sympathetic tone, inhibition of cardiac contractility.	Drowsiness, confusion, ataxia, vertigo, slurred speech, shallow respiration and pulse, headache, stupor, hypotension, areflexia, cyanosis, hypothermia, cardiovascular collapse, respiratory arrest, death.	Airway maintenance and ventilation assistance, treatment of hypotension, activated charcoal and cathartic, alkalinization of urine to enhance phenobarbital elimination, hemoperfusion for severe toxicity.	Severity of toxicity depends on the agent ingested.
Benzene Xylene Toluene	Irritation of mucous membranes and airway caused by agents and their metabolites, CNS depression, myocardial effects resulting in conduction disturbances.	Burning sensation of mouth and stomach, nausea, vomiting, chest pain, cough, headache, pneumonitis (if inhaled), vertigo, ataxia, confusion, stupor, ventricular dysrhythmias, convulsions, coma, respiratory failure, death.	Airway maintenance and ventilation assistance, activated charcoal and cathartic, therapy for arrhythmias and seizures. Gastric lavage within 30 min is useful for larger ingestions.	Chronic exposure can result in permanent renal damage, bone marrow suppression, and neuropsychological damage.

Poisons and Poisoning (Continued)

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Benzodiazepines Alprazolam Chlordiazepoxide Clonazepam Clorazepate Diazepam Estazolam Flurazepam Lorazepam Midazolam Oxazepam Prazepam Quazepam Temazepam Triazolam	Generalized CNS depressant effects caused by enhanced activity of gamma-aminobutyric acid, an inhibitory neurotransmitter.	Confusion, dizziness, somnolence, ataxia, hypotension, coma, respiratory depression, cardiovascular depression.	Airway maintenance and ventilation assistance, if necessary; administration of activated charcoal. For ingestions by patients with no history of chronic use, flumazenil (a benzodiazapine antagonist) can be administered as a specific antidote. Flumazenil should be avoided in chronic users – it may trigger seizures.	Generally considered safe, even in high doses. Fatalities are rare and usually due to coingestions with other CNS depressants.
Boric acid and borate salts	Exact mechanism of toxicity unknown.	Headache, nausea, vomiting (vomitus may be blue green), fever, oliguria or anuria, diarrhea, stomach pain, lethargy, restlessness, distinctive erythroderma, tremor, convulsions, renal and hepatic injury or failure, cyanosis, coma, shock with vascular collapse, death.	Airway maintenance and ventilatory assistance. Treat convulsions with benzodiazepines. Activated charcoal is not effective. Hemodialysis may sometimes be needed for large ingestions (e.g., more than 12 g).	Reports of toxicity from boric acid ingestions and exposures has declined in recent years due to decreased use as an irrigant and antiseptic agent.

Botulinum toxin	Potent neurotoxicity produced by *Clostridium botulinum;* prevents release of acetylcholine by irreversibly binding to cholinergic nerve terminals.	Nausea, vomiting, occasional diarrhea, dysphagia, diplopia, loss of visual acuity and pupillary reflexes, profuse sweating, rapid and weak pulse, death usually caused by respiratory failure. Symptoms may present up to a week after ingestion.	Airway maintenance and ventilatory assistance, as needed. Trivalent botulism antitoxin may be administered in severe overdoses to bind free toxin, although its use often causes hypersensitivity reactions.	Even with excellent supportive care, recovery may take months to years. Common long-term sequelae include dysgeusia, dry mouth, dyspepsia, constipation, tachycardia, arthralgias, and fatigue. Botulinum antitoxin is available from the local health department or the CDC [(404) 329-2888].
Cadmium salts or fumes	Diverse multisystemic toxicities that are not clearly understood.	Nausea, vomiting, diarrhea, abdominal cramps, salivation, gastritis, headache, vertigo, exhaustion, collapse, acute renal failure, chemical pneumonitis with pulmonary edema on inhalation, death.	Gastric lavage and catharsis, with chelating agents such as EDTA, may be useful in some acute exposures. Inhalation may require ventilatory support.	Long-term effects vary with duration and severity of exposure. Renal function may be affected. Chronic exposures have resulted in osteomalacia, emphysema, and increased risk of lung or prostate cancer.
Calcium channel blockers Myocardial and vascular effects Bepridil Diltiazem Verapamil Primarily vascular effects Amlodipine Felodipine Isradipine Nicardipine Nifedipine	Prevention of calcium entry into cells, resulting in decreased myocardium contractility, blockade of AV and SA nodes, and peripheral vasodilation.	Nausea, vomiting, dizziness, headache, confusion, stupor, hyperglycemia, hypotension, bradycardia, metabolic acidosis, cardiac conduction disturbances, seizures, coma, death.	Maintenance of airway, breathing, and circulation; fluids and vasopressors for hypotension; multiple-dose activated charcoal; calcium chloride or calcium gluconate for hypotension and bradydysrhythmias, atropine or isoproterenol for bradycardia.	Intentional overdoses of calcium channel blockers are life threatening and often fatal despite aggressive management.

Poisons and Poisoning (Continued)

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Camphor	CNS stimulant with toxic effects; underlying mechanism is not known.	Burning of mouth and throat, nausea, vomiting, headache, CNS hyperactivity followed by CNS depression, vertigo, liver function abnormalities, delirium, tremor, convulsions, apnea, coma, death from respiratory arrest secondary to status epilepticus.	Airway maintenance, gastric lavage with copious amounts of fluid, activated charcoal and cathartic, benzodiazepines for seizures.	Fatalities have been reported with 1- or 2-g doses; however, most exposures can be effectively managed and resolved without residual complications.
Carbon monoxide	Hemoglobin binding preventing delivery of oxygen to cells; has significantly greater affinity for hemoglobin than oxygen.	Mild headache, dyspnea with moderate exertion, irritability, fatigue, nausea, vomiting, confusion, ataxia, syncope, convulsions, death from respiratory arrest.	100% oxygen by face mask or endotracheal tube, IV fluids, cardiac monitoring, hyperbaric oxygen for significant exposures.	Residual effects can include dementia, psychosis, paralysis, peripheral neuropathy, and parkinsonism. Consider CO toxicity in persons with significant smoke inhalation burns.
Carbon tetrachloride	Metabolites cause renal and hepatic toxicity; potent CNS depressant effects.	Nausea, vomiting, abdominal pain, headache, confusion, drowsiness, coma, renal and hepatic failure. Death is caused by respiratory arrest, circulatory collapse, or ventricular fibrillation.	Airway maintenance and ventilation assistance, gastric lavage, activated charcoal and cathartic, acetylcysteine to decrease effects of intermediate metabolite.	Toxicity from inhalation can be severe; small ingestions (<10 ml) can be fatal.
Chlorate salts	Potent oxidative properties that destroy red blood cells; toxicity to kidneys are due to direct effects and hemolysis.	Abdominal pain, nausea, vomiting, diarrhea, methemoglobinemia, intravascular hemolysis, delirium, coagulopathy, coma, convulsions, cyanosis, renal failure, death.	Activated charcoal and methylene blue for mild toxicities, hemodialysis to remove toxin. Sodium thiosulfate IV has been used to inactivate the chlorate ion, with inconsistent results.	In some instances, exchange transfusions have been advocated to reverse effects of poisoning.

Chlorinated compounds Chlorine Chlorine gas Sodium hypochlorite	Corrosive effect on contact with mucous membranes.	Immediate burning of mouth and throat, coughing, choking, bronchospasm, chest and abdominal pain, stridor, pulmonary edema, esophageal burns.	For inhalation, humidified supplemental oxygen and bronchodilators; for dilute ingestions, water or milk; for concentrated ingestions, gastric lavage and endoscopic evaluation.	Esophageal damage can result in stricture formation.
Chlorinated hydrocarbon pesticides Aldrin Chlordane DDT (chlorophenothane) Dieldrin Heptachlor Lindane Thiodan Toxaphene	Direct toxicity to neuronal axons, interfering with transmission; affects myocardium stability resulting in arrhythmias.	Vomiting, headache, fatigue, tremors, ataxia, weakness, confusion, seizures, respiratory depression, arrhythmias, coma. In agents other than DDT, seizure may be first sign of toxicity.	Maintenance of airway, breathing, circulation; activated charcoal and cathartic; lavage for large ingestions; multiple-dose activated charcoal and cholestyramine to enhance removal; appropriate therapy for seizures and arrhythmias.	These agents can be absorbed transdermally and by inhalation. Toxicity and outcomes vary.
Cocaine	CNS stimulation and inhibition of neuronal uptake of catecholamines, depressed conduction, and myocardial contractility.	Anxiety, agitation, delirium, hypertension, tachycardia, hyperthermia, diaphoresis, tremor, mydriasis, flushing, seizures, ECG abnormalities, stroke, areflexia, coma, death.	Airway maintenance and ventilatory assistance, cardiac monitoring, activated charcoal for ingestion, benzodiazepines, cooling measures.	Overdose can result from inhalation, injection, or absorption of the drug from the gastrointestinal tract ("body packing").
Copper salts	Mucous membrane irritation, multisystemic toxicities with salts. Elemental copper is poorly absorbed and causes little toxicity.	Pain in mouth, esophagus, and stomach; abdominal pain; vomiting; gastroenteritis; shock; hepatic and renal injury; hemolysis; seizures; coma; death.	Fluid replacement and pressors, whole-bowel irrigation; dimercaprol and penicillamine for large ingestions.	Long-term copper exposures have resulted in liver fibrosis, cirrhosis, and renal dysfunction.

Poisons and Poisoning (Continued)

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Cyanide	Nonspecific inhibition of enzyme systems; binds to cytochrome oxidase of cells, blocking oxygen use.	Nausea, vomiting, abdominal pain, almond odor of breath, headache, dyspnea, agitation, confusion, syncope, convulsions, lethargy, coma, cardiovascular collapse, death. Onset of symptoms is abrupt.	Oxygen and assisted ventilation, if needed; gastric lavage, activated charcoal, and cathartic; inhalation of amyl nitrite pearls until antidote is available. Antidote kit contains amyl and sodium nitrites and sodium thiosulfate. The administration of vitamin B_{12} may be helpful.	Oxygen and assisted ventilation, if needed; activated charcoal by mouth. Antidotes include amyl and sodium nitrites and sodium thiosulfate. Vitamin B_{12} may also be used.
Digoxin and digitalis	Excessive excitability and automaticity of myocardium resulting in conduction disturbances and dysrhythmias; AV block.	Anorexia, nausea, vomiting, diarrhea, headache, fatigue, weakness, drowsiness, electrolyte disturbances, confusion, delirium, visual disturbances, dysrhythmias, bradycardia, AV block, death from ventricular fibrillation.	Cardiac monitoring, activated charcoal, digoxin-specific antibody fragments (Fab) for severe toxicity, lidocaine or phenytoin for ventricular irritability. Correct electrolyte abnormalities, such as hypokalemia, immediately.	Most poisonings result from ingestion of prescribed digoxin, esp. in patients with renal failure, hypokalemia, or advanced age.
Dinitrophenol and pentachlorophenol	Uncoupling of oxidative phosphorylation in mitochondria, hypermetabolic state and lactic acid production. Dinitrophenol oxidizes hemoglobin to methemoglobin.	Fatigue, thirst, nausea, vomiting, abdominal pain, sweating, flushing, restlessness, excitement, hyperthermia, tachycardia, hyperpnea, metabolic acidosis, cyanosis, seizures, coma, death from respiratory or circulatory failure.	Maintenance of airway, breathing, circulation; activated charcoal by mouth; methylene blue IV; fluid replacement; benzodiazepines; cooling measures.	Ingestion of 1–3 g of these agents can be lethal. Many accidental transdermal poisonings have been reported.

Ergotamines or ergot alkaloids	Central sympatholytic effects: serotonin release and interference with neuronal uptake. Peripherally, may act as a partial alpha-adrenergic agonist or an antagonist at adrenergic, dopaminergic, and tryptaminergic receptors.	Nausea, vomiting, dizziness, diarrhea, headache, thirst, weak pulse, tingling and numbness of extremities, dyspnea, hallucinations, blood pressure changes, hemorrhagic vesiculations, paresthesias, peripheral ischemia, convulsions, loss of consciousness, gangrene.	Protect the airway, and provide ventilatory assistance as needed. Give multiple doses of activated charcoal to enhance drug elimination. Provide benzodiazepines to control seizures. Use nitroglycerin, heparin, or thrombolytics for organ ischemia.	Outcome is based on route and amount of ingestion.
Ethanol	CNS depression; effects can be additive when combined with other CNS depressants.	Impaired motor coordination, slurred speech, inebriation, ataxia, peripheral vasodilation, rapid pulse, nausea, vomiting, drowsiness, stupor, coma, peripheral vascular collapse, hypotension, tachycardia, hypothermia, death from respiratory or circulatory failure.	Provide intravenous fluids, esp. with dextrose, to prevent hypoglycemia. Give patient thiamine. Provide other supportive measures, including airway control and ventilation, external warming, and prophylaxis against alcohol withdrawal symptoms as indicated.	Ethanol is often coingested with other toxic substances in suicide attempts; emergency treatment may vary depending on other substances ingested.
Ethylene glycol	Metabolism to oxalic, glyoxylic, and glycolic acids; conversion to lactate, increasing the lactic acid level; calcium oxalate crystal formation and deposition in tissues; metabolite toxicity to kidneys, CNS, and lungs.	Nausea, vomiting, excitability, hypotension, abdominal cramps, weakness, metabolic acidosis, ataxia, vertigo, arrhythmias, stupor, coma, death from respiratory or renal failure with uremia.	Maintain airway, breathing, and circulation. Provide ethanol, folic acid, 4-methylpyrazole, pyridoxine, and thiamine. Hemodialysis will remove ethylene glycol from the blood in cases of severe toxicity.	Outcomes vary; in general, comatose patients have a poor prognosis.
Fluoride salts	Direct metabolic and cytotoxic effects; multiple adverse effects from calcium and magnesium binding.	Salivation, thirst, nausea, abdominal pain, vomiting, diarrhea, muscle weakness, hypocalcemia, hyperkalemia, tetanic contractions, death due to vascular collapse and shock.	Maintenance of airway, breathing, circulation; cardiac monitoring; calcium salts; for severe toxicity, IV calcium chloride; therapy for electrolyte disturbances.	Degree of toxicity depends on salt solubility and the amount of elemental fluoride ingested. Pediatric toxicities are often caused by fluorinated toothpaste ingestions.

Poisons and Poisoning (Continued)

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Hydrogen sulfide gas	Inhibition of oxidative phosphorylation enzymes, potent inhibition of cytochrome oxidase. Exposure results in cellular hypoxia.	Irritated mucous membranes, conjunctivitis, headache, nausea, vomiting, weakness, bradycardia, hypotension, dyspnea, rapid loss of consciousness with larger exposure, pulmonary edema, cyanosis, convulsions, coma, death due to cardiac or respiratory arrest.	High-flow oxygen, advanced cardiac life support as indicated, sodium nitrite, blood pressure monitoring, hyperbaric oxygen if available. Methemoglobin level should be recorded 30 min after sodium nitrate infusion.	If patient is immediately removed from the exposure, recovery may be rapid and complete. More severe exposures have resulted in permanent neurological changes and myocardial ischemia.
Ipecac syrup or fluid extract	Cardiac and neuromuscular toxicity with systemic absorption; toxicities are seen with chronic and prolonged use.	Vomiting, diarrhea, lethargy, irritability, hypothermia, hypotonia, dehydration, gastritis, seizures, cardiac toxicity, neuromuscular toxicity, shock, death.	Activated charcoal may be given if the patient is not vomiting. Supportive care includes fluid replacement, correction of electrolyte abnormalities, cardiac monitoring, and therapy for dysrhythmias.	Chronic exposures are reported in patients with eating disorders; cases of toxicity secondary to Munchausen's syndrome by proxy have also been documented.
Iron salts	Several mechanisms: direct corrosive effects on GI mucosa, hepatocellular toxicity, cardiovascular compromise, metabolic acidosis. Neurological manifestations are caused by hypoperfusion, metabolic acidosis, and hepatic compromise.	Nausea, vomiting, severe gastroenteritis, hematemesis, diarrhea, tachypnea, tachycardia, hypotension, lethargy, cyanosis, convulsions, coma, shock, or death.	Use gastric lavage or whole-bowel irrigation to remove tablets from the gastrointestinal tract. Intravenous deferoxamine is used as an iron-chelating agent.	Patients with systemic complications require hospital admission, constant monitoring, and supportive care until resolution. Late complications (2–8 wk) include GI stricture and obstruction. Toxicity is unlikely at a dose <20 mg/kg.

Isopropanol Isopropyl alcohol Rubbing alcohol	Potent CNS depressant metabolized to acetone; may contribute to CNS depression.	Nausea, vomiting, abdominal pain, hypotension, ataxia, areflexia, inebriation, muscle weakness, ketonemia, ketonuria, respiratory depression, hemorrhagic tracheobronchitis, myocardial depression, coma, death.	Maintain airway and provide ventilatory support when neurological depression is present. Do not induce emesis. Irrigate the GI tract after recent ingestions. Use hemodialysis for near-fatal overdoses.	A majority of cases resolve without consequences.
Lead and lead salts	Heavy metal interaction with sulfhydryl groups and interference with action of numerous enzymes, interference with heme production and survival of red blood cells. Chronic exposure can cause irreversible CNS and developmental effects.	Abdominal pain, vomiting, lethargy, behavioral changes, ataxia, arthralgias, abdominal or renal colic, anemia, acute encephalopathy, seizures, coma, death.	Use whole-bowel irrigation to empty the GI tract shortly after oral ingestions. Chelating agents that remove lead from the blood include Calcium Disodium Versenate, dimercaprol and related compounds, and D-penicillamine. Seizures are treated with benzodiazepines.	Chronic exposure to lead can produce renal and neuropsychiatric effects, esp. in children. Blood lead levels and erythrocyte protoporphyrin levels are used to gauge the effect of treatment.
Lithium	Lithium often produces cellular disturbances in the central nervous system, kidneys, and gastrointestinal tract. This is probably due to its effects on cell membrane ion transport, as well as its effects on cAMP.	Nausea, vomiting, diarrhea, fine resting tremor, lethargy, confusion, tremors, ataxia, ECG abnormalities, profound weakness, muscle fasciculations, hyperreflexia, clonus, stupor, seizures, acute renal failure, coma, death.	Maintain the airway and provide assisted ventilation to patients who are comatose or difficult to arouse. For acute ingestions use gastric lavage or whole bowel irrigation. Activated charcoal is ineffective because it does not bind to metals. Hemodialysis is used to clear lithium from the body in life-threatening intoxications.	Chronic or acute-on-chronic overdoses are more life threatening than acute poisonings. Chronic exposure permits intracellular accumulation. In acute poisonings, most lithium remains in the extracellular fluid for many hours, causing toxicity.

Poisons and Poisoning (Continued)

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Mercuric salts	Reaction with carboxyl, sulfhydryl, phosphoryl, and amide groups; interference with enzyme and cellular functions; toxicity involving multiple organ systems.	Burning of mouth and throat, thirst, abdominal pain, nausea, corrosive gastroenteritis, hematemesis, diarrhea, dehydration, shock, acute tubular necrosis. Neurological symptoms such as tremor, irritability and other personality changes, and depression are common.	The patient should be treated with oxygen and the gastrointestinal tract decontaminated (e.g., with whole-bowel irrigation). Chelating agents such as dimercaprol, dimercaptosuccinic acid, or D-penicillamine, should be given to bind and remove mercury from the body.	Doses of 1–4 g of mercuric chloride can be fatal. Chronic poisonings have resulted in neurological abnormalities, renal dysfunction, and gastrointestinal symptoms.
Methanol	Metabolism to formaldehyde and formic acid.	Latent period (24–72 hr) before development of symptoms, dizziness, inebriation, blurred vision, headache, nausea, vomiting, abdominal pain, delirium, visual disturbances that may progress to blindness, weak and rapid pulse, shallow respirations, cyanosis, coma, metabolic acidosis, respiratory failure, death.	Activated charcoal for recent ingestion, ethanol IV or orally to inhibit toxic metabolites, hemodialysis in severe cases, aggressive management of metabolic acidosis. Folic acid and 4-methylpyrazole can be used as antidotes.	Visual impairment, optic atrophy, and blindness are due to effects of formic acid on the optic nerve.
Mushrooms containing cyclopeptides *Amanita phalloides* (death cap) *Amanita tennifolia* *Amanita virosa* (destroying angels) *Galerina autumnalis* *Galerina marginata* *Galerina venenata* *Lepiota helveola* *Lepiota josserandii*	Cytotoxicity of cyclopeptides (phallotoxins, amatoxins, virotoxins), cellular insult causing hepatic, renal, GI, and CNS damage.	Phase 1 (6–12 hr): Nausea, abdominal pain, vomiting, watery diarrhea, thirst. Phase 2 (12–24 hr): Symptomatic improvement, elevated hepatic enzymes. Phase 3 (1–6 days): Restlessness, delirium, hallucinations, hematuria, gastroenteritis, pancreatitis, hypoglycemia, shock, acute renal failure, jaundice, hepatic coma, death.	Activated charcoal; fluid and electrolyte resuscitation; hepatic transplantation in fulminant hepatic failure.	Cyclopeptide-containing mushrooms are responsible for most mushroom fatalities in North America. Toxic cyclopeptides are heat stable, insoluble in water, and not affected by drying.

Mushrooms containing muscarine *Amanita muscaria* (fly agaric) *Amanita panterina* (panther) *Clitocybe dealbata* (sweater) *Clitocybe dilatata* *Clitocybe illudens* Most *Inocybe* species	Peripheral cholinergic effect due to muscarine; stimulation of autonomic nervous system.	Lacrimation, diaphoresis, salivation, abdominal cramps, vomiting, loss of bowel and bladder control	Gastric decontamination with activated charcoal may adsorb recently ingested mushroom toxins from the GI tract. Patients with fulminant hepatic failure will need intensive care and possible referral for liver transplantation.	Identification of ingested mushroom may help guide therapy if uneaten mushroom samples are available for analysis. Patients afflicted with fulminant liver failure have a high risk of death if a donor liver is not available.
Naphthalene	Metabolism to numerous byproducts including alpha-napthol, a potent hemolytic agent.	Fever, nausea, vomiting, abdominal pain, diarrhea, lethargy, seizures, hemolysis, pallor, jaundice, cyanosis.	Activated charcoal; IV hydration and urinary alkalinization; transfusions for hemolysis.	Hemolysis is acute and severe in patients with glucose-6-phosphate dehydrogenase deficiency. Naphthalene is used in mothballs and toilet bowl cleaners, but less toxic agents are available.
Nicotine	Binding to cholinergic nicotine receptors; toxicity due to sympathetic and parasympathetic stimulation followed by ganglionic and neuromuscular blockade.	Nausea, vomiting, abdominal pain, headache, salivation, diarrhea, hyperpnea, diaphoresis, tachycardia, hypertension, pallor, agitation, tremor, ataxia, confusion, dysrhythmias, hypotension, shock, muscle paralysis, coma, death.	Maintenance of airway, breathing, circulation; activated charcoal; thorough washing of exposed skin; therapy for seizures, hypertension, hypotension, and arrhythmias.	Because most commercial sources of nicotine are not concentrated, a majority of exposures cause mild toxicity and resolve without complications.
Nitroglycerines, nitrates, nitrites	Vasodilation causing hypotension. Nitrites are potent oxidizing agents that cause methemoglobinemia.	Headache, hypotension, syncope, skin flushing, nausea, methemoglobinemia, cyanosis, symptoms of cardiac ischemia or cerebrovascular disease, seizures secondary to hypotension.	Activated charcoal; administration of intravenous fluids, anticonvulsant medication, hemodialysis, or therapies for GI bleeding (if needed).	Most cases can be managed successfully with early, aggressive interventions. Drugs for erectile dysfunction should not be taken by patients being treated with nitrates.

Poisons and Poisoning (Continued)

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Nonsteroidal anti-inflammatory agents Ibuprofen Ketoprofen Naproxen and many others	Inhibition of prostacyclin and prostaglandin E_2 production resulting in acute renal failure.	Nausea, vomiting, gastrointestinal distress and bleeding, tinnitus, metabolic acidosis, CNS depression, respiratory depression, mild hepatic toxicity, acute renal failure, seizures.	Activated charcoal for recent ingestions; intravenous fluids: administration of gastric protectants, e.g., proton pump inhibitors or H_2 receptor antagonists.	Baseline renal and hepatic function should be assessed. Most toxic exposures to this class of agents are successfully treated and resolve fully without residual sequelae.
Opioids and Opiates Codeine Dilaudid Fentanyl Heroin Morphine Methadone Oxycodone Oxycontin and other synthetic opioids	Excessive stimulation of CNS opiate receptors causing sedation and respiratory failure.	Drowsiness, nausea, dysphoria, bradypnea, miosis, hypothermia, respiratory depression, hypotension, bradycardia, weak pulse, coma, apnea, death.	The airway should be secured and ventilatory assistance provided to comatose or apneic patients. Naloxone, naltrexone, or nalmefene can be given as an antidote. Activated charcoal may adsorb recently ingested pills.	Antidotes are useful in reversing effects of the opiates, but administration may precipitate severe withdrawal symptoms. The effects of naloxone are short-term. The drug may need to be given repeatedly or by intravenous infusion to prevent repeated episodes of respiratory depression or coma.
Oxalic acid and oxalate salts	Corrosion of tissues on contact; precipitation with calcium to form insoluble deposits throughout organs, causing systemic damage.	Irrigation of mouth and esophagus, vomiting, weakness, shock, tetany, convulsions, cardiac arrest, death. Inhalation can cause pneumonitis and pulmonary edema.	Calcium chloride, calcium gluconate, or calcium carbonate to precipitate oxalate; flushing and lavage with copious amounts of water; IV calcium chloride or calcium gluconate for symptomatic hypocalcemia; maintenance of high urine output; therapy for seizures and arrhythmias.	Ingestions of 5–15 g of oxalic acid have resulted in death.

Parathion and other organophosphates	Acetylcholinesterase inhibition, resulting in excessive acetylcholine stimulation of muscarinic and nicotinic receptors.	Nausea, vomiting, diarrhea, abdominal pain, tremor, muscle fasciculations, excessive salivation and sweating, dehydration, bradycardia, weakness, shock, death usually caused by respiratory paralysis.	Maintain airway and clear secretions. Provide assistance with ventilation. Decontaminate exposed skin and remove soaked clothing. Decontaminate the GI tract. Use atropine and/or pralidoxime for anticholinergic crises. Give diazepam or related drugs for seizures, and standard antiarrhythmic protocols for ventricular rhythm disturbances.	Toxicity depends on the relative toxicity of the organophosphate and the quantity involved.
Phenol	Corrosive injury to skin, eyes, and respiratory tract; protein denaturation and coagulation necrosis.	Vomiting, diarrhea, gastrointestinal injury, agitation, confusion, seizures, hypotension, shock, coma, respiratory failure, death.	Multiple-dose activated charcoal and cathartic; washing of exposed areas; benzodiazepines for seizures. Low molecular weight polyethylene glycol has been used for gastric decontamination and topical exposures. If corrosion has occurred, tube passage may cause rupture.	Corrosive burns of the skin and mucous membranes and GI perforation can occur. Esophageal stricture and renal failure rarely occur.
Phenothiazines and neuroleptics	Prominent cardiovascular and CNS effects; toxicity due to inhibitory effects of dopaminergic, cholinergic, alpha-adrenergic, histaminic, and serotonergic receptors.	Sedation, somnolence, stupor, dry mouth, tachycardia, labile blood pressure, hypothermia or hyperthermia, dysrhythmias, extrapyramidal symptoms, coma, NMS, seizures, cardiac arrest, death, akathisias.	Maintain airway and provide ventilatory and circulatory support if necessary. Decontaminate the GI tract. Follow standard ACLS protocols for managing cardiac rhythm disturbances. Give diphenhydramine or benztropine for dystonias. Bromocriptine, benzodiazepines, and/or dantrolene may be helpful in NMS.	Although death from neuroleptic overdose is rare, NMS may be fatal in 20% or more of affected patients.

Poisons and Poisoning (Continued)

Substance	*Pathology*	*Symptoms*	*Emergency Measures*	*Comments*
Phosphorus and phosphides	Local irritation and tissue burns; direct toxic effect to myocardium and vessels; hepatic, renal, and GI damage due to latent systemic toxicity.	Painful burns to mucous membranes and skin on contact, nausea, vomitus and diarrhea with garlicky odor, jaundice, metabolic derangements, dysrhythmias, coma, shock, seizures, hepatic or renal failure, cardiac arrest. Inhalation can cause pneumonitis and pulmonary edema.	Maintenance of airway, breathing, circulation; endoscopy to assess GI burns; cautious gastric lavage with hydrogen peroxide or potassium permanganate, followed by activated charcoal and mineral oil cathartic; fluid replacement and correction of electrolyte imbalance.	After acute effects from ingestion, a symptom-free period of a few weeks may be followed by a stage of systemic toxicity involving the liver, kidneys, heart, CNS, and GI tract.
Salicylates Aspirin Salicylate salts	Effect on multiple organ systems, metabolic derangement. Effects are due to stimulation of respiratory center, intracellular uncoupling of oxidative phosphorylation, and alteration of platelet function.	Nausea, vomiting, agitation, hyperthermia, lethargy, hyperglycemia or hypoglycemia, hyperpnea, tachypnea, tinnitus, hemorrhagic gastritis, delirium, stupor, acid-base disturbances, electrolyte imbalance, cerebral edema, convulsions, cardiovascular collapse.	Maintenance of airway, breathing, circulation; lavage; activated charcoal; urinary alkalinization; correction of acid-base and fluid-electrolyte abnormalities; hemodialysis for severe toxicity or deteriorating condition.	The prognosis of patients suffering from an acute toxic ingestion can be assessed on the basis of serum levels obtained within 6 hr of ingestion.
Strychnine	Competitive antagonism of glycine at postsynaptic spinal cord motor neuron.	Muscle twitching, extensor spasm, opisthotonos, trismus or facial grimacing, seizures, medullary paralysis, death. Symptoms occur within 20 min.	Activated charcoal; dark and quiet environment; benzodiazepines or neuromuscular blockade; mechanical ventilation.	Poisonings are rare since commercial use in rodenticides has decreased. Most exposures result in death. The approximate fatal dose for a child is 15 mg; for an adult, 5–10 mg/kg.

Thallium salts	Combination with mitochondrial sulfhydryl groups, interference with oxidative phosphorylation.	Nausea, vomiting, abdominal pain, hematemesis, bloody diarrhea, headache, alopecia, hematuria, proteinuria, elevated hepatic enzymes, lethargy, tremors, ataxia, delirium, seizures, coma, death.	Activated charcoal; fluids and electrolytes intravenously; benzodiazepines for seizures. Hemoperfusion and hemodialysis may be moderately successful.	Alopecia and Mee's sign, single white transverse lines on the nails 2–3 weeks postexposure, are common diagnostic features. Long-term neurological impairment can occur.
Theophylline —SEE: *xanthine derivatives*				
Xanthine derivatives Aminophylline Caffeine Theophylline	Antagonism of adenosine activity and release of catecholamines; in high doses, phosphodiesterase inhibition. Toxic effects are secondary to smooth muscle relaxation, peripheral vasodilation, myocardial stimulation, and CNS excitation.	Nausea, protracted vomiting, hypotension, respiratory alkalosis, metabolic acidosis, hypokalemia, tachycardia, hypercalcemia, ventricular dysrhythmias, seizures, death due to cardiovascular collapse.	Activated charcoal. For deteriorating conditions, charcoal hemoperfusion. Treat seizures with benzodiazepines or barbiturates, and cardiac rhythm disturbances with standard ACLS protocols. Monitor theophylline levels several times a day.	Eliminate drugs that increase theophylline levels, such as erythromycins or related antibiotics, cimetidine, estrogens, or allopurinol. Consider use of safer drugs for obstructive lung diseases, such as albuterol or other inhaled medications.
Warfarin and related anticoagulant compounds	Inhibition of vitamin K 2,3-epoxide reductase and quinone reductase activity (these are necessary to activate vitamin K, which is essential in coagulation).	Fatigue, hematuria, nosebleeds, ecchymoses, GI hemorrhage, hypotension, intracranial hemorrhage, hemorrhagic shock, death (rare).	Decontaminate the GI tract (for recent ingestions only). Hold warfarin if the protime is slightly elevated and no bleeding is present. Give vitamin K for markedly prolonged protimes with INR greater than 6–9 or fresh frozen plasma for life-threatening bleeding.	Most accidental ingestions resolve without further sequelae. Intentional ingestions or delay in seeking treatment may result in severe coagulopathy. Bleeding patients require hospitalization, frequent monitoring of blood pressure, pulse, and hemoglobin levels. Cauterization of bleeding lesions may be needed.

AV = atrioventricular; BAL = British anti-lewisite; CNS = central nervous system; ECG = electrocardiogram; EDTA = ethylenediamenetetra-acetic acid; GI = gastrointestinal; NMS = neuroleptic malignant syndrome; PT = prothrombin time; SA = sinoatrial.

Appendix 9–2 Emergency Situations

Medical Emergency	*Underlying Causes*	*Findings*	*Treatment*
Acute myocardial infarction (MI, AMI) Acute coronary syndromes (ACS)	Most heart attacks are caused by the rupture of a plaque in the wall of the coronary artery that results in the blockage of blood flow and the death of myocardial tissue. Risk factors often present include tobacco use, hypertension, hypercholesterolemia, diabetes mellitus, obesity, physical inactivity, or family history of heart disease. Men and postmenopausal women are at greater risk than premenopausal women. Modification of risk factors lowers the risk for disease.	Patients often complain of tightness, heaviness, pressure, pain, or burning in the chest. The symptoms may radiate into the neck, jaw, shoulders, back, or arms. Shortness of breath, nausea and vomiting, or sweating often accompany the chest pain or pressure. Some patients (esp. older individuals, women, or diabetics) may report difficulty breathing, nausea and vomiting, or loss of consciousness as their only symptoms. A 12-lead ECG may show evidence of an MI, although a large percentage of patients may have a nondiagnostic ECG initially. Abnormal levels of cardiac enzymes (e.g., troponins, creatinine kinase) usually appear in the blood about 8 hr after chest pain begins.	Supplemental oxygen, aspirin, other antiplatelet drugs, anticoagulants, beta blockers, and narcotics like morphine should be used acutely to alleviate pain, improve oxygenation and blood flow, and reduce stress. Cardiac monitoring, oximetry, and automatic blood pressure monitors are used to identify changes in heart rhythm, hemodynamics, and breathing. A 12-lead ECG should be completed within 10 min of the patient's presentation to the hospital, and preferably while the patient is in transit to the hospital. If an ST segment elevation MI is identified, patients should be triaged to percutaneous coronary intervention (PCI) in the first 90 min or, if PCI is not available, to fibrinolytic therapy within 30 min (unless contraindicated). Other treatments depend on the presentation (e.g., the patient in shock may be treated with pressors; a patient with acute pulmonary edema may need diuretics, etc.). Nonsteroidal anti-inflammatory drugs (esp. those that are COX-2 selective) should be discontinued. The patient in full cardiac arrest is treated with advanced life support protocols.

Airway obstruction	Complete or partial obstruction of the oropharynx or nasopharynx, larynx, or trachea, with impairment of gas exchange, caused by foreign bodies, anatomical abnormalities, allergic reactions, infection, or trauma.	Signs of respiratory distress, including a rapid respiratory rate, wheezing, stridor, or labored breath are usually present. The patient usually appears agitated. Cyanosis of the fingers or lips may be present when there is inadequate oxygen in the blood. Loss of consciousness may occur if airway obstruction is not effectively relieved.	Foreign body airway obstruction is treated using the Heimlich maneuver in adults and back blows and chest thrusts in infants and children. Endotracheal intubation or cricothyroidotomy, along with mechanical ventilation, may be lifesaving interventions.
Angina pectoris	Inadequate supply of oxygen to the myocardium when oxygen demand exceeds supply. Unstable angina, marked by more frequent attacks, pain with less exertion or at rest, reduced response to nitroglycerin, or more severe episodes may indicate a progression in the patient's coronary artery disease and a higher risk for MI. Stable angina is discomfort typical of the patient's usual pattern.	Similar to MI. Chest discomfort typically resolves in less than 15 min, and improves with nitroglycerin and rest. There may be evidence of ischemia on a 12-lead ECG. Cardiac enzymes usually do not show evidence of acute MI on initial testing.	Oxygen, nitroglycerin, and aspirin are given initially, and the patient's response is noted. Beta blockers, to slow heart rate and lower blood pressure, are used unless there is evidence of heart block, heart failure, or active wheezing. Morphine is used for refractory pain and breathlessness. Heparins are used for pain that does not resolve with initial treatments. Persistent symptoms, ECG changes, or elevated cardiac enzymes suggest an acute coronary syndrome and may require further treatments (see above under Acute Myocardial Infarction). The patient with new or unstable angina is usually admitted to the hospital for further studies and stabilization.

Emergency Situations (Continued)

Medical Emergency	*Underlying Causes*	*Findings*	*Treatment*
Arterial bleeding	Trauma to blood vessels; surgery; erosion of arteries by ulcers, infection, or cancer.	Blood that spurts out in pulsatile fashion from a vessel is characteristic of bleeding from an artery. (Blood that oozes from a vessel continuously is characteristic of bleeding from a vein.)	Arterial bleeding from a vessel in an arm or leg can often be controlled with pressure applied directly over the bleeding vessel or just proximal to it. Arterial ligation may be performed surgically if direct pressure does not limit blood loss. Arterial bleeding from peptic ulcers is typically controlled with the injection of sclerosing agents during endoscopy or with electrocoagulation or coaption. Bleeding from other internal vessels may also be controlled endoscopically (e.g., bleeding from bronchial arteries during bronchoscopy). In some instances, blood flow through internal arteries can be stopped with therapeutic embolization.
Asthma	Episodic bronchospasm, caused by exposure to allergens (such as pollens), smoke, pollutants, cold air, exercise, or other triggers of airway inflammation.	Difficulty breathing, wheezing, and chest tightness. Patients are often able to identify the triggering event. They may report that their inhalers are not providing adequate relief. Physical findings include tachypnea, tachycardia, and labored breathing, often with a prolonged expiratory phase and wheezing. Cyanosis of the fingers or the lips suggests inadequate oxygenation. Patients may be agitated, frightened, or, in severe attacks, lethargic or comatose.	Supplemental oxygen should be supplied, and the patient should be given inhaled bronchodilators (e.g., albuterol and ipratropium). Oral or intravenous steroids are used to reduce airway inflammation. Epinephrine may be injected subcutaneously in severe asthma; antibiotics are used when there is evidence or suspicion of a bacterial infection. Severe asthma may result in respiratory failure and the need for ventilatory support (e.g., noninvasive ventilation or tracheal intubation).

Chronic Obstructive Pulmonary Disease (COPD), exacerbation of	An acute or gradual worsening of pulmonary function in patients with chronic lung disease, typically brought on by a viral or bacterial infection, or by congestive heart failure, allergies, pulmonary emboli, or the rupture of an emphysematous bleb at the margins of the lung.	Patients typically report increased shortness of breath, cough, sputum production, and fevers, and appear to labor more than usual to breathe. Tachypnea, tachycardia, and hypoxemia or carbon dioxide retention are often present. Breath sounds may be distant, or wheezing may be present.	Oxygen is supplied, and the patient is carefully monitored clinically. Continuous oximetry should be used, and arterial blood gases checked when there is clinical suspicion of impending respiratory failure. Bronchodilators (such as albuterol and ipratropium) are given by inhalation. Corticosteroids are used to reduce airway inflammation. Antibiotics are used when there is evidence or suspicion of a bacterial infection. Severe exacerbations may result in respiratory failure and the need for ventilatory support (e.g., noninvasive ventilation or tracheal intubation).
Cold-induced soft tissue injury (frostnip, chilblain, frostbite)	*Frostnip:* superficial, reversible injury caused by ice crystal formation on the surface of the skin. *Chilblain:* superficial injury caused by exposure to cold, humid air. Tissue does not freeze. *Frostbite:* destruction of tissue by freezing. The extent of tissue loss reflects the duration of cold exposure and the magnitude of temperature depression.	*Frostnip:* usually, paresthesias, pain, and numbness. *Chilblain:* redness, itching, numbness, burning, and pain. *Frostbite:* similar to chilblain. Frostbitten skin may be waxy and white or mottled and cyanotic. The frozen part will have no sensation. Surrounding tissue may be painful and tender. As the tissue thaws its appearance changes. In partial-thickness frostbite the skin becomes red and warm. Blisters containing clear fluid may appear. In full-thickness frostbite the blisters contain a bloody fluid. There is no sensation in full-thickness frostbite.	Initial treatment involves removing the patient from the cold environment. Concomitant hypothermia is a hazard. The frozen parts should not be rewarmed if there is danger of refreezing. Rapid rewarming should be performed by soaking the injured part in warm water (42°C). Rubbing or other manipulation of frozen tissue may worsen the injury. Further treatment may be needed for more serious injuries.

Emergency Situations (Continued)

Medical Emergency	*Underlying Causes*	*Findings*	*Treatment*
Congestive heart failure (CHF)	An impairment in the ability of the heart to move blood into the systemic circulation, either because of damage to heart muscle (e.g., after a heart attack), failure of the heart muscle to relax properly, pericardial restriction, valvular heart disease, or other causes.	Most patients are winded with exertion, and some are short of breath at rest. Many cannot lie flat in bed at night because the supine position makes them breathless. Lower extremity and sacral swelling are common physical findings, along with ascites, liver enlargement, and elevated jugular veins. Crackles or wheezes may be heard in the lung bases or throughout the lungs in left ventricular CHF. The patient is often hypoxemic. Chest x-rays may show an enlarged heart with fluffy infiltrates near the hila.	Oxygen, potent diuretics, morphine sulfate, nitroglycerin, nesiritide, and ACE inhibitors may be used to manage CHF or acute pulmonary edema as long as the patient is not hypotensive. Noninvasive positive pressure ventilation, or intubation and mechanical ventilation may be needed to support respiration. Hypotensive patients may be treated with dobutamine, combinations of dopamine and nitroprusside, or other drugs and interventions.
Fractures and Dislocations	Most fractures and dislocations are caused by significant trauma, e.g., automobile collisions, falls, or sports injuries. Fractures that occur without a powerful mechanism of injury are termed "pathological." They may occur in patients with underlying malignancies that have spread to bone or in patients with osteoporosis.	Limb fractures or joint dislocations are often clinically obvious. The affected limbs are usually swollen, visibly deformed or rotated, and exquisitely painful to gentle touch or any movement. Patients with rib fractures may complain of pain on breathing or coughing. The injured chest wall is tender and may be bruised. Patients with fractures of the vertebral bodies (or patients suspected of having vertebral fractures) often complain of neck, thoracic, or lumbar pain after a fall or automobile accident. X-rays of the affected bones confirm the diagnosis.	Primary treatment includes immobilization (splinting) of any affected bones or joints until diagnostic x-rays can be obtained. Analgesics are given as required, and cold packs or ice are applied to limit pain and inflammation. Limb fractures or dislocations are sometimes amenable to immediate treatment with closed reduction, although operative reductions and placement of fasteners may be needed to obtain optimal healing. Patients suspected of having vertebral fractures should be placed in firm cervical collars or restrained on spinal boards until examination and x-rays clearly demonstrate that the spine is stable.

Gastrointestinal (GI) bleeding	Upper gastrointestinal bleeding often results from esophagitis, esophageal tears, gastritis, peptic ulcer disease, esophageal varices, or vascular malformations. Lower GI bleeding typically is caused by hemorrhoids, anal fissures, diverticuli, vascular malformations, or cancers.	The rapidly bleeding patient may present in shock (i.e., dizzy on arising, hypotensive, tachycardic, cool, clammy, diaphoretic, and confused). Bleeding from the upper GI tract often reveals itself when the patient vomits bright red blood or digested blood that resembles coffee grounds. Occasionally, bleeding from the upper tract is so vigorous that it causes the loss of bright red blood from the rectum. Usually, however, this is a finding in lower GI bleeding. Digested blood that is expelled in the feces is typically black and tarry (melenic).	Patients with significant blood loss are treated immediately with intravenous fluids. Blood is obtained for typing and cross-matching, and transfusions are given when indicated. Upper GI bleeding resulting from peptic ulcer disease, esophagitis, or gastritis may respond to treatment with IV or oral proton pump inhibitors. The loss of bright red blood from the upper GI tract should be promptly evaluated with esophagogastroduodenoscopy (EGD). Patients with a bleeding ulcer vessel or esophageal varices may be treated with endoscopic therapies to cauterize or band bleeding vessels or with medical therapies including agents such as octreotide. Patients suspected of having lower GI blood loss are evaluated with colonoscopy, e.g., to identify arteriovenous malformations, cancers, diverticuli, or ulcerative colitis.
Hyperglycemia	Elevated blood glucose is usually caused by impairments in glucose metabolism (type 1 or type 2 diabetes mellitus, gestational diabetes mellitus, or drugs or infections that temporarily predispose patients to high blood glucose levels). In diabetics sudden elevations of blood glucose are typically caused by failure to maintain a careful dietary and medical regimen, taking medications such as coticosteroids, or serious ilnesses (e.g., infections, heart attack, stroke).	Patients often report thirst, frequent urination, increased appetite, and increased consumption of fluids. Those who become dehydrated may be dizzy when they get up from a bed or chair. Blood chemistries typically reveal a blood glucose of more than 200 mg/dl, and glucose is present in the urine.	Fluids are administered by mouth (if possible) and intravenously. Insulin or oral hypoglycemic agents are given.

Emergency Situations (Continued)

Medical Emergency	*Underlying Causes*	*Findings*	*Treatment*
Hyperthermia (heat cramps, heat exhaustion, heatstroke)	Inability of the body to cope with heat stress resulting from excessive heat production or decreased heat loss. *Heat cramps:* muscle cramps and fatigue accompanied by water and mild salt depletion. *Heat exhaustion:* serious dehydration with water and electrolyte depletion. Patients maintain thermoregulatory control. Heat exhaustion may progress to *heatstroke,* characterized by thermoregulatory failure and profound dehydration.	The person with heat cramps complains of painful muscle spasms. There is a history of recent exertion in a hot environment. The patient has been sweating profusely with inadequate or hypotonic fluid replacement. The patient with heat exhaustion has also been sweating in a hot environment. Symptoms include thirst, weakness, fatigue, vomiting, and anorexia. The skin is cool and clammy. Body temperature may be normal or subnormal. The heatstroke victim will have an altered mental status and will be tachycardic, hypotensive, hyperthermic, and tachypneic. Signs of dehydration will be present.	First aid begins with removal of the patient from the hot environment. Heat cramp victims are treated with an oral or intravenous fluid and electrolyte solution. Heat exhaustion is treated by intravenous fluids. Patients with severe dehydration may require more than 4 L of IV fluid. Patients with heatstroke require rapid cooling. Many techniques are available, but evaporation with water is practical and effective. The patient may be sprayed with water and fanned until the core temperature is about 38.5°C. Cooling beyond this may cause overshoot hypothermia. IV fluid resuscitation as for heat exhaustion is also needed.
Hypoglycemia	The most frequent causes are an excessive dose of insulin or an oral hypoglycemic agent, or inadequate food intake by a diabetic patient treated with those drugs (e.g., during an illness that causes anorexia, nausea, or vomiting). Low blood sugars deprive the brain and other organs of the glucose they need for normal metabolism.	Mental status may vary from confused to agitated to unconscious. The patient is often sweaty, tremulous, and tachycardic. Occasionally, hypoglycemia may mimic strokes or seizures.	Glucose or dextrose should be given immediately—intravenously if the patient is unable to safely eat, orally if the patient is conscious and sufficiently oriented. One mg of glucagon, administered by intramuscular injection, is an alternative. Blood sugar levels should be tested with a glucometer. Hospitalization may be necessary if the patient has taken an overdose of long-acting insulin or an oral antihyperglycemic agent.

Hypothermia	Core temperature less than 35°C (95°F), caused by decreased heat production, increased heat loss, or impaired temperature regulation. Exposure to cold or wet conditions, sepsis, or profound hypothyroidism may be predisposing conditions. Central nervous system, cardiovascular, and respiratory systems are impaired when the temperature is below 35°C.	Lethargy, confusion, and fatigue in mild cases. Heart rate and respiratory rate may be increased. As hypothermia worsens, the patient stops shivering. Heart rate, blood pressure, and respirations slow. The patient eventually loses consciousness. Respirations and pulses may be difficult to detect.	Cold or wet clothing should be removed. The patient should be rewarmed. Warm blankets, warm oxygen, and warm IV fluids may be used. An accurate core temperature must be recorded, if possible. Temperatures less than 32°C may require more aggressive rewarming techniques, such as gastric lavage, peritoneal lavage, hemodialysis, or cardiopulmonary bypass. If pulses are absent, cardiopulmonary resuscitation is indicated.
Seizure	An abnormal electrical discharge by central nervous system neurons that produces autonomic, behavioral, motor, or sensory abnormalities. Seizures may result from structural diseases of the brain (e.g., arteriovenous malformations, strokes, trauma, or tumors), from metabolic disorders (e.g., severe electrolyte disorders, low blood sugars, renal failure, or hypoxia), or from drugs (or drug or alcohol withdrawal).	During a generalized motor seizure, the patient is unconscious and has repetitive back-and-forth movements of the upper and lower extremities. Patients may bite the tongue, lose control of the bowels or bladder, or injure themselves when they fall. After the seizure, there is usually a period of gradual and progressive return to normal consciousness, which may take 30 to 60 min. Some patients may have a brief period of focal paralysis after the event.	During the seizure, the patient should be guarded against injury. This may involve helping the patient to the floor and moving furniture out of the way. Supplemental oxygen should be given. Objects should not be inserted into the patient's mouth—an obstructed airway may result. Medications such as lorazepam, diazepam, fosphenytoin, or phenobarbital may be used to abort the seizure. Most seizure patients will require some investigation into the cause of the seizure. In patients with a history of prior seizures, this may include checking blood levels of anticonvulsant medications. Patients with first-time seizures may need a more extensive evaluation, including a CT scan, an EEG, MRI, blood work, and a lumbar puncture.

Emergency Situations (Continued)

Medical Emergency	*Underlying Causes*	*Findings*	*Treatment*
Stroke (cerebrovascular accident)	Inadequate blood flow to an area of the brain causing tissue death. In thrombotic stroke, blood vessels narrowed by atherosclerosis limit delivery of oxygenated blood to the brain or a portion of it. In embolic stroke, clots travel from other areas of the body to block cerebral vessels. Hemorrhagic stroke results from bleeding caused by hypertension or rupture of cerebral aneurysms.	Patients often present with weakness or numbness on one side of the body or the face; with speech disturbances; or with confusion, clumsiness, difficulty walking, loss of consciousness, or coma.	Oxygen is administered and cardiac monitoring is begun. A computed tomographic (CT) scan of the brain is used to rule out a hemorrhage as a cause of new neurological deficits. Tissue plasminogen activator (a thrombolytic, or "clot-busting" drug) may be given to patients who present in the first 3 hr of nonhemorrhagic stroke.
Suicidal ideation	Major depression; alcohol abuse; dysphoria; adjustment disorders; borderline personality disorders; psychotic disorders; poor social situations and recent stressful events. Older men living alone are most likely to use lethal means to harm or kill themselves. Younger persons are most likely to come to an emergency department in distress.	Patients may report feelings of hopelessness, misery, anxiety or tension, or may feel that life has lost its meaning or joy. People who have taken medications in an attempt to overdose may have signs and symptoms related to the ingested drug(s) and may need inpatient stabilization. Consult Appendix 9–1.	Hospitalization is indicated for patients who are intoxicated by drug or alcohol overdose or who have a concrete plan to take their own lives. Outpatient therapy may be appropriate for people without the means to use potentially lethal drugs or devices to jeopardize their health and safety. Antidepressant medications, counseling, alcohol and drug rehabilitation, therapies, and psychiatric consultation are used individually or in combination for selected suicidal patients.

Thermal burns	*First- and second-degree burns:* partial-thickness injuries involving only the epidermis or the epidermis and dermis. *Third-degree burns:* full-thickness injuries involving the deeper tissues. Burns impair the skin's ability to prevent heat and water loss. Burned skin is not an effective barrier to injection. Severity depends on the character and temperature of the agent, the duration of exposure, and the type of skin injured.	*First-degree burns:* red and painful. *Second-degree burns:* red, painful, and blistered. These burns heal without scarring. *Third-degree burns:* may be white or charred. The subcutaneous nerves have been destroyed; thus there is no pain. Surrounding areas are painful. Full-thickness burns heal poorly, leaving a scar.	The first step is to stop the burning process. Oxygen should be administered if there has been smoke inhalation. Jewelry and clothing should be removed in anticipation of swelling. Sterile sheets or dressings should be applied to the burned areas.
Transient ischemic attack (TIA)	See *Stroke.*	Symptoms and signs are similar to those of a stroke, but usually last less than 1 or 2 hr.	Patients with TIAs are treated with antiplatelet therapies, such as aspirin or clopidogrel, and are evaluated with electrocardiographic monitoring (e.g., to rule out atrial fibrillation), CT scans of the head (to rule out small strokes), and carotid ultrasonography (to determine whether the patient has a surgically correctable stenosis of the carotid arteries).

APPENDIX 10

Professional Designations and Titles in the Health Sciences

AARCF	American Association for Respiratory Care Fellow
ADN	Associate Degree in Nursing
ANP	Adult Nurse Practitioner
AOCN	American Oncology Certified Nurse
ARNP	Advanced Registered Nurse Practitioner
ARRT	American Registry of Radiologic Technologists
ART	Accredited Record Technologist
ASPO	American Society for Psychoprophylaxis in Obstetrics
ATC	Athletic Trainer, Certified
BA	Bachelor of Arts
BC	Bachelor of Surgery
BCh	Bachelor of Surgery
BM	Bachelor of Medicine
BMS	Bachelor of Medical Science
BS	Bachelor of Science; Bachelor of Surgery
BSN	Bachelor of Science in Nursing
CAPA	Certified Ambulatory Post-Anesthesia Nurse
CARN	Certified Addiction Registered Nurse
CB	Bachelor of Surgery
CCCN	Certified Continence Care Nurse
CCE	Certified Childbirth Educator
CCM	Certified Case Manager
CCP	Certified Clinical Perfusionist
CCRN	Certified Critical Care Registered Nurse
CD	Clinical Dietitian
CDA	Certified Dental Assistant
CDE	Certified Diabetes Educator
CEN	Certified Emergency Nurse
CETN	Certified Enterostomal Therapy Nurse
CFNP	Certified Family Nurse Practitioner
CFRN	Certified Flight Registered Nurse
CGN	Certified Gastroenterology Nurse
CGRN	Certified Gastroenterology Registered Nurse
CGT	Certified Gastroenterology Technician
ChB	Bachelor of Surgery
ChD	Doctor of Surgery
CHN	Certified Hemodialysis Nurse
CHUC	Certified Health Unit Coordinator
CIC	Certified Infection Control Nurse
CLA	Certified Laboratory Assistant
CLPNI	Certified Licensed Practitioner Nursing, Intravenous
CLS	Clinical Laboratory Specialist
CLT	Certified Laboratory Technician; Clinical Laboratory Technician
CM	*Chirurgiae Magister,* Master in Surgery
CMA-A	Certified Medical Assistant, Administrative
CMA-C	Certified Medical Assistant, Clinical
CNA	Certified Nursing Assistant; Certified in Nursing Administration
CNAA	Certified in Nursing Administration, Advanced
CNDLTC	Certified Nursing Director of Long-Term Care
CNM	Certified Nurse Midwife
CNMT	Certified Nuclear Medical Technologist
CNN	Certified Nephrology Nurse
CNOR	Certified Nurse, Operating Room
CNP	Community Nurse Practitioner
CNRN	Certified Neuroscience Registered Nurse
CNS	Clinical Nurse Specialist
CNSN	Certified Nutrition Support Nurse
COCN	Certified Ostomy Care Nurse
COHN	Certified Occupational Health Nurse
COHN-S	Certified Occupational Health Nurse—Specialty
CORLN	Certified Otorhinolaryngology Nurse
CORN	Certified Operating Room Nurse
COTA	Certified Occupational Therapy Assistant
CPAN	Certified Post-Anesthesia Nurse
CPDN	Certified Peritoneal Dialysis Nurse
CPN	Certified Pediatric Nurse
CPNP	Certified Pediatric Nurse Practitioner
CPON	Certified Pediatric Oncology Nurse
CPSN	Certified Plastic Surgical Nurse
CRNA	Certified Registered Nurse Anesthetist
CRNFA	Certified Registered Nurse, First Assistant
CRNH	Certified Registered Hospice Nurse

CRNI	Certified Registered Nurse Infusion
CRNO	Certified Registered Nurse, Ophthalmology
CRRN	Certified Rehabilitation Registered Nurse
CRTT	Certified Respiratory Therapy Technician
CSN	Certified School Nurse
CST	Certified Surgical Technologist
CURN	Certified Urology Registered Nurse
CWCN	Certified Wound Care Nurse
DC	Doctor of Chiropractic
DCh	Doctor of Surgery
DDS	Doctor of Dental Surgery
DM	Doctor of Medicine
DMD	Doctor of Dental Medicine
DME	Doctor of Medical Education
DMSc	Doctor of Medical Science
DMV	Doctor of Veterinary Medicine
DN	Doctor of Nursing
DNE	Doctor of Nursing Education
DNS	Doctor of Nursing Science
DNSc	Doctor of Nursing Science
DO	Doctor of Osteopathy
DP	Doctor of Pharmacy
DPH	Doctor of Public Health
DPhil	Doctor of Philosophy
DPHN	Doctor of Public Health Nursing
DPM	Doctor of Podiatric Medicine
DrPH	Doctor of Public Health
DS	Doctor of Science
DSc	Doctor of Science
DSW	Doctor of Social Work
DVM	Doctor of Veterinary Medicine
DVMS	Doctor of Veterinary Medicine and Surgery
EdD	Doctor of Education
EMT-B	Emergency Medical Technician—Basic
EMT-D	Emergency Medical Technician—Defibrillation
EMT-I	Emergency Medical Technician—Intermediate
EMT-P	Emergency Medical Technician—Paramedic
FAAAI	Fellow of the American Academy of Allergy and Immunology
FAAFP	Fellow of the American Academy of Family Physicians
FAAN	Fellow of the American Academy of Neurology
FAAN	Fellow of the American Academy of Nursing
FAAO	Fellow of the American Academy of Ophthalmology
FAAO	Fellow of the American Academy of Osteopathy
FAAOS	Fellow of the American Academy of Orthopedic Surgeons
FAAP	Fellow of the American Academy of Pediatrics
FACC	Fellow of the American College of Cardiology
FACCP	Fellow of the American College of Chest Physicians
FACD	Fellow of the American College of Dentists
FACE	Fellow of the American College of Endocrinology
FACEP	Fellow of the American College of Emergency Physicians
FACOG	Fellow of the American College of Obstetrics and Gynecology
FACP	Fellow of the American College of Physicians
FACS	Fellow of the American College of Surgeons
FACSM	Fellow of the American College of Sports Medicine
FAOTA	Fellow of the American Occupational Therapy Association
FAPHA	Fellow of the American Public Health Association
FCCM	Fellow of Critical Care Medicine
FCPS	Fellow of the College of Physicians and Surgeons
FFA	Fellow of the Faculty of Anaesthetists
FFARCS	Fellow of the Faculty of Anaesthetists of the Royal College of Surgeons
FICC	Fellow of the International College of Chiropractors
FNAAOM	Fellow of the National Academy of Acupuncture and Oriental Medicine
FNP	Family Nurse Practitioner
FP	Family Practitioner
FRCGP	Fellow of the Royal College of General Practitioners
FRCOG	Fellow of the Royal College of Obstetricians and Gynaecologists
FRCP	Fellow of the Royal College of Physicians
FRCPC	Fellow of the Royal College of Physicians of Canada
FRCR	Fellow of the Royal College of Radiologists
FRCS	Fellow of the Royal College of Surgeons
FRCSC	Fellow of the Royal College of Surgeons of Canada
FRCVS	Fellow of the Royal College of Veterinary Surgeons
FRS	Fellow of the Royal Society
GNP	Gerontological Nurse Practitioner
GPN	General Pediatric Nurse
HT	Histologic Technician/ Histologic Technologist
LAC	Licensed Acupuncturist
LAT	Licensed Athletic Trainer

LATC	Licensed Athletic Trainer, Certified
LNC	Legal Nurse Consultant
LPN	Licensed Practical Nurse
LRCP	Licentiate of the Royal College of Physicians
LRCS	Licentiate of the Royal College of Surgeons
LVN	Licensed Visiting Nurse; Licensed Vocational Nurse
MA	Master of Arts
MB	Bachelor of Medicine
MBBS	Bachelor of Medicine; Bachelor of Surgery
MC	Master of Surgery
MCh	Master of Surgery
MD	Doctor of Medicine
ME	Medical Examiner
MEd	Master of Education
MPH	Master of Public Health
MPharm	Master in Pharmacy
MRCP	Member of the Royal College of Physicians
MRCS	Member of the Royal College of Surgeons
MRL	Medical Records Librarian
MS	Master of Science; Master of Surgery
MSc	Master of Surgery
MSN	Master of Science in Nursing
MSurg	Master of Surgery
MSW	Master of Social Work
MT	Medical Technologist
MTA	Medical Technologist Assistant
MT-(ASCP)	Medical Technologist (American Society of Clinical Pathologists)
MV	*Medicas Veterinarius,* Latin for veterinary physician
ND	Doctor of Naturopathy
NMT	Nurse Massage Therapist; Nursing Massage Therapist
NP	Nurse Practitioner
NREMT-P	Nationally Registered Paramedic
OCN	Oncology Certified Nurse
OD	Doctor of Optometry
ONC	Orthopedic Nurse Certified
OT	Occupational Therapist
OTA	Occupational Therapist Assistant
OTC	Orthopedic Technician, Certified
OT-C	Occupational Therapist (Canada)
OTL	Occupational Therapist, Licensed
OTR	Registered Occupational Therapist
OTR/L	Licensed Occupational Therapist
PA	Physician Assistant
PA-C	Physician's Assistant Certified
PD	Doctor of Pharmacy
PharmD	Doctor of Pharmacy
PharmG	Graduate in Pharmacy
PhD	Doctor of Philosophy
PNP	Pediatric Nurse Practitioner
PT	Physical Therapist
PTA	Physical Therapist Assistant
RD	Registered Dietitian
RDA	Registered Dental Assistant
RDCS	Registered Diagnostic Cardiac Sonographer
RDH	Registered Dental Hygienist
RDMS	Registered Diagnostic Medical Sonographer
REEGT	Radiologic Electro-encephalography Technologist
REPT	Registered Evoked Potentials Technologist
RMA	Registered Medical Assistant
RN	Registered Nurse
RNA	Registered Nurse Anesthetist
RNC	Registered Nurse Certified (OB/GYN and Neonatal)
RPh	Registered Pharmacist
RPT	Registered Physical Therapist
RRA	Registered Record Administrator
RRT	Registered Respiratory Therapist
RT	Radiologic Technologist
RT(BD)	Radiologic Technologist Bone Densitometry
RT(CI)	Radiologic Technologist (Cardiac Interventional Therapy)
RT(CT)	Radiologic Technologist (Computed Tomography)
RT(CV)	Radiologic Technologist (Cadiovascular-Interventional Technology)
RT(M)	Radiologic Technologist (Mammography)
RT (MR)	Radiologic Technologist (Magnetic Resonance Imaging)
RT(N)	Nuclear Medicine Technologist
RT(R)	Registered Technologist, Radiographer
RTR	Registered Recreational Therapist
RT(S)	Registered Technologist (Sonography)
RT(T)	Radiation Therapy Technologist
RT(VI)	Radiologic Technologist (Vascular Interventional Therapy)
RVT	Registered Vascular Technologist
ScD	Doctor of Science
SCT	Specialist in Cytotechnology
SM	Master of Surgery
ST	Surgical Technician
VMD	Veterinary Medical Doctor

APPENDIX 11
Standard Precautions

Appendix 11–1 Recommendations for Isolation Precautions

RATIONALE

Standard precautions combine the major features of Universal Precautions and Body Substance Isolation and are based upon the principle that all blood, body fluids, secretions (except sweat), non-intact skin, and mucous membranes may contain transmissible infectious agents. Standard precautions include a group of infection-prevention practices that apply to all patients, regardless of suspected or confirmed infectious status, in any setting in which health care is delivered. These include hand hygiene; use of gloves, gown, mask, eye protection or face shield, depending on the anticipated exposure; and safe injection practices. Equipment in the patient environment that is likely to have been contaminated with infectious body fluids must also be handled in a manner designed to prevent transmission of infectious agents (e.g., reusable equipment must be properly cleaned and disinfected or sterilized before being used on another patient).

RECOMMENDATIONS

Health care professionals should assume that every person is potentially infected or colonized with an organism that can be transmitted in the health care setting and should apply infection control practices during the delivery of health care. These practices include hand hygiene, respiratory hygiene/cough etiquette, and safe injection practices. Details of these are found on the CDC website as below.

SOURCE: CDC Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings 2007. Retrieved May 31, 2008 from http://www.cdc.gov/ncidod/dhqp/gl_isolation_standard.html.

Appendix 11–2 Revision to OSHA's Bloodborne Pathogens Standard

Technical Background and Summary

Background

The Occupational Safety and Health Administration (OSHA) published the Occupational Exposure to Bloodborne Pathogens standard in 1991 because of a significant health risk associated with exposure to viruses and other microorganisms that cause bloodborne diseases. Of primary concern are the human immunodeficiency virus (HIV) and the hepatitis B and hepatitis C viruses.

The standard sets forth requirements for employers with workers exposed to blood or other potentially infectious materials. In order to reduce or eliminate the hazards of occupational exposure, an employer must implement an exposure control plan for the worksite with details on employee protection measures. The plan must also describe how an employer will use a combination of engineering and work practice controls, ensure the use of personal protective clothing and equipment, and provide training, medical surveillance, hepatitis B vaccinations, and signs and labels, among other provisions. Engineering controls are the primary means of eliminating or minimizing employee exposure and include the use of safer medical devices, such as needleless devices, shielded needle devices, and plastic capillary tubes.

Nearly 10 years have passed since the bloodborne pathogens standard was published. Since then, many different medical devices have been developed to reduce the risk of needlesticks and other sharps injuries. These devices replace sharps with non-needle devices or incorporate safety features designed to reduce injury. Despite these advances in technology, needlesticks and other sharps injuries continue to be of concern due to the high frequency of their occurrence and the severity of the health effects.

The Centers for Disease Control and Prevention estimate that health care workers sustain nearly 600,000 percutaneous injuries annually involving contaminated sharps. In response to both the continued concern over such exposures and the technological developments which can increase employee protection, Congress passed the Needlestick Safety and Prevention Act directing OSHA to revise the bloodborne pathogens standard

to establish in greater detail requirements that employers identify and make use of effective and safer medical devices. That revision was published on Jan. 18, 2001 and became effective on April 18, 2001.

Summary

The revision to OSHA's bloodborne pathogens standard added new requirements for employers, including additions to the exposure control plan and keeping a sharps injury log. It does not impose new requirements for employers to protect workers from sharps injuries; the original standard already required employers to adopt engineering and work practice controls that would eliminate or minimize employee exposure from hazards associated with bloodborne pathogens.

The revision does, however, specify in greater detail the engineering controls, such as safer medical devices, which must be used to reduce or eliminate worker exposure.

Exposure Control Plan

The revision includes new requirements regarding the employer's Exposure Control Plan, including an annual review and update to reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens. The employer must:

- take into account innovations in medical procedure and technological developments that reduce the risk of exposure (e.g., newly available medical devices designed to reduce needlesticks); and
- document consideration and use of appropriate, commercially available, and effective safer devices (e.g., describe the devices identified as candidates for use, the method(s) used to evaluate those devices, and justification for the eventual selection).

No one medical device is considered appropriate or effective for all circumstances. Employers must select devices that, based on reasonable judgment:

- will not jeopardize patient or employee safety or be medically inadvisable; and
- will make an exposure incident involving a contaminated sharp less likely to occur.

Employee Input

Employers must solicit input from nonmanagerial employees responsible for direct patient care regarding the identification, evaluation, and selection of effective engineering controls, including safer medical devices. Employees selected should represent the range of exposure situations encountered in the workplace, such as those in geriatric, pediatric, or nuclear medicine and others involved in direct care of patients.

OSHA will check for compliance with this provision during inspections by questioning a representative number of employees to determine if and how their input was requested.

Documentation of Employee Input

Employers are required to document, in the Exposure Control Plan, how they received input from employees. This obligation can be met by:

- Listing the employees involved and describing the process by which input was requested; or
- Presenting other documentation, including references to the minutes of meetings, copies of documents used to request employee participation, or records of responses received from employees.

Recordkeeping

Employers who have employees who are occupationally exposed to blood or other potentially infectious materials, and who are required to maintain a log of occupational injuries and illnesses under existing recordkeeping rules, must also maintain a sharps injury log. That log will be maintained in a manner that protects the privacy of employees. At a minimum, the log will contain the following:

- the type and brand of device involved in the incident;
- location of the incident (e.g., department or work area); and
- description of the incident.

The sharps injury log may include additional information as long as an employee's privacy is protected. The format of the log can be determined by the employer.

Modification of Definitions

The revision to the bloodborne pathogens standard includes modification of definitions relating to engineering controls. Two terms have been added to the standard, while the description of an existing term has been amended.

Engineering Controls

Engineering controls include all control measures that isolate or remove a hazard from the workplace, such as sharps disposal containers and self-sheathing needles. The original bloodborne pathogens standard was not specific regarding the applicability of various engineering controls (other than the above examples) in the health care setting. The revision now specifies that "safer medical devices, such as sharps with engineered sharps injury protections and needleless systems" constitute an effective engineering control, and must be used where feasible.

Sharps with Engineered Sharps Injury Protections

This is a new term which includes non-needle sharps or needle devices containing built-in safety features that are used for collecting fluids or administering medications or other fluids or other procedures involving the risk of sharps injury. This description covers a broad array of devices, including:

- syringes with a sliding sheath that shields the attached needle after use;
- needles that retract into a syringe after use;
- shielded or retracting catheters; and
- intravenous medication (IV) delivery systems that use a catheter port with a needle housed in a protective covering.

Needleless Systems

This is a new term defined as devices which provide an alternative to needles for various procedures to reduce the risk of injury involving contaminated sharps. Examples include:

- IV medication systems which administer medication or fluids through a catheter port using non-needle connections; and
- jet injection systems which deliver liquid medication beneath the skin or through a muscle.

SOURCE: Adapted from http://www.osha.gov/needlesticks/needlefact.html.

APPENDIX 12
General Patient Care Concerns

Standard precautions Standard precautions are used whenever blood and body fluids may be encountered and when patient hygiene is provided.

Confidentiality Information about the patient, including details of his/her illness and treatments are shared only with those parties specifically designated by the patient.

Communication with patients, families and other supportive persons The patient and his/her significant others are encouraged to express their concerns; questions they have are answered honestly or referred to the appropriate member of the health team for answers; support, comfort and encouragement are offered to assist the patient and family to cope with the stresses of illness and therapy.

Empathy The patient's emotional status is assessed regularly. Emotional and psychological support for the patient and significant others is offered on an ongoing basis, with referral for specialized therapy if needed.

Monitoring Vital signs, fluid and electrolyte balance (including all fluid intake, urine and all other fluid output), weight, ventilation, cardiovascular, gastrointestinal (including food intake, bowel sounds, and bowel activity), neuromuscular, neurological, and pain status are monitored. Changes in status are recorded and reported.

Rest and activity Environmental stimuli (especially noise and light) are minimized to assist the patient to rest, and relaxation and verbalization of concerns are encouraged. The patient is assisted to turn and reposition in good body alignment while in bed, and is aided to sit in a chair and to ambulate using prescribed assistive devices at prescribed frequencies and lengths of time. Hygienic care is encouraged and provided for patients unable to care for themselves.

Preparation for diagnostic tests and treatments The patient is prepared for diagnostic testing by explaining all procedures and sensations that are expected to occur, including their duration and intensity, as well as common side effects. The patient is advised to report any sensations outside the norm for the particular test and anything that concerns him/her. (See individual tests and treatments for specific information.)

Medication administration All prescribed medications are reviewed with the patient (and a family member as necessary), including prescribed dosage and dosing schedules, desired actions, potential for drug interactions, and common adverse and allergic reactions. This review may involve collaboration and clarification from other health care professionals, including nurse specialists, pharmacists, and the medication prescriber.

Pain management Pain status re location, quality, severity, and duration is monitored frequently, prescribed analgesics are administered and the patient assessed for effectiveness (in both situations using a #1-10 severity scale). Noninvasive pain relief strategies such as application of ice or heat, relaxation techniques, imagery, repositioning, massage, or music therapy may be effective adjuncts for individual conditions/patients.

Postoperative concerns The surgical site is assessed and cared for based on the agency's or specific surgeon's protocol for the particular surgical procedure. Surgical drains and associated hardware also require assessment, management, and recordkeeping. The patient is monitored for nausea and vomiting, fluid balance, and body temperature.

Patient education The education of patients (and their significant others as necessary) emphasizes self-care procedures, signs and symptoms to report immediately to the primary caregiver, activities and restrictions, nutrition, and the potential emotional impact of illness, treatment, and recovery. Effective coping strategies related to the patient's condition are explained. Desired outcomes include an understanding of and compliance with the prescribed treatment regimen.

Support groups The patient and family are encouraged to talk with others in similar circumstances, e.g., by contacting and enrolling in available and appropriate support groups and services.

Referrals Referrals for rehabilitative services or home health care specific to the particular illness problem may be prescribed or may be needed to help the chronically ill patient manage activities of daily living. Hospice referrals may be initiated for end of life care.

APPENDIX 13

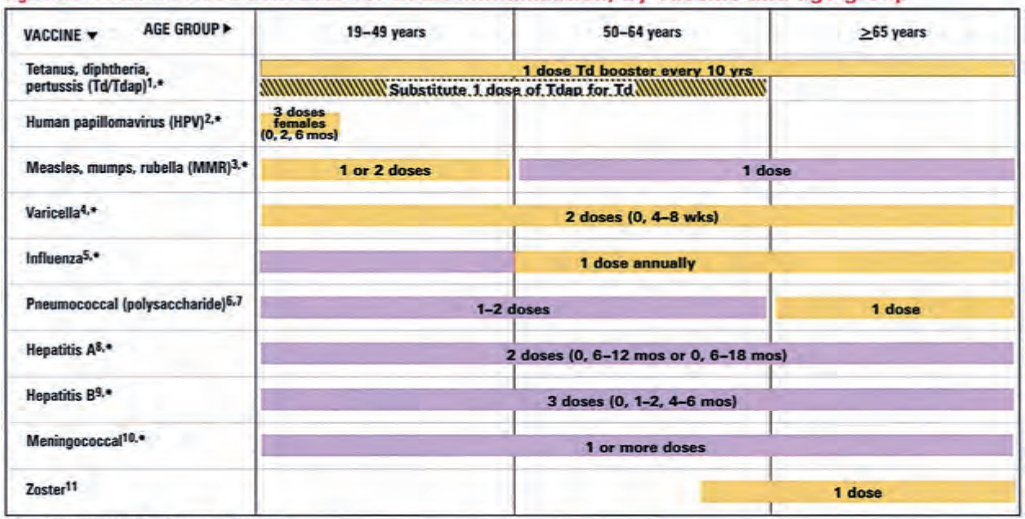
Recommended Immunization Schedules

Recommended Adult Immunization Schedule

UNITED STATES · OCTOBER 2007–SEPTEMBER 2008

Note: These recommendations must be read with the footnotes that follow.

Figure 1. Recommended schedule for adult immunization, by vaccine and age group



*Covered by the Vaccine Injury Compensation Program.

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of prior infection)

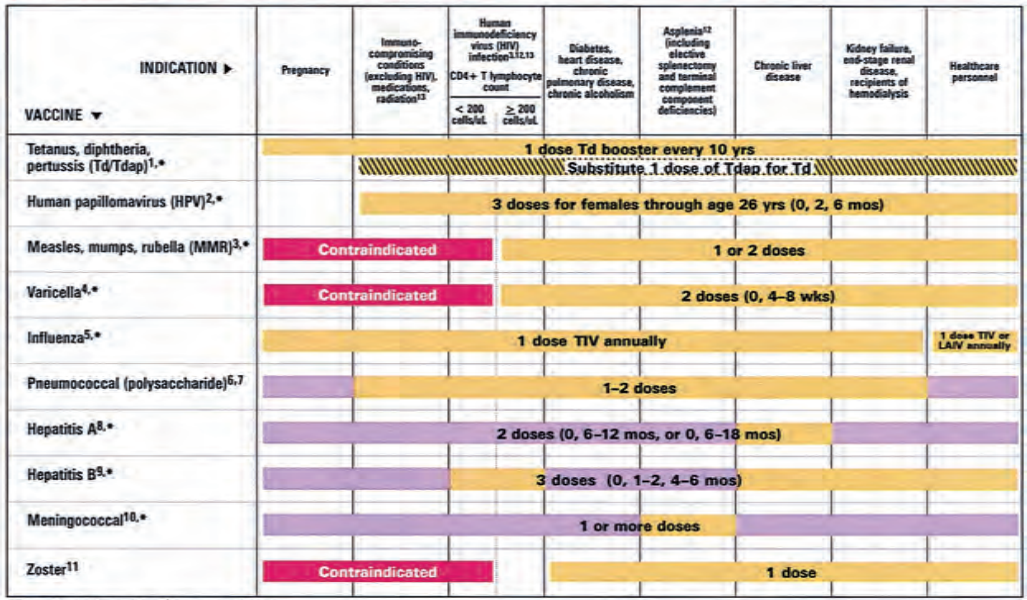
Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 24 hours a day, 7 days a week.

Figure 2. Vaccines that may be indicated for adults based on medical and other conditions



*Covered by the Vaccine Injury Compensation Program.

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of prior infection)

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines are commonly indicated for adults ages 19 years and older, as of October 1, 2007. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/pubs/acip-list.htm).

CS112736

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Obstetricians and Gynecologists (ACOG), and the American College of Physicians (ACP).

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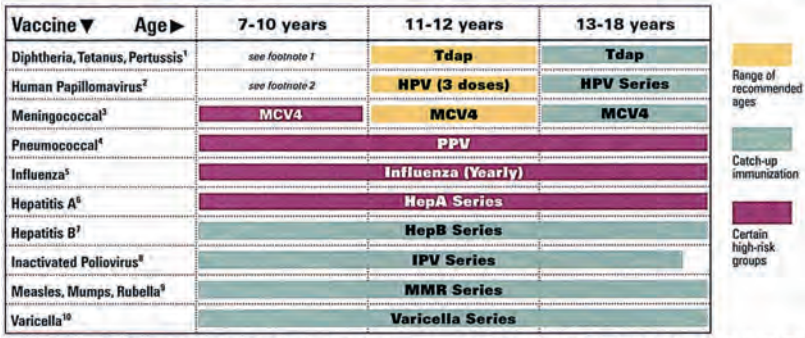
CDC

Recommended Immunization Schedule for Persons Aged 7–18 Years—UNITED STATES • 2008

For those who fall behind or start late, see the green bars and the catch-up schedule



This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2007, for children aged 7–18 years. Additional information is available at www.cdc.gov/vaccines/recs/schedules. Any dose not administered at the recommended age should be administered at any subsequent visit, when indicated and feasible. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and other components of the vaccine are not contraindicated and if approved by the Food and Drug Administration for that dose of the series. **Providers should consult the respective Advisory Committee on Immunization Practices statement for detailed recommendations, including for high risk conditions:** http://www.cdc.gov/vaccines/pubs/ACIP-list.htm. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete VAERS form is available at www.vaers.hhs.gov or by telephone, 800-822-7967.

1. Tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap). *(Minimum age: 10 years for BOOSTRIX® and 11 years for ADACEL™)*
- Administer at age 11–12 years for those who have completed the recommended childhood DTP/DTaP vaccination series and have not received a tetanus and diphtheria toxoids (Td) booster dose.
- 13–18 year olds who missed the 11–12 year Tdap or received Td only, are encouraged to receive one dose of Tdap 5 years after the last Td/DTaP dose.

2. Human papillomavirus vaccine (HPV). *(Minimum age: 9 years)*
- Administer the first dose of the HPV vaccine series to females at age 11–12 years.
- Administer the second dose 2 months after the first dose and the third dose 6 months after the first dose.
- Administer the HPV vaccine series to females at age 13–18 years if not previously vaccinated.

3. Meningococcal vaccine.
- Administer MCV4 at age 11–12 years and at age 13–18 years if not previously vaccinated. MPSV4 is an acceptable alternative.
- Administer MCV4 to previously unvaccinated college freshmen living in dormitories.
- MCV4 is recommended for children aged 2-10 years with terminal complement deficiencies or anatomic or functional asplenia and certain other high-risk groups.
- Persons who received MPSV4 3 or more years prior and remain at increased risk for meningococcal disease should be vaccinated with MCV4.

4. Pneumococcal polysaccharide vaccine (PPV).
- Administer PPV to certain high-risk groups.

5. Influenza vaccine.
- Administer annually to all close contacts of children aged 0–59 months.
- Administer annually to persons with certain risk factors, health-care workers, and other persons (including household members) in close contact with persons in groups at higher risk.
- Administer 2 doses (separated by 4 weeks or longer) to children younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time last season, but only received one dose.
- For healthy nonpregnant persons (those who do not have underlying medical conditions that predispose them to influenza complications) ages 2–49 years, either LAIV or TIV may be used.

6. Hepatitis A vaccine (HepA).
- The 2 doses in the series should be administered at least 6 months apart.
- HepA is recommended for certain other groups of children, including in areas where vaccination programs target older children.

7. Hepatitis B vaccine (HepB).
- Administer the 3-dose series to those who were not previously vaccinated.
- A 2-dose series of Recombivax HB® is licensed for children aged 11–15 years.

8. Inactivated poliovirus vaccine (IPV).
- For children who received an all-IPV or all-oral poliovirus (OPV) series, a fourth dose is not necessary if the third dose was administered at age 4 years or older.
- If both OPV and IPV were administered as part of a series, a total of 4 doses should be administered, regardless of the child's current age.

9. Measles, mumps, and rubella vaccine (MMR).
- If not previously vaccinated, administer 2 doses of MMR during any visit, with 4 or more weeks between the doses.

10. Varicella vaccine.
- Administer 2 doses of varicella vaccine to persons younger than 13 years of age at least 3 months apart. Do not repeat the second dose, if administered 28 or more days following the first dose.
- Administer 2 doses of varicella vaccine to persons aged 13 years or older at least 4 weeks apart.

The Recommended Immunization Schedules for Persons Aged 0–18 Years are approved by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/recs/acip), the American Academy of Pediatrics (http://www.aap.org), and the American Academy of Family Physicians (http://www.aafp.org).

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Recommended Immunization Schedule for Persons Aged 0–6 Years—UNITED STATES • 2008

For those who fall behind or start late, see the catch-up schedule

Vaccine ▼ Age ▶	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years
Hepatitis B[1]	HepB	HepB		*see footnote 1*	HepB						
Rotavirus[2]			Rota	Rota	Rota						
Diphtheria, Tetanus, Pertussis[3]			DTaP	DTaP	DTaP	*see footnote 3*	DTaP				DTaP
Haemophilus influenzae type b[4]			Hib	Hib	*Hib*[4]	Hib					
Pneumococcal[5]			PCV	PCV	PCV	PCV				PPV	
Inactivated Poliovirus			IPV	IPV	IPV						IPV
Influenza[6]					Influenza (Yearly)						
Measles, Mumps, Rubella[7]						MMR					MMR
Varicella[8]						Varicella					Varicella
Hepatitis A[9]						HepA (2 doses)				HepA Series	
Meningococcal[10]										MCV4	

Range of recommended ages

Certain high-risk groups

This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2007, for children aged 0 through 6 years. Additional information is available at **www.cdc.gov/vaccines/recs/schedules**. Any dose not administered at the recommended age should be administered at any subsequent visit, when indicated and feasible. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and other components of the vaccine are not contraindicated and if approved by the Food and Drug Administration for that dose of the series. Providers should consult the respective Advisory Committee on Immunization Practices statement for detailed recommendations, including for **high-risk conditions: http://www.cdc.gov/vaccines/pubs/ACIP-list.htm**. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form is available at **www.vaers.hhs.gov** or by telephone, **800-822-7967**.

1. Hepatitis B vaccine (HepB). *(Minimum age: birth)*

At birth:

- Administer monovalent HepB to all newborns prior to hospital discharge.
- If mother is hepatitis surface antigen (HBsAg)-positive, administer HepB and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth.
- If mother's HBsAg status is unknown, administer HepB within 12 hours of birth. Determine the HBsAg status as soon as possible and if HBsAg-positive, administer HBIG (no later than age 1 week).
- If mother is HBsAg-negative, the birth dose can be delayed, **in rare cases**, with a provider's order and a **copy of the mother's** negative HBsAg laboratory report in the infant's medical record.

After the birth dose:

- The HepB series should be completed with either monovalent HepB or a combination vaccine containing HepB. The second dose should be administered at age 1–2 months. The final dose should be administered no earlier than age 24 weeks. Infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg after completion of at least 3 doses of a licensed HepB series, at age 9–18 months (generally at the next well-child visit).

4-month dose:

- It is permissible to administer 4 doses of HepB when combination vaccines are administered after the birth dose. If monovalent HepB is used for doses after the birth dose, a dose at age 4 months is not needed.

2. Rotavirus vaccine (Rota). *(Minimum age: 6 weeks)*

- Administer the first dose at age 6–12 weeks.
- Do not start the series later than age 12 weeks.
- Administer the final dose in the series by age 32 weeks. Do not administer any dose later than age 32 weeks.
- Data on safety and efficacy outside of these age ranges are insufficient.

3. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP). *(Minimum age: 6 weeks)*

- The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose.
- Administer the final dose in the series at age 4–6 years.

4. *Haemophilus influenzae* type b conjugate vaccine (Hib). *(Minimum age: 6 weeks)*

- If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required.
- TriHIBit® (DTaP/Hib) combination products should not be used for primary immunization but can be used as boosters following any Hib vaccine in children age 12 months or older.

5. Pneumococcal vaccine. *(Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPV])*

- At ages 24–59 months administer one dose of PCV to incompletely vaccinated healthy children and two doses of PCV at least 8 weeks apart to incompletely vaccinated children with underlying medical conditions.

6. Influenza vaccine. *(Minimum age: 6 months for trivalent inactivated influenza vaccine [TIV]; 2 years for live, attenuated influenza vaccine [LAIV])*

- Administer annually to children aged 6-59 months and to close contacts of children aged 0- 59 months.
- Administer annually to children 5 years of age and older with certain risk factors, to other persons (including household members) in close contact with persons in groups at higher risk, and to any child whose parents request vaccination.
- For healthy persons (those who do not have underlying medical conditions that predispose them to influenza complications) ages 2-49 years, either LAIV or TIV may be used.
- Children receiving TIV should receive 0.25 mL if age 6-35 mos or 0.5 mL if age 3 years or older.
- Administer 2 doses (separated by 4 weeks or longer) to children younger than 9 years who are receiving influenza vaccine for the first time or who were vaccinated for the first time last season, but only received one dose.

7. Measles, mumps, and rubella vaccine (MMR). *(Minimum age: 12 months)*

- Administer the second dose of MMR at age 4–6 years. MMR may be administered before age 4–6 years, provided more than 4 weeks have elapsed since the first dose and both doses are administered at age 12 months or older.

8. Varicella vaccine. *(Minimum age: 12 months)*

- Administer the second dose of varicella vaccine at age 4–6 years. Varicella vaccine may be administered before age 4–6 years, provided that 3 months or older have elapsed since the first dose and both doses are administered at age 12 months or older. If second dose was administered 28 days or more following the first dose, the second dose does not need to be repeated.

9. Hepatitis A vaccine (HepA). *(Minimum age: 12 months)*

- HepA is recommended for all children aged 1 yr (i.e., aged 12–23 months). The 2 doses in the series should be administered at least 6 months apart.
- Children not fully vaccinated by age 2 years can be vaccinated at subsequent visits.
- HepA is recommended for certain other groups of children, including in areas where vaccination programs target older children.

10. Meningococcal vaccine. *(Minimum age: 2 years for meningococcal conjugate vaccine [MCV4] and for meningococcal polysaccharide vaccine (MPSV4))*

- MCV4 is recommended for children aged 2–10 years with terminal complement deficiencies or anatomic or functional asplenia and certain other high-risk groups. Use of MPSV4 is also acceptable.
- For persons at high risk previously vaccinated with MPSV4, revaccination may be indicated.

The Recommended Immunization Schedules for Persons Aged 0–18 Years are approved by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/recs/acip), the American Academy of Pediatrics (http://www.aap.org), and the American Academy of Family Physicians (http://www.aafp.org).

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Nursing Appendix

Table of Contents

APPENDIX N1
Conceptual Models and Theories of Nursing

Jacqueline Fawcett, PhD, FAAN

Appendix N1–1 The Forerunners

FLORENCE NIGHTINGALE'S NOTES ON NURSING

Overview

Nightingale maintained that *every* woman is a nurse because every woman, at one time or another in her life, has charge of the personal health of someone. Nightingale equated knowledge of nursing with knowledge of sanitation. The focus of nursing knowledge was how to keep the body free from disease or in such a condition that it could recover from disease. According to Nightingale, nursing ought to signify the proper use of fresh air, light, warmth, cleanliness, quiet, and the proper selection and administration of diet—all at the least expense of vital power to the patient. That is, she maintained that the purpose of nursing was to put patients in the best condition for nature to act upon them.

Implications for Nursing Practice

Nursing practice encompasses care of both well and sick people. Nursing actions focus on both patients and their environments. Thirteen "hints" provided the boundaries of nursing practice:

1. **Ventilation and warming**—the nurse must be concerned first with keeping the air that patients breathe as pure as the external air, without chilling them.
2. **Health of houses**—attention to pure air, pure water, efficient drainage, cleanliness, and light will secure the health of houses.
3. **Petty management**—all the results of good nursing may be negated by one defect: not knowing how to manage what you do when you are there and what shall be done when you are not there.
4. **Noise**—unnecessary noise, or noise that creates an expectation in the mind, is that which hurts patients. Anything that wakes patients suddenly out of their sleep will invariably put them into a state of greater excitement and do them more serious and lasting mischief than any continuous noise, however loud.
5. **Variety**—the nerves of the sick suffer from seeing the same walls, the same ceiling, the same surroundings during a long confinement to one or two rooms. The majority of cheerful cases are to be found among those patients who are not confined to one room, whatever their suffering, and the majority of depressed cases will be seen among those subjected to a long monotony of objects about them.
6. **Taking food**—the nurse should be conscious of patients' diets and remember how much food each patient has had and ought to have each day.
7. **What food?**—to watch for the opinions the patient's stomach gives, rather than to read "analyses of foods," is the business of all those who have to decide what the patient should eat.
8. **Bed and bedding**—the patient should have a clean bed every 12 hours. The bed should be narrow, so that the patient does not feel "out of humanity's reach." The bed should not be so high that the patient cannot easily get in and out of it. The bed should be in the lightest spot in the room, preferably near a window. Pillows should be used to support the back below the breathing apparatus, to allow shoulders room to fall back, and to support the head without throwing it forward.
9. **Light**—with the sick, second only to their need of fresh air is their need of light. Light, especially direct sunlight, has a purifying effect upon the air of a room.
10. **Cleanliness of rooms and walls**—the greater part of nursing consists in preserving cleanliness. The inside air can be kept clean only by excessive care to rid rooms and their furnishings of the organic matter and dust with which they become saturated. Without cleanliness, you cannot have all the effects of ventilation; without ventilation, you can have no thorough cleanliness.
11. **Personal cleanliness**—nurses should always remember that if they allow patients to remain unwashed or to remain in clothing saturated with perspiration or other excretion, they are interfering injuriously with the natural processes of health just as much as if they were to give their patients a dose of slow poison.

12. **Chattering hopes and advices**—there is scarcely a greater worry which invalids have to endure than the incurable hopes of their friends. All friends, visitors, and attendants of the sick should avoid the practice of attempting to cheer the sick by making light of their danger and by exaggerating their probabilities of recovery.
13. **Observation of the sick**—the most important practical lesson nurses can learn is what to observe, how to observe, which symptoms indicate improvement, which indicate the reverse, which are important, which are not, and which are the evidence of neglect and what kind of neglect.

Implications for Nursing Education

Nightingale's primary contribution to nursing education was her belief that nursing schools should be administratively and economically independent from hospitals, even though the training could take place in the hospital. The purpose of nursing education was to teach the theoretical and practical knowledge underlying physician's orders. Knowledge of the 13 "hints" for nursing practice was considered an essential part of the training of every nurse.

Reference

Nightingale, F. (1859). *Notes on nursing: What it is, and what it is not.* London: Harrison and Sons. [Commemorative edition printed by J. B. Lippincott Company, Philadelphia, 1992]

VIRGINIA HENDERSON'S DEFINITION OF NURSING

Overview

The unique function of the nurse is to help individuals, sick or well, to perform those activities contributing to health or its recovery (or to peaceful death) that they would perform unaided if they had the necessary strength, will, or knowledge, and to do this in such a way as to help them gain independence as soon as possible.

Implications for Nursing Practice

The practice of nursing requires nurses to know and understand patients by putting themselves in the place of the patients. Nurses should not take at face value everything that patients say, but rather should interact with patients to ascertain their true feelings. *Basic nursing care* involves helping the patient perform the following activities unaided:

1. Breathe normally.
2. Eat and drink adequately.
3. Eliminate body wastes.
4. Move and maintain desirable postures.
5. Sleep and rest.
6. Select suitable clothes and dress and undress.
7. Maintain body temperature within normal range by adjusting clothing and modifying the environment.
8. Keep the body clean and well groomed and protect the integument.
9. Avoid dangers in the environment and avoid injuring others.
10. Communicate with others in expressing emotions, needs, fears, or opinions.
11. Worship according to one's faith.
12. Work in such a way that there is a sense of accomplishment.
13. Play or participate in various forms of recreation.
14. Learn, discover, or satisfy the curiosity that leads to normal development and health and use the available health facilities.

Implications for Nursing Education

Henderson's definition of nursing identifies an area of health and human welfare in which the nurse is an expert and independent practitioner. This kind of nursing requires a liberal education within a college or university, with grounding in the physical, biological, and social sciences and ability to use analytic processes. The professional aspects of the curriculum should focus on the nurse's major function of supplementing patients when they need strength, will, or knowledge in performing daily activities or in carrying out prescribed therapy, with emphasis on the individualization of patient care.

Reference

Henderson, V. (1966). *The nature of nursing. A definition and its implications for practice, research, and education.* New York: Macmillan.

Appendix N1–2 Conceptual Models

A conceptual model is defined as a set of relatively abstract and general concepts that address the phenomena of central interest to a discipline, the propositions that broadly describe those concepts, and the propositions that state relatively abstract and general relations between two or more of the concepts. Conceptual models of nursing, which also are referred to as conceptual frameworks, conceptual systems, and paradigms, provide distinctive frames of reference for thinking about human beings, their environments, their health, and nursing.

DOROTHY JOHNSON'S BEHAVIORAL SYSTEM MODEL

Overview

Focus is on the person as a behavioral system, made up of all the patterned, repetitive, and purposeful ways of behavior that characterize life. Seven subsystems carry out specialized tasks or functions needed to maintain the integrity of the whole behavioral system and to manage its relationship to the environment:

1. **Attachment or affiliative**—function is the security needed for survival as well as social inclusion, intimacy, and formation and maintenance of social bonds.
2. **Dependency**—function is the succoring behavior that calls for a response of nurturance as well as approval, attention or recognition, and physical assistance.
3. **Ingestive subsystem**—function is appetite satisfaction in terms of when, how, what, how much, and under what conditions the individual eats, all of which is governed by social and psychological considerations as well as biological requirements for food and fluids.
4. **Eliminative**—function is elimination in terms of when, how, and under what conditions the individual eliminates wastes.
5. **Sexual**—functions are procreation and gratification, with regard to behaviors dependent upon the individual's biological sex and gender role identity, including but not limited to courting and mating.
6. **Aggressive**—function is protection and preservation of self and society.
7. **Achievement**—function is mastery or control of some aspect of self or environment, with regard to intellectual, physical, creative, mechanical, social, and care-taking (of children, partner, home) skills.

The *structure* of each subsystem includes four elements:

1. **Drive or goal**—the motivation for behavior.
2. **Set**—the individual's predisposition to act in certain ways to fulfill the function of the subsystem.
3. **Choice**—the individual's total behavioral repertoire for fulfilling subsystem functions, which encompasses the scope of action alternatives from which the person can choose.
4. **Action**—the individual's actual behavior in a situation. Action is the only structural element that can be observed directly; all other elements must be inferred from the individual's actual behavior and from the consequences of that behavior.

Three *functional requirements* are needed by each subsystem to fulfill its functions:

1. **Protection** from noxious influences with which the system cannot cope.
2. **Nurturance** through the input of appropriate supplies from the environment.
3. **Stimulation** to enhance growth and prevent stagnation.

Implications for Nursing Practice

Nursing practice is directed toward restoration, maintenance, or attainment of behavioral system balance and dynamic stability at the highest possible level for the individual. Johnson's practice methodology, which is called the Nursing Diagnostic and Treatment Process, encompasses four steps:

1. **Determination of the existence of a problem** The nurse obtains past and present family and individual behavioral system histories by means of interviews, structured and unstructured observations, and objective methodologies. The nurse obtains data about the nature of behavioral system functioning in terms of the ef-

ficiency and effectiveness with which the client's goals are obtained. The nurse obtains data to determine the degree to which the behavior is purposeful, orderly, and predictable. The nurse interviews the client and family to determine the condition of the subsystem structural components and uses the obtained data to: make inferences about drive strength, direction, and value; make inferences about the solidity and specificity of the set; make inferences about the range of behavior patterns available to the client; make inferences about the usual behavior in a given situation. The nurse assesses and compares the client's behavior with the following indices for behavioral system balance and stability: the behavior is succeeding to achieve the consequences sought; effective motor, expressive, or social skills are evident; the behavior is purposeful; the behavior is orderly; the behavior is predictable; the amount of energy expended to achieve desired goals is acceptable; the behavior reflects appropriate choices; the client is sufficiently satisfied with the behavior; the nurse makes inferences about the organization, interaction, and integration of the subsystems.

2. **Diagnostic classification of problems** *Internal Subsystem Problems* are present when: functional requirements are not met; inconsistency or disharmony among the structural components of subsystems is evident; the behavior is inappropriate in the ambient culture. *Intersystem Problems* are present when: the entire behavioral system is dominated by one or two subsystems; a conflict exists between two or more subsystems.
3. **Management of nursing problems** The general goals of action are to: restore, maintain, or attain the client's behavioral system balance and stability; help the client to achieve a more optimum level of balance and functioning when this is possible and desired. The nurse determines what nursing is to accomplish on behalf of the behavioral system by determining who makes the judgment regarding the acceptable level of behavioral system balance and stability. The nurse identifies the value system of the nursing profession as well as his or her own explicit value system.

   The nurse negotiates with the client to select a type of treatment: The nurse temporarily *Imposes External Regulatory or Control Mechanisms* by: setting limits for behavior by either permissive or inhibitory means; inhibiting ineffective behavioral responses; assisting the client to acquire new responses; reinforcing appropriate behaviors. The nurse *Repairs Damaged Structural Components* in the desirable direction by: reducing drive strength by changing attitudes; redirecting goals by changing attitudes; altering set by instruction or counseling; adding choices by teaching new skills. The nurse *Fulfills Functional Requirements* of the subsystems by: protecting the client from overwhelming noxious influences; supplying adequate nurturance through an appropriate input of essential supplies; providing stimulation to enhance growth and to inhibit stagnation. The nurse negotiates the treatment modality with the client by: establishing a contract with the client; helping the client to understand the meaning of the nursing diagnosis and the proposed treatment. If the diagnosis and/or proposed treatment is rejected, the nurse continues to negotiate with the client until agreement is reached.
4. **Evaluation of behavioral system balance and stability** The nurse compares the client's behavior after treatment to indices of behavioral system balance and stability.

Implications for Nursing Education

Education for nursing practice requires a thorough grounding in the natural and social sciences, with emphasis on the genetic, neurological, and endocrine bases of behavior; psychological and social mechanisms for the regulation and control of behavior; social learning theories; and motivational structures and processes. The professional aspects of the curriculum focus on study of the behavioral system as a whole and as a composite of subsystems; pathophysiology; the clinical sciences of nursing and medicine; and the health care system.

References

Johnson, D. E. (1980). The behavioral system model for nursing. In J. P. Riehl & C. Roy, *Conceptual models for nursing practice* (2nd ed., pp. 207–216). New York: Appleton-Century-Crofts.

Johnson, D. E. (1990). The behavioral system model for nursing. In M. E. Parker (Ed.), *Nursing theories in practice* (pp. 23–32). New York: National League for Nursing.

Holaday, B. (2006). Dorothy Johnson's behavioral system model and its applications. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 79-93). Philadelphia: F.A. Davis.

IMOGENE KING'S CONCEPTUAL SYSTEM

Overview

Focus is on the continuing ability of individuals to meet their basic needs so that they may function in their socially defined roles, and on individuals' interactions within three open, dynamic, interacting systems.

1. **Personal systems** are individuals, who are regarded as rational, sentient, social beings. Concepts related to the personal system are:
   Perception— a process of organizing, interpreting, and transforming information from sense data and memory that gives meaning to one's experience, represents one's image of reality, and influences one's behavior.
   Self— a composite of thoughts and feelings that constitute a person's awareness of individual existence, of who and what he or she is.
   Growth and development— cellular, molecular, and behavioral changes in human beings that are a function of genetic endowment, meaningful and satisfying experiences, and an environment conducive to helping individuals move toward maturity.
   Body image—a person's perceptions of his or her body.
   Time—the duration between the occurrence of one event and the occurrence of another event.
   Space—the physical area called territory that exists in all directions.
   Learning—gaining knowledge.
2. **Interpersonal systems** are composed of two, three, or more individuals interacting in a given situation. The concepts associated with this system are:
   Interactions—the acts of two or more persons in mutual presence; a sequence of verbal and nonverbal behaviors that are goal directed.
   Communication—the vehicle by which human relations are developed and maintained; encompasses intrapersonal, interpersonal, verbal, and nonverbal communication.
   Transaction—a process of interaction in which human beings communicate with the environment to achieve goals that are valued; goal-directed human behaviors.
   Role—a set of behaviors expected of a person occupying a position in a social system.
   Stress—a dynamic state whereby a human being interacts with the environment to maintain balance for growth, development, and performance, involving an exchange of energy and information between the person and the environment for regulation and control of stressors.
   Coping—a way of dealing with stress.
3. **Social systems** are organized boundary systems of social roles, behaviors, and practices developed to maintain values and the mechanisms to regulate the practices and roles. The concepts related to social systems are:
   Organization—composed of human beings with prescribed roles and positions who use resources to accomplish personal and organizational goals.
   Authority—a transactional process characterized by active, reciprocal relations in which members' values, backgrounds, and perceptions play a role in defining, validating, and accepting the authority of individuals within an organization.
   Power—the process whereby one or more persons influence other persons in a situation.
   Status—the position of an individual in a group or a group in relation to other groups in an organization.
   Decision making—a dynamic and systematic process by which goal-directed choice of perceived alternatives is made and acted upon by individuals or groups to answer a question and attain a goal.
   Control—being in charge.

Implications for Nursing Practice

Nursing practice is directed toward helping individuals maintain their health so they can function in their roles. King's practice methodology, which is the essence of the Theory of Goal Attainment, is called the Interaction-Transaction Process.

1. **Assessment phase**
   Perception The nurse and the client meet in some nursing situation and perceive each other. Accuracy of perception will depend upon verifying the nurse's inferences with the client. The nurse can use the Goal-Oriented Nursing Record (GONR) throughout the assessment phase.
   Judgment The nurse and the client make mental judgments about the other.
   Action The nurse and the client take some mental action.

Reaction The nurse and the client mentally react to each one's perceptions of the other.

2. **Disturbance** is the *diagnosis phase* of the interaction-transaction process. The nurse and the client communicate and interact, and the nurse identifies the client's concerns, problems, and disturbances in health. The nurse conducts a nursing history to determine the client's activities of daily living, using the Criterion-Referenced Measure of Goal Attainment Tool (CRMGAT); roles; environmental stressors; perceptions; and values, learning needs, and goals. The nurse records the data from the nursing history on the GONR, the medical history and physical examination data, results of laboratory tests and x-ray examination, and information gathered from other health professionals and the client's family members on the GONR. The nurse also records diagnoses on the GONR.
3. **Planning phase**
   Mutual Goal Setting The nurse and the client interact purposefully to set mutually agreed on goals. The nurse interacts with family members if the client cannot verbally participate in goal setting. Mutual goal setting is based on the nurse's assessment of the client's concerns, problems, and disturbances in health; the nurse's and client's perceptions of the interference; and the nurse's sharing of information with the client and his or her family to help the client attain the goals identified. The nurse records the goals on the GONR.
   Exploration of Means to Achieve Goals The nurse and the client interact purposefully to explore the means to achieve the mutually set goals.
   Agreement on Means to Achieve Goals The nurse and the client interact purposefully to agree on the means to achieve the mutually set goals. The nurse records the nursing orders with regard to the means to achieve goals on the GONR.
4. **Transaction** is the *implementation phase* of the interaction-transaction process. Transaction refers to the valuational components of the interaction. The nurse and the client carry out the measures agreed upon to achieve the mutually set goals. The nurse can use the GONR flow sheet and progress notes to record the implementation of measures used to achieve goals.
5. **Attainment of goals** is the *evaluation phase* of the interaction-transaction process. The nurse and the client identify the outcome of the interaction-transaction process. The outcome is expressed in terms of the client's state of health, or ability to function in social roles. The nurse and the client make a decision with regard to whether the goal was attained and, if necessary, determine why the goal was not attained. The nurse can use the CRMGAT to record the outcome and the GONR to record the discharge summary.

Implications for Nursing Education

King's Conceptual System and the theory of goal attainment lead to a focus on the dynamic interaction of the nurse-client dyad. This focus, in turn, leads to emphasis on nursing student behavior as well as client behavior. The concepts related to the personal, interpersonal, and social systems serve as the theoretical content for nursing courses in associate degree, baccalaureate, and master's nursing programs. The theoretical knowledge is used by students in learning experiences involving concrete nursing situations.

References

King, I. M. (1981). *A theory for nursing. Systems, concepts, process.* New York: Wiley. [Reissued 1990. Albany, NY: Delmar.]

King, I. M. (1986). *Curriculum and instruction in nursing.* Norwalk, CT: Appleton-Century-Crofts.

King, I.M. (1992). King's theory of goal attainment. *Nursing Science Quarterly,* 5, 19–26.

King, I.M. (2006). Part One: Imogene M. King's theory of goal attainment. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 235-243). Philadelphia: F.A. Davis.

MYRA LEVINE'S CONSERVATION MODEL

Overview

Focus is on conservation of the person's wholeness. Adaptation is the process by which people maintain their wholeness or integrity as they respond to environmental challenges and become congruent with the environment. Sources of challenges are:

1. **Perceptual environment**—encompasses that part of the environment to which individuals respond with their sense organs.

2. **Operational environment**—includes those aspects of the environment that are not directly perceived, such as radiation, odorless and colorless pollutants, and microorganisms.
3. **Conceptual environment**—the environment of language, ideas, symbols, concepts, and invention.

Individuals respond to the environmental challenges by means of four integrated processes:

1. *Fight-or-flight mechanism*
2. *Inflammatory-immune* response
3. *Stress* response
4. *Perceptual awareness*—includes the basic orienting, haptic, auditory, visual, and taste-smell systems.

Implications for Nursing Practice

Nursing practice is directed toward promoting wholeness for all people, well or sick. Patients are partners or participants in nursing care and are temporarily dependent on the nurse. The nurse's goal is to end the dependence as quickly as possible. Levine's practice methodology is a nursing process directed toward conservation, which is defined as "keeping together," and consists of three steps:

1. **Trophicognosis**—formulation of a nursing care judgment arrived at by the scientific method. The nurse observes and collects data that will influence nursing practice rather than medical practice. The nurse uses appropriate assessment tools derived from the Conservation Model and data to establish an objective and scientific rationale for nursing practice. The nurse fully understands his or her role in medical and paramedical prescriptions and the basis for the prescribed medical regimen. The nurse consults with the physician to share information and clarify nursing decisions. The nurse understands the basis for the prescribed paramedical regimen and determines the nursing processes required by medical and paramedical treatment. The nurse assesses the patient's *Conservation of Energy* by determining his or her ability to perform necessary activities without producing excessive fatigue. The nurse assesses the patient's *Conservation of Structural Integrity* by determining his or her physical functioning. The nurse assesses the patient's *Conservation of Personal Integrity* by determining his or her moral and ethical values and life experiences. The nurse assesses the patient's *Conservation of Social Integrity* by taking the patient's family members, friends, and conceptual environment into account. The nurse understands the basis for implementation of the nursing care plan, including principles of nursing science, and how to adapt nursing techniques to the unique cluster of needs demonstrated in the individual patient. The nurse identifies the provocative facts within the data collected, that is, the data that provoke attention on the basis of knowledge of the situation. The provocative facts provide the basis for an hypothesis, or trophicognosis.
2. **Intervention/Action**—test of the hypothesis. The nurse implements the nursing care plan within the structure of administrative policy, availability of equipment, and established standards of nursing. The nurse accurately records and transmits evaluation of the patient's response to implementation of the nursing care plan and identifies the general type of nursing intervention required:
   - *Therapeutic*—when nursing intervention influences adaptation favorably or toward renewed social well-being.
   - *Supportive*—when nursing intervention cannot alter the course of the adaptation and can only maintain the status quo or fail to halt a downward course.

   Intervention is structured according to four conservation principles:
   - *Principle of conservation of energy*—balancing the patient's energy output and energy input to avoid excessive fatigue.
   - *Principle of conservation of structural integrity*—focusing attention on healing by maintaining or restoring the structure of the body through prevention of physical breakdown and promotion of healing.
   - *Principle of conservation of personal integrity*—maintaining or restoring the individual patient's sense of identity, self-worth, and acknowledgment of uniqueness.
   - *Principle of conservation of social integrity*—acknowledging patients as social beings and helping them to preserve their places in family, community, and society.
3. **Evaluation of Intervention/Action**—the nurse's evaluation of the effects of the intervention/action. The nurse evaluates the effects of intervention and revises the trophicognosis as necessary. An indicator of the success of nursing interventions is the patient's organismic response.

Implications for Nursing Education

Education focuses on understanding both the person and the environment, with emphasis placed on processes by which the person adapts to environmental challenges. Theoretical and clinical knowledge related to the four conservation principles provides the structure for nursing courses. Students are prepared for the practice of holistic nursing and for lifelong learning.

References

Levine, M. E. (1973). *Introduction to clinical nursing* (2nd ed.). Philadelphia: F. A. Davis.
Levine M. E. (1996). The conservation principles: A retrospective. *Nursing Science Quarterly,* 9, 38–41.
Schaefer, K. M., & Pond, J. B. (Eds.). (1991). *Levine's conservation model: A framework for nursing practice.* Philadelphia: F. A. Davis.
Schaefer, K.M. (2006). Myra Levine's conservation model and its applications. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 94-112). Philadelphia: F.A. Davis.

BETTY NEUMAN'S SYSTEMS MODEL

Overview

Focus is on the wellness of the client system in relation to environmental stress and reactions to stress. The client system, which can be an individual, a family or other group, or a community, is a composite of five interrelated variables:

1. **Physiological variables**—bodily structure and function.
2. **Psychological variables**—mental processes and relationships.
3. **Sociocultural variables**—social and cultural functions.
4. **Developmental variables**—developmental processes of life.
5. **Spiritual variables**—aspects of spirituality on a continuum from complete unawareness or denial to a consciously developed high level of spiritual understanding.

The client system is depicted as a central core, which is a basic structure of survival factors common to the species, surrounded by three types of concentric rings:

1. **Flexible line of defense**—the outermost ring; a protective buffer for the client's normal or stable state that prevents invasion of stressors and keeps the client system free from stressor reactions or symptomatology.
2. **Normal line of defense**—lies between the flexible line of defense and the lines of resistance; represents the client system's normal or usual wellness state.
3. **Lines of resistance**—the innermost concentric rings; involuntarily activated when a stressor invades the normal line of defense. They attempt to stabilize the client system and foster a return to the normal line of defense. If they are effective, the system can reconstitute; if ineffective, death may ensue.

Environment is defined as "all internal and external factors or influences surrounding the client system":

1. **Internal environment**—"all forces or interactive influences internal to or contained solely within the boundaries of the defined client system"; the source of *intrapersonal stressors.*
2. **External environment**—all forces or interactive influences external to or existing outside the defined client system; the source of *interpersonal and extrapersonal stressors.*
3. **Created environment**—subconsciously developed by the client as a symbolic expression of system wholeness. It supersedes and encompasses the internal and external environments, and functions as a subjective safety mechanism that may block the true reality of the environment and the health experience.

Implications for Nursing Practice

Nursing practice is directed toward facilitating optimal wellness through retention, attainment, or maintenance of client system stability. Neuman's practice methodology is the Neuman Systems Model Nursing Process Format, which encompasses three steps:

1. **Nursing diagnosis** —formulated on the basis of assessment of the variables and lines of defense and resistance making up the client system.
2. **Nursing goals**—negotiated with the client for desired prescriptive changes to correct variances from wellness.
3. **Nursing outcomes** The nurse implements nursing interventions through the use of one or more of the three prevention-as-intervention modalities.

Primary Prevention as Intervention—nursing actions to retain system stability are implemented by: preventing stressor invasion; providing resources to retain or strengthen existing client/client system strengths; supporting positive coping and functioning; desensitizing existing or possible noxious stressors; motivating the client/client system toward wellness; coordinating and integrating interdisciplinary theories and epidemiological input; educating or reeducating the client/client system; using stress as a positive intervention strategy.

Secondary Prevention as Intervention—nursing actions to attain system stability are implemented by: protecting the client/client system's basic structure; mobilizing and optimizing the client/client system's internal and external resources to attain stability and energy conservation; facilitating purposeful manipulation of stressors and reactions to stressors; motivating, educating, and involving the client/client system in mutual establishment of health care goals; facilitating appropriate treatment and intervention measures; supporting positive factors toward wellness; promoting advocacy by coordination and integration; providing primary preventive intervention as required.

Tertiary Prevention as Intervention—nursing actions to maintain system stability are implemented by: attaining and maintaining the highest possible level of client/client system wellness and stability during reconstitution; educating, reeducating, and/or reorienting the client/client system as needed; supporting the client/client system toward appropriate goals; coordinating and integrating health services resources; providing primary and/or secondary preventive intervention as required. The nurse evaluates the outcome goals by: confirming attainment of outcome goals with the client/client system; reformulating goals as necessary with the client/client system. The nurse and client/client system set intermediate and long-range goals for subsequent nursing action that are structured in relation to short-term goal outcomes. The nurse uses the Neuman Systems Model Assessment and Intervention Tool, the Neuman Systems Model Nursing Diagnosis Taxonomy, and any other relevant clinical tools to guide collection of data and facilitate documentation of nursing diagnoses, nursing goals, and nursing outcomes.

Implications for Nursing Education

The model is an appropriate curriculum guide for all levels of nursing education. The components of the model serve as curriculum content, including the five variable areas (physiological, psychological, sociocultural, developmental, spiritual), the three categories of stressors (intrapersonal, interpersonal, extrapersonal), and the three prevention-as-intervention modalities (primary, secondary, tertiary).

References

Lowry, L. (Ed.). (1998). *The Neuman systems model and nursing education: Teaching strategies and outcomes.* Indianapolis: Sigma Theta Tau International Center for Nursing Press.

Neuman, B., & Fawcett, J. (Eds.). (2002). *The Neuman systems model* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Aylward, P.D. (2006). Betty Neuman: The Neuman systems model and global applications. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 281-294). Philadelphia: F.A. Davis.

DOROTHEA OREM'S SELF-CARE FRAMEWORK

Overview

Focus is on patients' deliberate actions to meet their own and dependent others' therapeutic self-care demands and nurses' deliberate actions to implement nursing systems designed to assist individuals and multiperson units who have limitations in their abilities to provide continuing and therapeutic self-care or care of dependent others. The concepts of Orem's conceptual model are:

1. **Self-care**—behavior directed by individuals to themselves or their environments to regulate factors that affect their own development and functioning in the interests of life, health, or well-being.
2. **Self-care agency**—a complex capability of maturing and mature individuals to determine the presence and characteristics of specific requirements for regulating their own functioning and development, make judgments and decisions about what to do, and perform care measures to meet specific self-care requisites. The person's ability to perform self-care is influenced by 10 *power components:*

Ability to maintain attention and exercise requisite vigilance with respect to self as self-care agent and internal and external conditions and factors significant for self-care.
Controlled use of available physical energy that is sufficient for the initiation and continuation of self-care operations.
Ability to control the position of the body and its parts in the execution of the movements required for the initiation and completion of self-care operations.
Ability to reason within a self-care frame of reference.
Motivation (i.e., goal orientations for self-care that are in accord with its characteristics and its meaning for life, health, and well-being).
Ability to make decisions about care of self and to operationalize these decisions.
Ability to acquire technical knowledge about self-care from authoritative sources, to retain it, and to operationalize it.
A repertoire of cognitive, perceptual, manipulative, communication, and interpersonal skills adapted to the performance of self-care operations.
Ability to order discrete self-care actions or action systems into relationships with prior and subsequent actions toward the final achievement of regulatory goals of self-care.
Ability to consistently perform self-care operations, integrating them with relevant aspects of personal, family, and community living.

The person's ability to perform self-care as well as the kind and amount of self-care required are influenced by 10 internal and external factors called *basic conditioning factors:*

Age
Gender
Developmental state
Health state
Sociocultural orientation
Health care system factors; for example, medical diagnostic and treatment modalities
Family system factors
Patterns of living including activities regularly engaged in
Environmental factors
Resource availability and adequacy

3. **Therapeutic self-care demand**—the action demand on individuals to meet three types of self-care requisites:
   Universal self-care requisites—actions that need to be performed to maintain life processes, the integrity of human structure and function, and general well-being.
   Developmental self-care requisites—actions that need to be performed in relation to human developmental processes, conditions, and events and in relation to events that may adversely affect development.
   Health deviation self-care requisites—actions that need to be performed in relation to genetic and constitutional defects, human structural and functional deviations and their effects, and medical diagnostic and treatment measures prescribed or performed by physicians.
4. **Self-care deficit**—the relationship of inadequacy between self-care agency and the therapeutic self-care demand.
5. **Nursing agency**—a complex property or attribute that enables nurses to know and help others to know their therapeutic self-care demands, meet their therapeutic self-care demands, and regulate the exercise or development of their self-care agency.
6. **Nursing system**—a series of coordinated deliberate practical actions performed by nurses and patients directed toward meeting the patient's therapeutic self-care demand and protecting and regulating the exercise or development of the patient's self-care agency.

Implications for Nursing Practice

Nursing practice is directed toward helping people to meet their own and their dependent others' therapeutic self-care demands. Orem's practice methodology encompasses the Professional-Technologic Operations of Nursing Practice:

1. **Case Management Operations**—The nurse uses a case management approach to control, direct, and check each of the nursing diagnostic, prescriptive, regulatory, and control operations. The nurse maintains an overview of the interrelationships between the social, interpersonal, and professional-technologic systems of nursing. The nursing history and other appropriate tools are used for collection and documentation of information and measurement of the quality of nursing. The nurse records appropriate information in the patient's chart and records progress notes as appropriate.
2. **Diagnostic Operations**—The nurse identifies the unit of service for nursing practice as an individual, an individual member of a multiperson unit, or a multiperson

unit. The nurse determines why the person needs nursing in collaboration with the patient or family and with continued review of decisions by the patient or family. The nurse collects demographic data about the patient and information about the nature and boundaries of the patient's health care situation and nursing's jurisdiction within those boundaries. The nurse calculates the person's present and future therapeutic self-care demand and determines the person's self-care agency or dependent-care agency. The nurse identifies the influence of power components and basic conditioning factors on the exercise and operability of self-care or dependent-care agency.

The nurse determines whether the person should be helped to refrain from self-care actions or dependent-care actions for therapeutic purposes and whether the person should be helped to protect already developed self-care or dependent-care capabilities for therapeutic purposes. The nurse determines the person's potential for self-care or dependent-care agency in the future by: identifying the person's ability to increase or deepen self-care or dependent-care knowledge; identifying the person's ability to learn techniques of care; identifying the person's willingness to engage in self-care or dependent-care; identifying the person's ability to effectively and consistently incorporate essential self-care or dependent-care measures into daily living.

The nurse calculates the self-care deficit or dependent-care deficit by: determining the qualitative or quantitative inadequacy of self-care agency or dependent-care agency in relation to the calculated therapeutic self-care demand; determining the nature of and reasons for the existence of the self-care deficit or dependent-care deficit; specifying the extent of the self-care deficit or dependent-care deficit as complete or partial.

The nurse states the nursing diagnosis for the individual or a multiperson unit within the context of four levels:

Level 1: Focuses on health and well-being, with emphasis on the relationship of self-care and self-care management to the overall life situation.

Level 2: Deals with the relationship between the therapeutic self-care demand and self-care agency.

Level 3: Expresses the relationship of the action demand by particular self-care requisites to particular self-care operations as influenced by the power components.

Level 4: Expresses the influence of the basic conditioning factors on the therapeutic self-care demand and self-care agency.

3. **Prescriptive Operations**—The nurse specifies the means to be used and all measures needed to meet the therapeutic self-care demand, in collaboration with the patient or family. The nurse specifies the roles to be played by the nurse(s), patient, and dependent-care agent(s) in meeting the therapeutic self-care demand and in regulating the patient's exercise or development of self- or dependent-care agency, in collaboration with the patient or family.
4. **Regulatory Operations: Design of Nursing Systems for Performance of Regulatory Operations**—The nurse designs a *nursing system,* which is a series of coordinated deliberate practical actions performed by the nurse and the patient directed toward meeting the patient's therapeutic self-care demand and protecting and regulating the exercise or development of the patient's self- or dependent-care agency, in collaboration with the patient or family.

The nursing system includes one or more *methods of helping,* which are sequential series of actions that will overcome or compensate for the health-associated limitations of patients to regulate their own or their dependents' functioning and development.

The selection of the appropriate nursing system is based on the answer to the question of who can or should perform self-care actions, and the determination of the patient's role (no role, some role) in the production and management of self-care. The *wholly compensatory nursing system* is selected when the patient cannot or should not perform any self-care actions, and thus the nurse must perform them. The *partly compensatory nursing system* is selected when the patient can perform some, but not all, self-care actions. The *supportive-educative nursing system* is selected when the patient can and should perform all self-care actions. A single patient may require one or a sequential combination of the three types of nursing systems. All three nursing systems are most appropriately used with individuals. Multiperson units usually require combinations of the partly compensatory and supportive-educative nursing systems, although it is possible that such multiperson units as families or residence groups would need wholly compensatory nursing systems under some circumstances.

Wholly compensatory nursing system—The nurse accomplishes the patient's therapeutic self-care, compensates for the patient's inability to engage in self-care, and supports and protects the patient. The nurse selects wholly compensatory

nursing system subtype 1 for persons unable to engage in any form of deliberate action, including persons who are unable to control their position and movement in space; are unresponsive to stimuli or responsive to internal and external stimuli only through hearing and feeling; are unable to monitor the environment and convey information to others because of loss of motor ability.

The nurse selects the following *method of helping*: Acting for or doing for the patient.

The nurse selects *wholly compensatory nursing system subtype* 2 for persons who are aware and who may be able to make observations, judgments, and decisions about self-care and other matters but cannot or should not perform actions requiring ambulation and manipulative movements.

The nurse selects one or more of the following *methods of helping:* providing a developmental environment; acting for or doing for the patient; supporting the patient psychologically; guiding the patient; teaching the patient.

The nurse selects *wholly compensatory nursing system subtype 3* for persons who are unable to attend to themselves and make reasoned judgments and decisions about self-care and other matters but who can be ambulatory and may be able to perform some measures of self-care with continuous guidance and supervision.

The nurse selects one or more of the following *methods of helping:* providing a developmental environment; guiding the patient; providing support for the patient; acting for or doing for the patient.

Partly compensatory nursing system—The nurse performs some self-care measures for the patient, compensates for self-care limitations of the patient, assists the patient as required, and regulates the patient's self-care agency; the patient performs some self-care measures, regulates self-care agency, and accepts care and assistance from the nurse.

When the nurse selects *partly compensatory nursing system subtype 1*, the patient performs universal measures of self-care and the nurse performs medically prescribed measures and some universal self-care measures. The nurse selects one or more of the following *methods of helping: acting for or doing for the patient; guiding the patient; supporting the patient; providing a developmental environment; teaching the patient.*

When the nurse selects *partly compensatory nursing system subtype 2*, the patient learns to perform some new care measures. The nurse selects one or more of the following *methods of helping:* acting for or doing for the patient; guiding the patient; supporting the patient; providing a developmental environment; teaching the patient.

Supportive-educative nursing system—The nurse regulates the exercise and development of the patient's self-care agency or dependent-care agency; the patient accomplishes self-care or dependent-care and regulates the exercise and development of self-care agency or dependent-care agency.

The nurse selects *supportive-educative nursing system subtype 1* if the patient can perform care measures, and the appropriate methods of helping are guiding the patient and supporting the patient. The nurse selects *supportive-educative nursing system subtype 2* if the patient can perform care measures and the appropriate method of helping is teaching the patient. The nurse selects *supportive-educative nursing system subtype 3* if the patient can perform care measures and the appropriate method of helping is providing a developmental environment. The nurse selects *supportive-educative nursing system subtype 4* if the patient is competent in self-care and the appropriate method of helping is guiding the patient periodically.

5. **Regulatory Operations: Planning for Regulatory Operations**—The nurse specifies what is needed to produce the nursing system(s) selected for the patient.
6. **Regulatory Operations: Production of Regulatory Care**—Nursing systems are produced by means of the actions of nurses and patients during nurse-patient encounters. The nurse produces and manages the designated nursing system(s) and method(s) of helping for as long as the patient's self-care deficit or dependent-care deficit exists. The nurse provides the following direct nursing care operations:
   - Performs and regulates self-care or dependent-care tasks for patients or assists patients with their performance of self- or dependent-care tasks.
   - Coordinates self- or dependent-care task performance so that a unified system of care is produced and coordinated with other components of health care.
   - Helps patients, their families, and others bring about systems of daily living for patients that support the accomplishment of self-care or dependent-care and are, at the same time, satisifying in relation to patients' interests, talents, and goals.
   - Guides, directs, and supports patients in their exercise of, or in the withholding of the exercise of, their self-care agency or dependent-care agency.

Stimulates patients' interests in self-care or dependent-care by raising questions and promoting discussions of care problems and issues when conditions permit.
Is available to patients at times when questions are likely to arise.
Supports and guides patients in learning activities and provides cues for learning as well as instructional sessions.
Supports and guides patients as they experience illness or disability and the effects of medical care measures and as they experience the need to engage in new measures of self-care or change their ways of meeting ongoing self-care requisites.

The nurse carries out the following decision-making operations regarding the continuation of or need for changes in direct nursing care:

Monitors and assists patients to monitor themselves to determine if self-care or dependent-care measures were performed and to determine the effects of self-care or dependent-care, the results of efforts to regulate the exercise or development of self-care agency or dependent-care agency, and the sufficiency and efficiency of nursing action directed to these ends.
Makes judgments about the sufficiency and efficiency of self-care or dependent-care, the regulation of the exercise or development of self-care agency or dependent-care, and nursing assistance.
Makes judgments about the meaning of the results derived from nurses' performance when monitoring patients and judging outcomes of self-care or dependent-care for the well-being of patients. Makes or recommends adjustments in the nursing care system through changes in nurse and patient roles.

7. **Control Operations**—The nurse performs control operations concurrently with or separate from the production of regulatory care. The nurse makes observations and evaluates the nursing system to determine whether:
   The nursing system that was designed is actually produced.
   There is a fit between the current prescription for nursing and the nursing system that is being produced.
   Regulation of the patient's functioning is being achieved through performance of care measures to meet the patient's therapeutic self-care demand.
   Exercise of the patient's self-care agency or dependent-care agency is being properly regulated.
   Developmental change is in process and is adequate.
   The patient is adjusting to any declining powers to engage in self-care or dependent-care.

Implications for Nursing Education

The Self-Care Framework provides a body of knowledge that can be used for curriculum development. The focus of both undergraduate and graduate nursing curricula is on components of self-care, self-care agency, self-care deficits, nursing agency, and nursing systems. Education for clinical skills emphasizes the methods of helping.

Reference

Orem, D. E. (2001). *Nursing: Concepts of practice* (6th ed.). St. Louis: Mosby.
Orem, D.E. (2006). Part One: Dorothea E. Orem's self-care deficit nursing theory. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 141-149). Philadelphia: F.A. Davis

MARTHA ROGERS' SCIENCE OF UNITARY HUMAN BEINGS

Overview

Focus is on unitary, irreducible human beings and their environments. The four basic concepts are:

1. **Energy fields**—irreducible, indivisible, pandimensional unitary human beings and environments that are identified by pattern and manifesting characteristics that are specific to the whole and cannot be predicted from knowledge of the parts. Human and environmental energy fields are integral with each other.
2. **Openness**—a characteristic of human and environmental energy fields; energy fields are continuously and completely open.
3. **Pattern**—the distinguishing characteristic of an energy field. Pattern is perceived as a single wave that gives identity to the field. Each human field pattern is unique and is integral with its own unique environmental field pattern. Pattern is an abstraction that cannot be seen; what are seen or experienced are manifestations of field pattern.

4. **Pandimensionality**—a nonlinear domain without spatial or temporal attributes.

The three principles of homeodynamics, which describe the nature of human and environmental energy fields, are:

1. **Resonancy**—asserts that human and environmental fields are identified by wave patterns that manifest continuous change from lower to higher frequencies.
2. **Helicy**—asserts that human and environmental field patterns are continuous, innovative, and unpredictable, and are characterized by increasing diversity.
3. **Integrality**—emphasizes the continuous mutual human field and environmental field process.

Implications for Nursing Practice

Nursing practice is directed toward promoting the health and well-being of all persons, wherever they are. Rogers' practice methodology, which is called the Health Patterning Practice Method, encompasses the following phases:

1. **Pattern Manifestation Knowing and Appreciation—Assessment**—The continuous process of apprehending and identifying manifestations of the human energy field and environmental energy field patterns that relate to current health events. The nurse uses one or more Science of Unitary Human Beings–based research instruments or clinical tools to guide application and documentation of the practice methodology. The nurse acts with pandimensional authenticity, that is, with a demeanor of genuineness, trustworthiness, and knowledgeable caring. The nurse focuses on the client as a unified whole (a unitary human being) and participates in individualized nursing by looking at each client and determining the range of behaviors that are normal for him or her. The nurse always takes diversity among clients into account, for that diversity has distinct implications for what will be done and how it will be done. The nurse comes to know human energy field pattern and environmental energy field pattern through manifestations of that pattern in the form of the client's experiences, perceptions, and expressions. The nurse attends to expressions of experiences and perceptions in such forms as the client's verbal responses, responses to questionnaires, and personal ways of living and relating. The nurse collects such relevant pattern information as the client's sensations, thoughts, feelings, awareness, imagination, memory, introspective insights, intuitive apprehensions, recurring themes and issues that pervade the client's life, metaphors, visualizations, images, nutrition, work and play, exercise, substance use, sleep/wake cycles, safety, decelerated/accelerated field rhythms, space-time shifts, interpersonal networks, and professional health care access and use.
2. **Voluntary Mutual Patterning**—The continuous process whereby the nurse, with the client, patterns the environmental energy field to promote harmony related to the health events. The nurse facilitates the client's actualization of potentials for health and well-being. The nurse has no investment in the client's changing in a particular way. The nurse does not attempt to change anyone to conform to arbitrary health ideals. Rather, the nurse enhances the client's efforts to actualize health potentials from his or her point of view. The nurse helps to create an environment where healing conditions are optimal and invites the client to heal him- or herself as the nurse and the client participate in various health patterning modalities. The nurse uses many different modes of health patterning, including such noninvasive modalities as therapeutic touch; imagery; meditation; relaxation; balancing activity and rest; unconditional love; attitudes of hope, humor, and upbeat moods; the use of sound, color, and motion; health education; wellness counseling; nutrition counseling; meaningful presence; meaningful dialogue; affirmations (expressions of intentionality); bibliotherapy; journal keeping; esthetic experiences of art, poetry, and nature; collaborative advocacy; and computer-based virtual reality. The nurse recognizes that both noninvasive modalities and technology are simply tools used to apply knowledge in practice.
3. **Pattern Manifestation Knowing and Appreciation—Evaluation**—The nurse evaluates voluntary mutual patterning by means of pattern manifestation knowing. The nurse monitors and collects additional pattern information as it unfolds during voluntary mutual patterning and considers the pattern information within the context of continually emerging health patterning goals affirmed by the client.

Implications for Nursing Education

Education for nursing practice requires a commitment to lifelong learning. Education for professional nursing occurs at the baccalaureate, masters, and doctoral levels in college and university settings. The purpose of professional nursing educational programs is to provide the knowledge and tools necessary for nursing practice. The liberal

arts and sciences are a predominant component of the curriculum. The principles of resonancy, helicy, and integrality represent the major integrating concepts of the nursing courses.

References

Barret, E. A. M. (1998). A Rogerian practice methodology for health patterning. *Nursing Science Quarterly*, 11, 136–138.

Cowling, W. R. III. (1997). Pattern appreciation: The unitary science/practice of reaching for essence. In M. Madrid (Ed.), *Patterns of Rogerian knowing* (pp. 129–142). New York: National League for Nursing Press.

Madrid, M., & Barrett, E. A. M. (Eds.). (1994). *Rogers' scientific art of nursing practice.* New York: National League for Nursing.

Malinski, V.M. (2006). Part One: Martha E. Rogers' science of unitary human beings. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 160-167). Philadelphia: F.A. Davis.

Rogers, M. E. (1990). Nursing: Science of unitary, irreducible, human beings: Update 1990. In E. A. M. Barrett (Ed.), *Visions of Rogers' science-based nursing* (pp. 5–11). New York: National League for Nursing.

Rogers, M. E. (1992). Nursing science and the space age. *Nursing Science Quarterly,* 5, 27–34.

CALLISTA ROY'S ADAPTATION MODEL

Overview

Focuses on the responses of the human adaptive system, which can be an individual or a group, to a constantly changing environment. Adaptation is the central feature of the model. Problems in adaptation arise when the adaptive system is unable to cope with or respond to constantly changing stimuli from the internal and external environments in a manner that maintains the integrity of the system. Environmental stimuli are categorized as:

1. **Focal**—the stimuli most immediately confronting the person.
2. **Contextual**—the contributing factors in the situation.
3. **Residual**—other unknown factors that may influence the situation. When the factors making up residual stimuli become known, they are considered focal or contextual stimuli.

Adaptation occurs through two types of innate or acquired coping mechanisms used to respond to changing environmental stimuli:

1. **Regulator coping subsystem**—for individuals; receives input from the external environment and from changes in the individual's internal state and processes the changes through neural-chemical-endocrine channels to produce responses.
2. **Cognator coping subsystem**—for individuals; also receives input from external and internal stimuli that involve psychological, social, physical, and physiological factors, including regulator subsystem outputs. These stimuli then are processed through cognitive/emotive pathways, including perceptual/information processing, learning, judgment, and emotion.
3. **Stabilizer subsytem control process**—for groups; involves the established structures, values, and daily activities used by a group to accomplish its primary purpose and contribute to common purposes of society.
4. **Innovator Subsystem control process**—pertains to humans in groups; involves the structures and processes necessary for change and growth in human social systems.

Responses take place in four modes for individuals and groups:

1. **Physiological/physical mode**
   Physiological mode—for individuals; concerned with basic needs requisite to maintaining the physical and physiological integrity of the individual human system. It encompasses oxygenation; nutrition; elimination; activity and rest; protection; senses; fluid, electrolyte, and acid-base balance; neurologic function; and endocrine function. The basic underlying need is physiologic integrity.
   Physical mode—for groups; pertains to the manner in which the collective human adaptive system manifests adaptation relative to basic operating resources, that is, participants, physical facilities, and fiscal resources. The basic underlying need is resource adequacy, or wholeness achieved by adapting to change in physical resource needs.

2. **Self-concept/group identity mode**
   Self-concept mode—for the individual; addresses the composite of beliefs and feelings that a person holds about him- or herself at a given time. The basic underlying need is psychic and spiritual integrity, the need to know who one is so that one can be or exist with a sense of unity, meaning, and purposefulness in the universe. The Physical Self refers to the individual's appraisal of his or her own physical being, including physical attributes, functioning, sexuality, health and illness states, and appearance; includes the components of body sensation and body image. The Personal Self refers to the individual's appraisal of his or her own characteristics, expectations, values, and worth, including self-consistency, self-ideal, and the moral-ethical-spiritual self.
   Group identity mode—for groups; addresses shared relations, goals, and values, which create a social milieu and culture, a group self-image, and coresponsibility for goal achievement. Identity integrity is the underlying need, which implies the honesty, soundness, and completeness of the group members' identification with the group and involves the process of sharing identity and goals. This mode encompasses Interpersonal Relationships, Group Self-Image, Social Milieu, and Group Culture.
3. **Role function mode**—for the individual, focuses on the roles that the individual occupies in society. The basic underlying need is social integrity, the need to know who one is in relation to others so that one can act. For the group, focuses on the action components associated with group infrastructure that are designed to contribute to the accomplishment of the group's mission, or the tasks or functions associated with the group. The basic underlying need is role clarity, the need to understand and commit to fulfill expected tasks, so that the group can achieve common goals.
4. **Interdependence mode**—behavior pertaining to interdependent relationships of individuals and groups. The basic underlying need is relational integrity, the feeling of security in nurturing relationships. For the individual, focuses on interactions related to the giving and receiving of love, respect, and value, and encompasses Affectional Adequacy, Developmental Adequacy, Resource Adequacy, Significant Others, and Support Systems. For the group, pertains to the social context in which the group operates including both private and public contacts both within the group and with those outside the group, and encompasses Affectional Adequacy, Developmental Adequacy, Resource Adequacy, Context, Infrastructure, and Resources.

The four modes are interrelated. Responses in any one mode may have an effect on or act as a stimulus in one or all of the other modes. Responses in each mode are judged as either:

1. **Adaptive**—promote the goals of human adaptive system, including survival, growth, reproduction, and mastery.
2. **Ineffective**—those that do not contribute to the goals of the human adaptive system.

Implications for Nursing Practice

Nursing practice is directed toward promoting adaptation in each of the four response modes, thereby contributing to the person's health, quality of life, and dying with dignity. Roy's practice methodology is the Roy Adaptation Model Nursing Process, which encompasses six steps:

1. **Assessment of behavior**—The nurse systematically gathers data about the behavior of the human adaptive system and judges the current state of adaptation in each adaptive mode.

   The nurse uses one or more of the Roy Adaptation Model–based research instruments or clinical tools to guide application and documentation of the practice methodology and systematically gathers data about observable and nonobservable behaviors for each aspect of the four adaptive modes, focusing on the individual or the group of interest. The nurse gathers behavioral data by means of observation, objective measurement, and purposeful interviews.

   The nurse, in collaboration with the human adaptive system of interest, makes a tentative judgment about behaviors in each adaptive mode. Behaviors are tentatively judged as adaptive or ineffective responses, using the criteria of the human adaptive system's individualized goals and comparison of the behaviors with norms signifying adaptation. If norms are not available, the nurse considers adaptation difficulty as pronounced regulator activity with cognator ineffectiveness for individuals, or pronounced stabilizer activity with innovator ineffectiveness for groups. The nurse sets priorities for further assessment, taking the goals of adaptation into account.

The first priority is behaviors that threaten the survival of the individual, family, group, or community. The second priority is behaviors that affect the growth of the individual, family, group, or community. The third priority is behaviors that affect the continuation of the human race or of society. The fourth priority is behaviors that affect the attainment of full potential for the individual or group.

2. **Assessment of stimuli**—The nurse recognizes that stimuli must be amenable to independent nurse functions. Consequently, factors such as medical diagnoses and medical treatments are not considered stimuli because those factors cannot be independently managed by nurses.

   The nurse identifies the internal and external focal and contextual stimuli that are influencing the behaviors of particular interest. The nurse recognizes that residual stimuli typically are present and attempts to confirm the presence of those stimuli by asking the human adaptive system about other stimuli and/or by recourse to theoretical or experiential knowledge. When residual stimuli finally are identified, they are classified as contextual or focal stimuli. The nurse identifies the internal stimulus of the adaptation level, and determines whether it reflects integrated, compensatory, or compromised life processes.

   In situations where all behaviors are judged as adaptive responses, assessment of stimuli focuses on identifying potential threats to adaptation. The nurse identifies stimuli by means of observation, objective measurement, and purposeful interviews.

   The nurse validates perceptions and thoughts about relevant stimuli with the human adaptive system of interest, using Orlando's deliberative nursing process:

   The nurse shares perceptions and thoughts about relevant stimuli with the human adaptive system.

   The nurse asks if those are the relevant stimuli.

   The human adaptive system confirms or does not confirm the identified stimuli as relevant.

   If the stimuli are not confirmed as relevant, the nurse and the human adaptive system discuss their perceptions of the situation until agreement about relevant stimuli is reached.

3. **Nursing diagnosis**—The nurse uses a process of judgment to make a statement conveying the adaptation status of the human adaptive system of interest. The nursing diagnosis is a statement that identifies the behaviors of interest together with the most relevant influencing stimuli. The nurse uses one of three different approaches to state the nursing diagnosis:

   Behaviors are stated within each adaptive mode and with their most relevant influencing stimuli.

   A summary label for behaviors in each adaptive mode with relevant stimuli is used.

   A label that summarizes a behavioral pattern across adaptive modes that is affected by the same stimuli is used.

   The nurse may link the Roy Adaptation Model–based nursing diagnosis with a relevant diagnosis from the taxonomy of the North American Nursing Diagnosis Association (NANDA). The nurse assigns a priority to each nursing diagnosis—the first priority is behaviors that threaten the survival of the individual, family, group, or community; the second priority is behaviors that affect the growth of the individual, family, group, or community; the third priority is behaviors that affect the continuation of the human race or of society; the fourth priority is behaviors that affect the attainment of full potential for the individual or group.

4. **Goal setting**—The nurse articulates a clear statement of the behavioral outcomes in response to nursing provided to the human adaptive system. The nurse actively involves the human adaptive system in the formation of behavioral goals if possible. The nurse states goals as specific short-term and long-term behavioral outcomes of nursing intervention. The goal statement designates the behavior of interest, the way in which the behavior will change, and the time frame for attainment of the goal. Goals may be stated for ineffective behaviors that are to be changed to adaptive behaviors and also for adaptive behaviors that should be maintained or enhanced.

5. **Nursing intervention**—The nurse selects and implements nursing approaches that have a high probability of changing stimuli or strengthening adaptive processes. Nursing intervention is the management of stimuli. The nurse manages the focal stimulus first if possible, and then manages the contextual stimuli. The nurse uses the McDonald and Harms nursing judgment method, in collaboration with the human adaptive system, to select a nursing intervention:

   Alternative approaches to management of stimuli are listed, along with the consequences of management of each stimulus.

   The probability (high, moderate, low) for each consequence is determined.

   The value of the outcomes of each approach is designated as desirable or undesirable.

The options are shared with the human adaptive system. The nursing intervention with the highest probability of reaching the valued goal is selected. The nurse determines and implements the steps that will manage the stimulus appropriately.

6. **Evaluation**—The nurse judges the effectiveness of nursing interventions in relation to the behaviors of the human adaptive system. The nurse systematically reassesses observable and nonobservable behaviors for each aspect of the four adaptive modes. The nurse gathers the behavioral data by means of observation, objective measurement, and purposeful interviews. The nurse uses the following criteria to judge the effectiveness of nursing intervention:
   The goal was attained.
   The human adaptive system manifests behavior stated in the goals.
   The human adaptive system demonstrates a positive response to the stimuli that frees energy for responses to other stimuli.

   If the criteria for nursing intervention effectiveness are met, and if there is no threat that the behavior will become ineffective again, then that behavior may be deleted from nursing concern. If, however, the criteria are not met, the nurse must determine what went wrong. Possibilities are:
   The goals were unrealistic or unacceptable to the human adaptive system.
   The assessment data were inaccurate or incomplete.
   The selected nursing intervention approaches were not implemented properly.

   The nurse then returns to Assessment of Behaviors to closely examine behaviors that continue to be ineffective and to try to further understand the situation. The end result of the Roy Adaptation Model Nursing Process is an update of the nursing care plan.

Implications for Nursing Education

The model is an appropriate curriculum guide for diploma, associate degree, baccalaureate degree, and master's degree nursing education programs. Curriculum content is based on the components of the conceptual model. The vertical strands of the curriculum focus on theory and practice. The theory strand encompasses content on the adapting person, health/illness, and stress/disruption. The practice strand emphasizes nursing management of environmental stimuli. The horizontal strands include the nursing process and student adaptation and leadership.

Reference

Roy, C., & Andrews, H. A. (1999). *The Roy adaptation model* (2nd ed.) Stamford, CT: Appleton and Lange.

Roy, C., & Zhan, L. (2006). Sister Callista Roy's adaptation model and its applications. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 268-280). Philadelphia: F.A. Davis.

Appendix N1–3 Nursing Theories

A theory is defined as one or more relatively concrete and specific concepts that are derived from a conceptual model, the propositions that narrowly describe those concepts, and the propositions that state relatively concrete and specific relations between two or more of the concepts. Grand theories are rather broad in scope. They are made up of concepts and propositions that are less abstract and general than the concepts and propositions of a conceptual model but are not as concrete and specific as the concepts and propositions of a middle-range theory. Middle-range theories are narrower in scope than grand theories. They are made up of a limited number of concepts and propositions that are written at a relatively concrete and specific level.

HELEN ERICKSON, EVELYN TOMLIN, AND MARY ANN SWAIN'S THEORY OF MODELING AND ROLE MODELING

Overview

A grand theory or paradigm for the practice of professional nursing that focuses on the processes by which the nurse seeks to understand the client's unique model of the world and by which the nurse understands that unique model within the context of scientific theories and plans nursing interventions that promote health. The two major concepts of the theory are:

1. **Modeling**—an act that represents the process the nurse uses to develop an image and understand the client's world from the client's perspective. Modeling encompasses the art and science of nursing. The art of modeling is the development of a

mirror image of the situation from the client's perspective, which requires communication skills that help the nurse to enter into the foreign world of the client. The science of modeling is the scientific aggregation and analysis of data collected about the client's model of the world.

2. **Role Modeling**—occurs only after modeling has been accomplished. It involves the facilitation of the individual in attaining, maintaining, or promoting health through purposeful interventions, which are planned on the basis of the analysis and synthesis of data about the client's model of the world. Role modeling also encompasses the art and science of nursing. The art of role modeling occurs when the nurse plans and implements unique interventions with respect to a theoretical base for the practice of nursing. Role modeling is the essence of nurturance, the basis for the predictive and prescriptive component of nursing practice. It requires an unconditional acceptance of the client as the client is while gently encouraging and facilitating growth and development at the client's own pace and within the client's own model of the world.

Implications for Nursing Practice

The nursing process is an ongoing, interactive exchange of information, feelings, and behavior between nurses and clients. The nurse's goal is to nurture and support the client's self-care. Nursing practice is directed toward collection of data primarily from clients but also from families, nurses, and other health care providers. Data collection is organized into four categories:

1. **Description of the situation, including:** *Overview of the situation*—an overview of the client's situation from the client's perspective;
   Etiology—identification of relevant etiological factors, including stressors and destressors;
   Therapeutic needs—identification of possible therapeutic interventions.
2. **Immediate and long-term expectations**—development of an understanding of the client's personal orientation regarding present and future expectations.
3. **Resource potential**—available internal and external resources.
   External—determination of the nature of the external support system, from the social network, support system, and health care system.
   Internal—determination of the client's strengths, virtues, and currently available internal resources, including adaptive potential, feeling states, and psychological status.
4. **Current and future goals and life tasks**—determination of the client's current developmental status so as to understand his or her personal model and to use appropriate communication skills.

Data collection is followed by aggregation, analysis, and synthesis of the data. Nursing diagnoses are derived from the analysis and synthesis of the data. Nursing interventions that are acceptable within the client's model of the world are then developed. The goals of nursing intervention and their associated aims are:

1. **Goal:** Develop a trusting and functional nurse-client relationship. *Aim:* Build trust.
2. **Goal:** Facilitate a futuristic and positive self-projection. *Aim:* Promote the client's positive orientation.
3. **Goal:** Promote affiliated individuation with the minimum possible degree of ambivalence. *Aim:* Promote client's control.
4. **Goal:** Promote a dynamic, adaptive, and holistic health state. *Aim:* Affirm and promote the client's strengths.
5. **Goal:** Promote and nurture coping mechanisms that satisfy basic needs and permit growth-need satisfaction. *Aim:* Set mutual goals that are health-directed.

Implications for Nursing Education

Education of professional nursing practice requires consideration of seven factors that are required for implementation of the modeling and role modeling theory. These factors are:

Have confidence in nursing.
Establish a belief system.
Promote adherence.
Develop a language.
Give and get collegial support.
Be willing to take risks.
Believe in yourself.

Reference

Erickson, H.C., Tomlin, E.M., & Swain, M.A.P. (1983). *Modeling and role modeling: A theory and paradigm for nursing.* Englewood Cliffs, NJ: Prentice Hall.

MADELEINE LEININGER'S THEORY OF CULTURE CARE DIVERSITY AND UNIVERSALITY

Overview

A grand theory focusing on the discovery of human care diversities and universalities and ways to provide culturally congruent care to people. The concepts of the theory are:

1. **Care**—abstract and concrete phenomena related to assisting, supporting, or enabling experiences or behaviors toward or for others with evident or anticipated needs to ameliorate or improve a human condition or lifeway.
2. **Caring**—the actions and activities directed toward assisting, supporting, or enabling another individual or group with evident or anticipated needs to ameliorate or improve a human condition or lifeway or to face death.
3. **Culture**—the learned, shared, and transmitted values, beliefs, norms, and lifeways of a particular group that guide thinking, decisions, and actions in patterned ways; encompasses several cultural and social structure dimensions: technological factors, religious and philosophical factors, kinship and social factors, political and legal factors, economic factors, educational factors, and cultural values and lifeways.
4. **Language**—word usages, symbols, and meanings about care.
5. **Ethnohistory**—past facts, events, instances, experiences of individuals, groups, cultures, and institutions that are primarily people centered (ethno) and that describe, explain, and interpret human lifeways within particular cultural contexts and over short or long periods of time.
6. **Environmental context**—the totality of an event, situation, or particular experiences that give meaning to human expressions, interpretations, and social interactions in particular physical, ecological, sociopolitical, and/or cultural settings.
7. **Health**—a state of well-being that is culturally defined, valued, and practiced, and which reflects the ability of individuals (or groups) to perform their daily role activities in culturally expressed, beneficial, and patterned lifeways.
8. **Worldview**—the way people tend to look out on the world or their universe to form a picture of or a value stance about their life or the world around them.
9. **Cultural care**—the subjectively and objectively transmitted values, beliefs, and patterned lifeways that assist, support, or enable another individual or group to maintain well-being and health, to improve his or her human condition and lifeway, to deal with illness, handicaps, or death. The two dimensions are:
    - *Cultural care diversity*—the variabilities and/or differences in meanings, patterns, values, lifeways, or symbols of care within or between collectivities that are related to assistive, supportive, or enabling human care expressions.
    - *Cultural care universality*—the common, similar, or dominant uniform care meanings, patterns, values, lifeways, or symbols that are manifest among many cultures and reflect assistive, supportive, facilitative, or enabling ways to help people.
10. **Care systems**—the values, norms, and structural features of an organization designed for serving people's health needs, concerns, or conditions. The two types of care systems are:
    - *Generic (emic) lay care system*—traditional or local indigenous health care or cure practices that have special meanings and uses to heal or assist people, which are generally offered in familiar home or community environmental contexts with their local practitioners.
    - *Professional (etic) health care system*—professional care or cure services offered by diverse health personnel who have been prepared through formal professional programs of study in special educational institutions.
11. **Culturally congruent care**—culturally based care knowledge, acts, and decisions used in sensitive and knowledgeable ways to appropriately and meaningfully fit the cultural values, beliefs, and lifeways of clients for their health and well being, or to prevent illness, disabilities, or death. The three modes of culturally congruent care are:
    - *Culture care preservation and/or maintenance* refers to assistive, supportive, facilitative, or enabling professional acts or decisions that help cultures to retain, preserve, or maintain beneficial care beliefs and values or to face handicaps and death.
    - *Culture care accommodation and/or negotiation* refers to assistive, accommodating, facilitative, or enabling creative provider care actions or decisions

that help cultures to adapt to or negotiate with others for culturally congruent, safe, and effective care for their health, well being, or to deal with illness or dying.

Culture care repatterning and/or restructuring refers to assistive, supportive, facilitative, or enabling professional actions and mutual decisions that would help people to reorder, change, modify, or restructure their life ways and institutions for better (or beneficial) health care patterns, practices, or outcomes.

12. **Cultural and social structure factors** —Factors that influence expressions and meanings of care, including gender and class differences in religion or spirituality, kinship or social ties, politics, legal issues, education, economics, technology, philosophy of life, and cultural beliefs and values.

Implications for Nursing Practice

Nursing practice is directed toward improving and providing culturally congruent care to people. A practice methodology for the Theory of Culture Care Diversity and Universality is as follows:

Goals of Nursing Practice are: to improve and to provide culturally congruent care to people that is beneficial, will fit with, and be useful to the client, family, or culture group healthy lifeways; to provide culturally congruent nursing care in order to improve or offer a different kind of nursing care service to people of diverse or similar cultures.

Clients include individuals, families, subcultures, groups, communities, and institutions.

Culturalogical Assessment The nurse maintains a holistic or total view of the client's world by using the Sunrise Model and Enablers to guide assessment of cultural beliefs, values, and lifeways.

The nurse is aware that the client may belong to a subculture or special group that maintains its own values and beliefs that differ from the values and beliefs of the dominant culture. The nurse shows a genuine interest in the client and learns from and maintains respect for the client. The nurse asks open-ended questions and maintains the role of an active listener, learner, and reflector. The nurse shares professional knowledge only if the client asks about such knowledge.

The nurse begins the assessment with such questions as: What would you like to share with me today about your experiences or beliefs, to help you keep well? Are there some special ideas or ways you would like nurses to care for you? The nurse gives attention to clients' gender differences, communication modes, special language terms, interpersonal relationships, and use of space and foods.

Nursing Judgments, Decisions, and Actions Nursing practice requires the coparticipation of nurses and clients working together to identify, plan, implement, and evaluate the appropriate mode(s) of culturally congruent care. Nursing decisions and actions encompass assisting, accommodating, supporting, facilitating, and enabling. Nurse and client select one or more mode of culturally congruent care.

Culture Care Preservation and/or Maintenance—used when professional decisions and actions are needed to help clients of a designated culture to retain, preserve, or maintain care beliefs

Culture Care Accommodation and/or Negotiation—used when professional decisions and actions are needed to help clients of a designated culture adapt to or negotiate with others for care.

Culture Care Repatterning and/or Restructuring—used when professional decisions and actions are needed to help clients of a designated culture to reorder, change, modify, or restructure their life ways and institutions.

Clinical Protocols Specific nursing practices or clinical protocols are derived from the findings of research guided by the Theory of Culture Care Diversity and Universality. The research findings are used to develop protocols for cultural-congruent care that blends with the particular cultural values, beliefs, and lifeways of the client, and is assessed to be beneficial, satisfying, and meaningful to the client.

Implications for Nursing Education

Professional nursing care, learned in formal educational programs, builds upon the generic care given by naturalistic lay and folk care givers. The curriculum emphasizes transcultural nursing knowledge, with formal study about different cultures in the world, as well as culture-universal and culture-specific health care needs of people and nursing care practices. Transcultural nurse generalists are prepared at the baccalaureate level for the general use of transcultural nursing concepts, principles, and practices. Transcultural nurse specialists, who are prepared at the doctoral level, have in-depth understanding of a few cultures and can function as field practitioners, teachers, researchers, or consultants. Certification is awarded by the Transcultural Nursing So-

ciety to nurses who have educational preparation in transcultural nursing or the equivalent and who demonstrate basic clinical competence in transcultural nursing.

Reference

Leininger, M.M., & McFarland, M.R. (2006). *Culture care diversity and universality: A worldwide nursing theory* (2nd ed.). Boston: Jones and Bartlett.

MARGARET NEWMAN'S THEORY OF HEALTH AS EXPANDING CONSCIOUSNESS

Overview

A grand theory focusing on health as the expansion of consciousness, with emphasis on the idea that every person in every situation, no matter how disordered and hopeless the situation may seem, is part of the universal process of expanding consciousness. The concepts of the theory are:

1. **Consciousness**—the informational capacity of human beings, that is, the ability of humans to interact with their environments. Consciousness encompasses interconnected cognitive and affective awareness, physiochemical maintenance including the nervous and endocrine systems, growth processes, the immune system, and the genetic code. Consciousness can be seen in the quantity and quality of the interaction between human beings and their environments. The process of life is toward higher levels of consciousness; sometimes this process is smooth, pleasant, harmonious; other times it is difficult and disharmonious, as in disease.
2. **Pattern**—a fundamental attribute of all there is and reveals unity in diversity; information that depicts the whole, understanding of the meaning of all the relationships at once; relatedness; self-organizing over time, such that it becomes more highly organized with more information. Pattern identifies particular people and is an identification of the wholeness of the person. Pattern is manifested as exchanging (interchanging matter and energy between person and environment and transforming energy from one form to another); communicating (interchanging information from one system to another); relating (connecting with other persons and the environment); valuing (assigning worth); choosing (selecting of one or more alternatives); moving (rhythmic alternating between activity and rest); perceiving (receiving and interpreting information); feeling (sensing physical and intuitive awareness); and knowing (personal recognition of self and world). Pattern encompasses three dimensions—Movement-Space-Time, Rhythm, and Diversity.
   - *Movement-Space-Time*—movement is the natural condition of life, an essential property of matter and a means of communicating; when movement ceases, it is an indication that life has gone out of the organism; movement is the means whereby one perceives reality and becomes aware of self; movement is a means whereby space and time become a reality. Space encompasses personal space, inner space, and life space as dimensions of space relevant to the individual, and territoriality, shared space, and distancing as dimensions relevant to the family. Time is a function of movement; the amount of time perceived to be passing (subjective time); clock time (objective time). Time and space have a complementary relationship.
   - **Rhythm**—basic to movement; the rhythm of movement is an integrating experience.
   - **Diversity**—seen in the parts.

Implications for Nursing Practice

Nursing practice is directed toward facilitating pattern recognition by connecting with the client in an authentic way, and assisting the client to discover new rules for a higher level of organization or consciousness. Newman's Research as Praxis Protocol is a research/practice methodology. The phenomenon of interest is the process of expanding consciousness.

The Interview The meeting of the nurse and the study participant/client occurs when there is a mutual attraction via congruent patterns, i.e., interpenetration of the two fields. The nurse and study participant/client enter into a partnership, with the mutual goal of participating in an authentic relationship, trusting that in the process of its unfolding, both will emerge at a higher level of consciousness.

Transcription The nurse listens carefully to and transcribes the tape of the interview soon after the interview is completed. The nurse is sensitive to the relevance of the data and may omit comments made by the study participant/client that do not directly relate to his or her life pattern, with an appropriate note to the place on the tape where such comments occurred, in case those comments seem important later.

Development of the Narrative: Pattern Recognition The nurse selects the statements deemed most important to the study participant/client and arranges the key segments of the data in chronological order to highlight the most significant events and persons. The data remain the same except in the order of presentation. Natural breaks where a pattern shift occurs are noted and form the basis of the sequential patterns. Recognition of the pattern of the whole, made up of segments of the study participant/client's relationships over time, will emerge for the nurse. The nurse then transmutes the narrative into a simple diagram of the sequential pattern configurations.

Diagram: Pattern Recognition The nurse then transmutes the narrative into a simple diagram of the sequential pattern configurations.

Follow-Up: Pattern Recognition The nurse conducts a second interview with the study participant/client to share the diagram or other visual portrayal of the pattern. The nurse does not interpret the diagram. Rather, it is used simply to illustrate the study participant/ client's story in graphic form, which tends to accentuate the contrasts and repetitions in relationships over time. The mutual viewing of the graphic form is an opportunity for the study participant/client to confirm and clarify or revise the story being portrayed. The mutual viewing also is an opportunity for the nurse to clarify any aspect of the story about which he or she has any doubt.

The nature of the pattern of person-environment interaction will begin to emerge in terms of energy flow (e.g., blocked, diffuse, disorganized, repetitive, or whatever descriptors and metaphors come to mind to describe the pattern). The study participant/client may express signs that pattern recognition is occurring (or already has occurred in the interval following the first interview) as the nurse and study participant/client reflect together on the study participant/client's life pattern. Sometimes, no signs of pattern recognition emerge, and if so, that characterizes the pattern for that person. It is not to be forced.

Application of Theory of Health as Expanding Consciousness The nurse undertakes more intense analysis of the data in light of the Theory of Health as Expanding Consciousness after the interviews are completed. The nurse evaluates the nature of the sequential patterns of interaction in terms of quality and complexity and interprets the patterns according to the study participant/client's position on Young's spectrum of consciousness. The sequential patterns represent presentational construing or relationships. Any similarities of pattern among a group of study participants/ clients having a similar experience may be designated by themes and stated in propositional form.

Implications for Nursing Education

Education for nursing should be the professional doctoral degree, the Doctor of Nursing (ND), which requires a strong arts and sciences background as pre-professional education. Students and practicing nurses who plan to use the Theory of Health as Expanding Consciousness have to be prepared for personal transformation in the way that they view the world and nursing.

Reference

Newman, M. A. (1994). *Health as expanding consciousness* (2nd ed.). New York: National League for Nursing.

Pharris, M.D. (2006). Margaret A. Newman's theory of health as expanding consciousness and its applications. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 217-234). Philadelphia: F.A. Davis.

Picard, C., & Jones, D. (Eds.). (2005). *Giving voice to what we know: Margaret Newman's theory of health as expanding consciousness in practice, research, and education.* Sudbury, MA: Jones and Bartlett.

IDA JEAN ORLANDO'S THEORY OF THE DELIBERATIVE NURSING PROCESS

OVERVIEW

Overview

A middle-range predictive theory focusing on an interpersonal process that is directed toward facilitating identification of the nature of the patient's distress and his or her immediate needs for help. The concepts of the theory are:

1. **Patient's behavior**—behavior observed by the nurse in an immediate nurse-patient situation. The two dimensions are:
   - *Need for help*—a requirement of the patient that, if supplied, relieves or diminishes immediate distress or improves immediate sense of adequacy or well-being.
   - *Improvement*—an increase in patients' mental and physical health, their well-being, and their sense of adequacy. The need for help and improvement can

be expressed in both nonverbal and verbal forms. Visual manifestations of nonverbal behavior include such motor activities as eating, walking, twitching, and trembling, as well as such physiological forms as urinating, defecating, temperature and blood pressure readings, respiratory rate, and skin color. Vocal forms of nonverbal behavior—nonverbal behavior that is heard—include crying, moaning, laughing, coughing, sneezing, sighing, yelling, screaming, groaning, and singing. Verbal behavior refers to what a patient says, including complaints, requests, questions, refusals, demands, and comments or statements.

2. **Nurse's reaction**—the nurse's nonobservable response to the patient's behavior. The three dimensions are:
   Perception—physical stimulation of any one of the five senses by the patient's behavior.
   Thought—an idea that occurs in the nurse's mind.
   Feeling—a state of mind inclining the nurse toward or against a perception, thought, or action; occurs in response to the nurse's perceptions and thoughts.
3. **Nurse's activity**—the observable actions taken by nurses in response to their reactions, including instructions, suggestions, directions, explanations, information, requests, and questions directed toward the patient; making decisions for the patient; handling the patient's body; administering medications or treatments; and changing the patient's immediate environment. The two dimensions of nurse's activity are:
   Automatic nursing process—actions decided on by the nurse for reasons other than the patient's immediate need.
   Deliberative nursing process (process discipline)—a specific set of nurse behaviors or actions directed toward the patient's behavior that ascertain or meet the patient's immediate needs for help.

Implications for Nursing Practice

Nursing practice is directed toward identifying and meeting the patient's immediate needs for help through use of Orlando's Practice Methodology.

Observations encompass any and all information pertaining to a patient that the nurse acquires while on duty.

Direct Observations are the nurse's reaction to the patient's behavior. Direct observations are any perception, thought, or feeling the nurse has from his or her own experience of the patient's behavior at any or several moments in time.

Indirect Observations consist of any information that is derived from a source other than the patient. This information pertains to, but is not directly derived from, the patient. Actions are carried out with or for the patient

Nurse's Activity: Deliberative Nursing Process—The process used to share and validate the nurse's direct and indirect observations is the Deliberative Nursing Process. Clinical protocols contain the specific requirements for the Deliberative Nursing Process. The nurse may express and explore any aspect of his or her reaction to the patient's behavior—perception, thought, or feeling. If exploration of one aspect of the nurse's reaction does not result in identification of the patient's need for help, then another aspect of the reaction can be explored. If exploration of all aspects of the nurse's reaction does not yield a verbal response from the patient, then the nurse may use negative expressions to demonstrate continued interest in the patient's behavior and to give the patient permission to respond with his or her own negative reaction. Examples of negative expressions by the nurse are: Is it that you don't think I'll understand? Am I wrong? It looked like that procedure was very painful, and you didn't say a word about it.

Direct Help—The nurse meets the patient's need directly when the patient is unable to meet his or her own need and when the activity is confined to the nurse-patient contact

Indirect Help—The nurse meets the patient's need indirectly when the activity extends to arranging the services of a person, agency, or resource that the patient cannot contact by himself or herself.

Reporting The nurse receives reports about the patient's behavior from other nurses, and from other health professionals. The nurse reports his or her observations of the patient's behavior to other nurses and other health professionals.

Recording The nurse records the nursing process, including: the nurse's perception of or about the patient; the nurse's thought and/or feeling about the perception; what the nurse said and/or did to, with, or for the patient.

Implications for Nursing Education

Students should be trained in the use of the deliberative nursing process for all person-to-person contacts. The purpose of training is to change the nurse's activity from personal and automatic to disciplined and professional. Training is facilitated by use of

process recordings that include perceptions of or about the patient, thoughts and/or feelings about the perception, and what was said and/or done to, with, or for the patient. The process discipline can be successfully taught in 6 to 12 weeks.

References

Orlando, I. J. (1961). *The dynamic nurse-patient relationship: Function, process and principles.* New York: G. P. Putnam's Sons. [Reprinted 1990, New York: National League for Nursing.]

Orlando, I. J. (1972). *The discipline and teaching of nursing process: An evaluative study.* New York: G. P. Putnam's Sons.

ROSEMARIE PARSE'S THEORY OF HUMAN BECOMING

Overview

A grand theory focusing on human experiences of participation with the universe in the cocreation of health. The concepts of the theory are:

1. **Human becoming**—a unitary construct referring to the human being's living health.
2. **Meaning**—the linguistic and imagined content of something and the interpretation that one gives to something.
3. **Rhythmicity**—the cadent, paradoxical patterning of the human-universe mutual process.
4. **Transcendence**—reaching beyond with possibles—the hopes and dreams envisioned in multidimensional experiences [and] powering the originating of transforming.
5. **Imaging**—reflective/prereflective coming to know the explicit/tacit all-at-once.
6. **Valuing**—confirming/not confirming cherished beliefs in light of a personal world view.
7. **Languaging**—signifying valued images through speaking/being silent and moving/being still.
8. **Revealing/Concealing**—disclosing/not disclosing all-at-once.
9. **Enabling/Limiting**—living the opportunities/restrictions present in all choosings all-at-once.
10. **Connecting/Separating**—being with and apart from others, ideas, objects, and situations all-at-once.
11. **Powering**—the pushing/resisting process of affirming/not affirming being in light of nonbeing.
12. **Originating**—inventing new ways of conforming/nonconforming in the certainty/uncertainty of living.
13. **Transforming**—shifting the view of the familiar/unfamiliar, the changing of change in coconstituting anew in a deliberate way.

The three major principles of the theory of human becoming are:

1. **Structuring meaning multidimensionally is cocreating reality through the languaging of valuing and imaging**—means that humans construct what is real for them from choices made at many realms of the universe.
2. **Cocreating rhythmical patterns of relating is living the paradoxical unity of revealing-concealing and enabling-limiting while connecting-separating**—means that humans live in rhythm with the universe coconstituting patterns of relating.
3. **Cotranscending with the possibles is powering unique ways of originating in the process of transforming**—means that humans forge unique paths with shifting perspectives as a different light is cast on the familiar.

Implications for Nursing Practice

Nursing practice is directed toward respecting the quality of life as perceived by the person and the family. The practice methodology is as follows:

Principle 1: Structuring meaning multidimensionally. *Illuminating Meaning:* explicating what was, is, and will be. *Explicating:* making clear what is appearing now through languaging.

Principle 2: Cocreating rhythmical patterns. *Synchronizing rhythms:* dwelling with the pitch, yaw, and roll of the human-universe process. *Dwelling with:* immersing with the flow of connecting/separating.

Principle 3: *Mobilizing transcendence:* moving beyond the meaning moment with what is not-yet. *Moving beyond:* propelling with envisioned possibles of transforming.

Contexts of nursing Nurse-person situations and nurse-group situations. Participants include children and adults. Locations include homes, shelters, health care centers,

parish halls, all departments of hospitals and clinics, rehabilitation centers, offices, and other milieus where nurses are with people.

Goal of discipline of nursing is quality of life from the person's, family's, and community's perspective.

Goal of the human becoming nurse is to be truly present with people as they enhance their quality of lives.

True presence is a special way of "being with" in which the nurse is attentive to moment-to-moment changes in meaning as she or he bears witness to the person's or group's own living of value priorities.

Coming-to-be Present is an all-at-once gentling down and lifting up. True presence begins in the coming-to-be-present moments of preparation and attention. Preparation involves: an emptying to be available to bear witness to the other or others; being flexible, not fixed but gracefully present from one's center; dwelling with the universe at the moment, considering the attentive presence about to be. Attention involves focusing on the moment at hand for immersion.

Face-to-face discussions—Nurse and person engage in dialogue. Conversation may be through discussion in general or through interpretations of stories, films, drawings, photographs, music, metaphors, poetry, rhythmic movements, and other expressions.

Silent immersion—A process of the quiet that does not refrain from sending and receiving messages. A chosen way of becoming in the human-universe process lived in the rhythm of speaking–being silent, moving–being still as valued images incarnate meaning. True presence without words.

Lingering presence—Recalling a moment through a lingering presence that arises after an immediate engagement. A reflective-prereflective "abiding with" attended to through glimpses of the other person, idea, object, or situation.

Ways of Changing Health Patterns in True Presence *Creative Imagining Picturing* by seeing, hearing, and feeling what a situation might be like if lived in a different way.

Affirming Personal Becoming Uncovering preferred personal health patterns by critically thinking about how or who one is.

Glimpsing the paradoxical Changing one's view of a situation by recognizing incongruities in that situation.

Implications for Nursing Education

Course content flows from the three principles of the theory. Clinical courses emphasize the knowledge and skills requisite to the application of the practice methodology. Graduate education builds on baccalaureate education and prepares specialists who concentrate on creating and testing concepts of the theory of human becoming.

References

Parse, R. R. (1992). Human becoming: Parse's theory of nursing. *Nursing Science Quarterly,* 5, 35–42.

Parse, R. R. (Ed.). (1995). *Illuminations: The human becoming theory in practice and research*. New York: National League for Nursing.

Parse, R. R. (1998). *The human becoming school of thought: A perspective for nurses and other health care professionals.* Thousand Oaks, CA: Sage.

Parse, R.R. (2006). Part One: Rosemarie Rizzo Parse's human becoming school of thought. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 187-194). Philadelphia: F.A. Davis.

NOLA PENDER'S HEALTH PROMOTION MODEL

Overview

A middle-range theory focusing on the relation of individual characteristics and experiences, behavior-specific, cognitions and affect, commitment to a plan of action, and competing demands and preferences as to health-promoting behavior. The concepts of the theory are as follows:

1. **Individual characteristics and experiences** —prior related behavior and inherited and acquired characteristics that influence beliefs, affect, and performance of health-promoting behavior.
   - *Prior related behavior*—a behavior, enacted in the past, that is the same as or similar to the health-promoting behavior of interest.
   - *Personal factors*—inherited and acquired biological, psychological, and sociocultural characteristics.

Personal biological factors—encompass characteristics such as age, gender, body mass index, pubertal status, menopausal status, aerobic capacity, strength, agility, and balance.
Personal psychological factors—encompass characteristics such as self-esteem, self-motivation, personal competence, perceived health status, and definition of health.
Personal sociocultural factors—encompass characteristics such as race, ethnicity, acculturation, education, and socioeconomic status.

2. **Behavior-specific cognitions and affect**—factors that act as motivators for commitment to a plan of action and performance of health-promoting behavior and that are modifiable through nursing actions.
   Perceived benefits of action—perception of anticipated positive outcomes that will occur as a result of performing a health-promoting behavior. There is a positive relation between perceived benefits of action and commitment to a plan of action.
   Perceived barriers to action—perception of anticipated, imagined, or real blocks and personal costs of performing a health-promoting behavior; a constraint on commitment to a plan of action.
   Perceived self-efficacy—perception of personal capability to organize and execute a health-promoting behavior; the higher the perceived self-efficacy, the lower the perceived barriers to action and the higher the likelihood of commitment to a plan of action and actual performance of a health-promoting behavior.
   Activity-related affect—subjective positive or negative feelings that occur before, during, or following performance of a health-promoting behavior. There is a reciprocal positive relation between affect toward a behavior and perceived self-efficacy, such that the more positive the affect, the greater the perceived self-efficacy and vice versa. There is a positive relation between affect toward a behavior and commitment to a plan of action and performance of a health-promoting behavior.
   Interpersonal influences—cognitions about the behaviors, beliefs, or attitudes of significant others, including family, peers, and health care providers. Commitment to a plan of action and performance of health-promoting behavior is more likely to occur when significant others model the behavior, expect the behavior to occur, and provide assistance and support to enable the behavior. The cognitions include:
      Norms that reflect expectations of significant others;
      Social support, including instrumental and emotional encouragement;
      Modeling, which refers to vicarious learning through observing others who are performing a health-promoting behavior.
   Situational influences—personal perceptions and cognitions of a particular external environmental situation that can facilitate or impede performance of health-promoting behavior, including perceptions of options available, demand characteristics, and aesthetic environmental features.
3. **Commitment to a plan of action**—intention to perform a health-promoting behavior and identification of a planned strategy that leads to performance of the behavior. There is a positive relation between commitment to a plan of action and maintenance of performance of a health-promoting behavior over time.
4. **Immediate competing demands and preferences**—competing demands are alternative behaviors over which individuals have low control due to environmental contingencies, such as work or family care responsibilities; competing preferences are alternative behaviors over which individuals exert relatively high control, such as choice of a particular food for a snack or meal. Commitment to a plan of action is less likely to result in the desired health-promoting behavior when competing demands require immediate attention or when competing preferences are more attractive.
5. **Health-promoting behavior**—action outcome directed toward attaining positive health outcomes.

Implications for Nursing Practice

Nursing practice is directed toward modification of cognitions, affect, and the interpersonal and physical environment to create incentives for health actions for people of all ages.

Implications for Nursing Education

Education for nursing practice focuses on promotion of health and prevention of illness and disease prevention. Health education strategies are emphasized.

Reference

Pender, N.J., Murdaugh, C.L., & Parsons, M.A. (2006). *Health promotion in nursing practice* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

HILDEGARD PEPLAU'S THEORY OF INTERPERSONAL RELATIONS

Overview

A middle-range descriptive theory focusing on the phases of the interpersonal process that occurs when an ill person and a nurse come together to resolve a difficulty felt in relation to health. The one concept of the theory is nurse-patient relationship, which is an interpersonal process made up of four components—two persons, the professional expertise of the nurse, and the client's problem or need for which expert nursing services are sought, and which has three discernible phases; one phase has two subphases:

1. **Orientation**—the phase in which the nurse first identifies himself or herself by name and professional status and states the purpose, nature, and time available for the patient; the phase during which the nurse conveys professional interest and receptivity to the patient, begins to know the patient as a person, obtains essential information about the patient's health condition, and sets the tone for further interactions.
2. **Working**—the phase in which the major course occurs. The two subphases are:
   Identification—the subphase during which the patient learns how to make use of the nurse-patient relationship.
   Exploitation—the subphase during which the patient makes full use of available professional services.
3. **Termination**—the phase in which the work accomplished is summarized and closure occurs.

Implications for Nursing Practice

Nursing practice is directed toward promoting favorable changes in patients, which is accomplished through the nurse-patient relationship. Within that relationship, the nurse's major function is to study the interpersonal relations between the patient/client and others. Peplau's clinical methodology, which can be used for both nursing practice and nursing research, is as follows:

Observation—Purpose is the identification, clarification, and verification of impressions about the interactive drama of the pushes and pulls in the relationship between nurse and patient, as they occur.

Participant Observation—Nurse's Behavior includes observation of the nurse's words, voice tones, body language, and other gestural messages. Patient's Behavior includes observation of the patient's words, voice tones, body language, and other gestural messages

Interpersonal phenomena include observation of what goes on between the patient and the nurse.

Reframing empathic linkages occurs when the nurse's and/or the patient's ability to feel in self the emotions experienced by the other person in the same situation is converted to verbal communications by the nurse asking: What are you feeling right now?

Communication aims are the selection of symbols or concepts that convey both the reference, or meaning in the mind of the individual, and referent, the object or actions symbolized in the concept; and the wish to struggle toward the development of common understanding for words between two or more people.

Interpersonal techniques are verbal interventions used by nurses during nurse-patient relationships aimed at accomplishing problem resolution and competence development in patients.

Principle of clarity—Words and sentences used to communicate are clarifying events when they occur within the frame of reference of common experiences of both or all participants, or when their meaning is established or made understandable as a result of joint and sustained effort of all parties concerned. Clarity in communication is promoted when the nurse and the patient discuss their preconceptions about the meaning of words and work toward a common understanding. Clarity is achieved when the meaning of a word to the patient is expressed and talked over and a new view is expanded in awareness.

Principle of continuity—Continuity in communication occurs when language is used as a tool for the promotion of coherence or connections of ideas expressed and leads to discrimination of relationships or connections among ideas and the feelings, events, or themes conveyed in those ideas. Continuity is promoted when the nurse is able to pick up threads of conversation that the patient offers in the course of a conversation

and over a longer period such as a week, and when he or she aids the patient to focus and to expand these threads.

Recording is the written record of the communication between nurse and patient, that is, the data collected through participant observation and reframing of empathic linkages. The aim is to capture the exact wording of the interaction between the nurse and the patient.

Data analysis focuses on testing the nurse's hypotheses, which are formulated from first impressions or hunches about the patient.

Phases of the nurse-patient relationship—Identify the phase of nurse-patient relationship in which communication occurred.

Roles: Identify the roles taken by the nurse and the patient in each phase of the nurse-patient relationship.

Relations: Identify the connections, linkages, ties, and bonds that go on or went on between a patient and others, including family, friends, staff, or the nurse. Analyze the relations to identify their nature, origin, function, and mode.

Pattern integrations: Identify the patterns of the interpersonal relation between two or more people which together link or bind them and which enable the people to transform energy into patterns of action that bring satisfaction or security in the face of a recurring problem. Determine the type of pattern integration: complementary—the behavior of one person fits with and thereby complements the behavior of the other person; mutual—the same or similar behaviors are used by both persons; alternating—different behaviors used by two persons alternate between the two persons; antagonistic—the behaviors of the two persons do not fit but the relationship continues.

Implications for Nursing Education

Nursing is an educative instrument, a maturing force, that aims to promote forward movement of personality in the direction of creative, constructive, productive, personal, and community living. The task of each school of nursing is the fullest development of the nurse as a person who is aware of how he or she functions in a situation and as a person who wants to nurse patients in a helpful way.

References

Peplau, H. E. (1952). *Interpersonal relations in nursing.* New York: G. P. Putnam's Sons. [Reprinted 1991. New York: Springer.]

Peplau, H. E. (1992). Interpersonal relations: A theoretical framework for application in nursing practice. *Nursing Science Quarterly, 5,* 13–18.

Peplau, H. E. (1997). Peplau's theory of interpersonal relations. *Nursing Science Quarterly, 10,* 162–167.

Peden, A.R. (2006). Hildegard E. Peplau's process of practice-based theory development and its applications. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 58-69). Philadelphia: F.A. Davis.

REVA RUBIN'S THEORY OF CLINICAL NURSING

Overview

A grand theory focusing on patients as persons undergoing subjectively involved experiences of varying degrees of tension or stress in a health problem situation. The major concepts are the situation of the patient and nursing care. Statements related to the patient situation and nursing care are:

1. Nursing care is dependent on the best estimate available of the situation of the patient.
2. Nursing care exists in a one-to-one relationship with the patient.
3. The relationship of nursing care to the situation of the patient is an ever-changing process of interaction.
4. The situation of the patient is expressed as a fraction or ratio that reflects the level or intensity of nursing care required.
   - If the situation for the patient is relatively insignificant, one that the patient can cope with quite well, then nursing care probably need not go beyond careful assessment.
   - If the situation for the patient is overwhelming, nursing care may have to encompass a whole series of activities to reduce the effects of the situation or reinforce the capacities of the patient in coping with the situation.
5. Situations within the sphere of proper nursing concern are fluid.

Implications for Nursing Practice

Nursing practice is directed toward helping the patient adjust to, endure, and usefully integrate the health problem situation in its many ramifications through the phenomenon of *situational fluidity,* which characterizes nursing care in terms of:

1. **Time**—nursing operates within the immediate present; patient needs and behavior have an immediacy if not an urgency.
2. **Definition or diagnostic sets**—nursing diagnoses are based on the definition of capacities and limitations of the persons who are patients in relation to the situations in which they find themselves.
3. **Actions**—nursing actions are primarily directed toward helping the patient realign observations and expectations into a better "fit" with each other; nursing conveys a message to patients about themselves in their immediate situations.

Implications for Nursing Education

Education for nursing practice and nursing research emphasizes learning the naturalistic method of observation of patients in action, involved in a natural situation and setting. The learners typically are graduate students in nursing. The nurse-observer is viewed as an identifiable and functional part of the setting, as well as a helpful adjunct in the situation. The student is trained to observe while providing nursing care for the patient in a particular situation and to then record the entire nurse-patient interaction. The recorded observation serves as a database for evaluation of the quality and adequacy of nursing care as well as for generation of new theories.

References

Rubin, R. (1968). A theory of clinical nursing. *Nursing Research, 17,* 210–212.
Rubin, R. (1984). *Maternal identity and the maternal experience.* New York: Springer.

JEAN WATSON'S THEORY OF HUMAN CARING

Overview

A middle-range explanatory theory focusing on the human component of caring and the moment-to-moment encounters between the one who is caring and the one who is being cared for, especially the caring activities performed by nurses as they interact with others. The concepts of the theory are:

1. **Transpersonal caring relationship**—human-to-human connectedness, whereby each person is touched by the human center of the other; a special kind of relationship involving a high regard for the whole person and his or her being-in-the world. The concept transpersonal caring relationship encompasses three dimensions:
   Self—transpersonal-mindbodyspirit oneness, an embodied self, and an embodied spirit.
   Phenomenal field—the totality of human experience, one's being-in-the-world.
   Intersubjectivity—refers to an intersubjective human-to-human relationship in which the person of the nurse affects and is affected by the person of the other, both of whom are fully present in the moment and feel a union with the other.
2. **Caring occasion/caring moment**—The coming together of nurse and other(s), which involves action and choice both by the nurse and the other. The moment of coming together in a caring occasion presents them with the opportunity to decide how to be in the relationship—what to do with the moment.
3. **Caring (healing) consciousness**—A holographic dynamic that is manifest within a field of consciousness, and which exists through time and space and is dominant over physical illness.
4. **Clinical Caritas Processes**—those aspects of nursing that actually potentiate therapeutic healing processes for both the one caring and the one being cared for. The 10 carative factors are:
   Practice of loving kindness and equanimity within the context of caring consciousness
   Being authentically present and enabling and sustaining the deep belief system and subjective life world of self and one-being-cared-for
   Cultivation of one's own spiritual practices and transpersonal self, going beyond ego self, opening to others with sensitivity and compassion
   Developing and sustaining a helping-trusting, authentic caring relationship
   Being present to, and supportive of, the expression of positive and negative feelings as a connection with deeper spirit of self and the one-being-cared-for
   Creative use of self and all ways of knowing as part of the caring process; to engage in artistry of caring-healing practices

Engaging in genuine teaching-learning experience that attends to unity of being and meaning, attempting to stay within others' frames of reference
Creating healing environments at all levels (physical as well as non-physical, subtle environment of energy and consciousness, whereby wholeness, beauty, comfort, dignity, and peace are potentiated)
Assisting with basic needs, with an intentional caring consciousness, administering "human care essentials," which potentiate alignment of mind-body-spirit, wholeness, and unity of being in all aspects of care, tending to both embodied spirit and evolving spiritual emergence
Opening and attending to spiritual-mysterious, and existential dimensions of one's own life-death; soul care for self and the one-being-cared-for

Implications for Nursing Practice

Nursing practice is directed toward helping persons gain a higher degree of harmony within the mind, body, and soul, which generates self-knowledge, self-reverence, self-healing, and self-care processes while increasing diversity, which is pursued through use of the 10clinical caritas processes.

Requirements for a Transpersonal Caring Relationship: The nurse considers the person to be valid and whole, regardless of illness or disease, and makes a moral commitment and directs intentionality and consciousness to the protection, enhancement, and potentiation of humanity, wholeness, and healing, such that a person creates or co-creates his or her own meaning for existence, healing, wholeness, and caring.

The nurse orients intent, will, and consciousness toward affirming the subjective/ intersubjective significance of the person; a search to sustain mind-body-spirit unity and I/Thou versus I/It relationships.

The nurse has the ability to realize, accurately detect, and connect with the inner condition (spirit) of another.

The nurse recognizes that actions, words, behaviors, cognition, body language, feelings, intuition, thought, senses, and the energy field gestalt all contribute to the interconnection.

The nurse has the ability to assess and realize another's condition of being in the world and to feel a union with the other. This ability is translated via movements, gestures, facial expressions, procedures, information, touch, sound, verbal expressions, and other scientific, aesthetic, and human means of communication into nursing art acts wherein the nurse responds to, attends to, or reflects the condition of the other. Drawn from the ontological caring consciousness stance and basic competencies of the nurse, this ability expands and translates into advanced caring healing modalities, nursing arts, advanced nursing therapeutics, and healing arts.

The nurse understands that the caring healing modalities potentiate harmony, wholeness, and comfort and produce inner healing by releasing some of the disharmony and blocked energy that interfere with the natural healing processes. Transpersonal caring-healing modalities include intentional conscious use of auditory modalities (music, sounds of nature, wind, sea, chimes, chants, familiar sounds), visual modalities (light, color, form, texture, works of art), olfactory modalities (aromatherapy, breathwork, breathing fresh air, inhalation-exhalation), tactile modalities (acupressure, body therapy, caring touch, foot reflexology, shiatsu, therapeutic massage), gustatory modalities (foods in one's diet), mental-cognitive modalities (importance of mind and imagination through story), kinesthetic modalities (basic skin care, deep massage and other body work, movement, dance, yoga, Tai Chi, applied kinesiology, chiropractic), caring consciousness modalities (physical presence, psychological presence, therapeutic presence).

The nurse understands that his or her own life history and previous experiences, including opportunities, studies, consciousness of having lived through or experienced human feelings and various human conditions, or of having imagined others' feelings in various circumstances, are valuable contributors to the transpersonal caring relationship.

Authentic Presencing: The nurse is authentically present as self and other in a reflective mutuality of being and becoming and centers consciousness and intentionality on caring, healing, and wholeness, rather than on disease, problems, illness, complications, and technocures.

The nurse attempts to stay within the other's frame of reference, join in a mutual search for meaning and wholeness of being, and potentiate comfort measures, pain control, a sense of well being, or spiritual transcendence of suffering.

Implications for Nursing Education

Professional nursing education should be at the postbaccalaureate level of the Doctorate of Nursing (N.D.). The nature of human life is the subject matter of nursing. The

curriculum acknowledges caring as a moral ideal and incorporates philosophical theories of human caring, health, and healing. Core areas of content are the humanities, social-biomedical science, and human caring content and process. Courses should use art, music, literature, poetry, drama, and movement to facilitate understanding of responses to health and illness as well as to new caring-healing modalities.

References

Watson, J. (1985). *Nursing: Human science and human care. A theory of nursing.* Norwalk, CT: Appleton-Century-Crofts. [Reprinted 1988. New York: National League for Nursing]

Watson, J. (1996). Watson's theory of transpersonal caring. In P. Hinton Walker & B. Neuman. (Eds.), *Blueprint for use of nursing models* (pp. 141–184). New York: NLN Press.

Watson, J (1997). The theory of human caring: Retrospective and prospective. *Nursing Science Quarterly, 10,* 49–52.

Watson, J. (2006). Part One: Jean Watson's theory of human caring. In M.E. Parker, *Nursing theories and nursing practice* (2nd ed., pp. 295-302). Philadelphia: F.A. Davis.

SOURCE: Adapted from overviews written by Jacqueline Fawcett for the videotape and CD-ROM series, *The Nurse Theorists: Portraits of Excellence,* produced by Studio Three, Samuel Merritt College of Nursing, Oakland, CA, and funded by the Helene Fuld Health Trust (1987–1990); and from Fawcett, J. (2005). Contemporary nursing knowledge: *Analysis and evaluation of nursing models and theories.* (2nd ed.). Philadelphia: F.A. Davis.

APPENDIX N2
Nursing Interventions Classification System
Intervention Labels and Definitions

Abuse Protection Support—Identification of high-risk dependent relationships and actions to prevent further infliction of physical or emotional harm

Abuse Protection Support: Child—Identification of high-risk, dependent child relationships and actions to prevent possible or further infliction of physical, sexual, or emotional harm or neglect of basic necessities of life

Abuse Protection Support: Domestic Partner—Identification of high-risk, dependent domestic relationships and actions to prevent possible or further infliction of physical, sexual, or emotional harm or exploitation of a domestic partner

Abuse Protection Support: Elder—Identification of high-risk, dependent elder relationships and actions to prevent possible or further infliction of physical, sexual, or emotional harm; neglect of basic necessities of life; or exploitation

Abuse Protection Support: Religious—Identification of high-risk, controlling religious relationships and actions to prevent infliction of physical, sexual, or emotional harm and/or exploitation

Acid-Base Management—Promotion of acid-base balance and prevention of complications resulting from acid-base imbalance

Acid-Base Management: Metabolic Acidosis—Promotion of acid-base balance and prevention of complications resulting from serum HCO_3 levels lower than desired

Acid-Base Management: Metabolic Alkalosis—Promotion of acid-base balance and prevention of complications resulting from serum HCO_3 levels higher than desired

Acid-Base Management: Respiratory Acidosis—Promotion of acid-base balance and prevention of complications resulting from serum PCO_2 levels higher than desired

Acid-Base Management: Respiratory Alkalosis—Promotion of acid-base balance and prevention of complications resulting from serum PCO_2 levels lower than desired

Acid-Base Monitoring—Collection and analysis of patient data to regulate acid-base balance

Active Listening—Attending closely to and attaching significance to a patient's verbal and nonverbal messages

Activity Therapy—Prescription of and assistance with specific physical, cognitive, social, and spiritual activities to increase the range, frequency, or duration of an individual's (or group's) activity

Acupressure—Application of firm, sustained pressure to special points on the body to decrease pain, produce relaxation, and prevent or reduce nausea

Admission Care—Facilitating entry of a patient into a health care facility

Airway Insertion and Stabilization—Insertion or assisting with insertion and stabilization of an artificial airway

Airway Management—Facilitation of patency of air passages

Airway Suctioning—Removal of airway secretions by inserting a suction catheter into the patient's oral airway and/or trachea

Allergy Management—Identification, treatment, and prevention of allergic responses to food, medications, insect bites, contrast material, blood, or other substances

Amnioinfusion—Infusion of fluid into the uterus during labor to relieve umbilical cord compression or to dilute meconium-stained fluid

Amputation Care—Promotion of physical and psychological healing before and after amputation of a body part

Analgesic Administration—Use of pharmacologic agents to reduce or eliminate pain

Analgesic Administration: Intraspinal—Administration of pharmacologic agents into the epidural or intrathecal space to reduce or eliminate pain

Anaphylaxis Management—Promotion of adequate ventilation and tissue perfusion for an individual with a severe allergic (antigen-antibody) reaction

Anesthesia Administration—Preparation for and administration of anesthetic agents and monitoring of patient responsiveness during administration

Anger Control Assistance—Facilitation of the expression of anger in an adaptive nonviolent manner

Animal-Assisted Therapy—Purposeful use of animals to provide affection, attention, diversion, and relaxation

Anticipatory Guidance—Preparation of patient for an anticipated developmental and/or situational crisis

Anxiety Reduction—Minimizing apprehension, dread, foreboding, or uneasiness related to an unidentified source of anticipated danger

Area Restriction—Use of least restrictive limitation of patient mobility to a specified area for purposes of safety or behavior management

Aroma therapy—Administration of essential oils through massage, topical ointments or lotions, baths, inhalation, douches, or compresses (hot or cold) to calm and soothe, provide pain relief, enhance relaxation and comfort

Art Therapy—Facilitation of communication through drawings or other art forms

Artificial Airway Management—Maintenance of endotracheal and tracheostomy tubes and preventing complications associated with their use

Aspiration Precautions—Prevention or minimization of risk factors in the patient at risk for aspiration

Assertiveness Training—Assistance with the effective expression of feelings, needs, and ideas while respecting the rights of others

Asthma Management—Identification, treatment, and prevention of reactions to inflammation/constriction in airway passages

Attachment Promotion—Facilitation of the development of the parent-infant relationship

Autogenic Training—Assisting with self-suggestions about feelings of heaviness and warmth for the purpose of inducing relaxation

Autotransfusion—Collecting and reinfusing blood which has been lost intraoperatively or postoperatively from clean wounds

Bathing—Cleaning of the body for the purposes of relaxation, cleanliness, and healing

Bed Rest Care—Promotion of comfort and safety and prevention of complications for a patient unable to get out of bed

Bedside Laboratory Testing—Performance of laboratory tests at the bedside or point of care

Behavior Management—Helping a patient to manage negative behavior

Behavior Management: Overactivity/Inattention—Provision of a therapeutic milieu which safely accommodates the patient's attention deficit and/or overactivity while promoting optimal function

Behavior Management: Self-Harm—Assisting the patient to decrease or eliminate self-mutilating or self-abusive behaviors

Behavior Management: Sexual—Delineation and prevention of socially unacceptable sexual behaviors

Behavior Modification—Promotion of a behavior change

Behavior Modification: Social Skills—Assisting the patient to develop or improve interpersonal social skills

Bibliotherapy—Therapeutic use of literature to enhance expression of feelings, active problem solving, coping, or insight

Biofeedback—Assisting the patient to gain voluntary control over physiological responses using feedback from electronic equipment that monitors physiological processes.

Bioterrorism Preparedness—Preparing for an effective response to bioterrorism events or disaster

Birthing—Delivery of a baby

Bladder Irrigation—Instillation of a solution into the bladder to provide cleansing or medication

Bleeding Precautions—Reduction of stimuli that may induce bleeding or hemorrhage in at-risk patients

Bleeding Reduction—Limitation of the loss of blood volume during an episode of bleeding

Bleeding Reduction: Antepartum Uterus—Limitation of the amount of blood loss from the pregnant uterus during third trimester of pregnancy

Bleeding Reduction: Gastrointestinal—Limitation of the amount of blood loss from the upper and lower gastrointestinal tract and related complications

Bleeding Reduction: Nasal—Limitation of the amount of blood loss from the nasal cavity

Bleeding Reduction: Postpartum Uterus—Limitation of the amount of blood loss from the postpartum uterus

Bleeding Reduction: Wound—Limitation of the blood loss from a wound that may be a result of trauma, incisions, or placement of a tube or catheter

Blood Products Administration—Administration of blood or blood products and monitoring of patient's response

Body Image Enhancement—Improving a patient's conscious and unconscious perceptions and attitudes toward his/her body

Body Mechanics Promotion—Facilitating the use of posture and movement in daily activities to prevent fatigue and musculoskeletal strain or injury

Bottle Feeding—Preparation and administration of fluids to an infant via a bottle

Bowel Incontinence Care—Promotion of bowel continence and maintenance of perianal skin integrity

Bowel Incontinence Care: Encopresis—Promotion of bowel continence in children

Bowel Irrigation—Instillation of a substance into the lower gastrointestinal tract

Bowel Management—Establishment and maintenance of a regular pattern of bowel elimination

Bowel Training—Assisting the patient to train the bowel to evacuate at specific intervals

Breast Examination—Inspection and palpation of the breasts and related areas

Breastfeeding Assistance—Preparing a new mother to breastfeed her infant

Calming Technique—Reducing anxiety in patient experiencing acute distress

Capillary Blood Sample—Obtaining and arteriovenous sample from peripheral body site, such as the heel, finger, or other transcutaneous site

Cardiac Care—Limitation of complications resulting from an imbalance between myocardial oxygen supply and demand for a patient with symptoms of impaired cardiac function

Cardiac Care: Acute—Limitation of complications for a patient recently experiencing an episode of an imbalance between myocardial oxygen supply and demand resulting in impaired cardiac function

Cardiac Care: Rehabilitative—Promotion of maximum functional activity level for a patient who has suffered an episode of impaired cardiac function which resulted from an imbalance between myocardial oxygen supply and demand

Cardiac Precautions—Prevention of an acute episode of impaired cardiac function by minimizing myocardial oxygen consumption or increasing myocardial oxygen supply

Caregiver Support—Provision of the necessary information, advocacy, and support to facilitate primary patient care by someone other than a health care professional

Case Management—Coordinating care and advocating for specified individuals and patient populations across settings to reduce cost, reduce resource use, improve quality of health care, and achieve desired outcomes

Cast Care: Maintenance—Care of a cast after the drying period

Cast Care: Wet—Care of a new cast during the drying period

Cerebral Edema Management—Limitation of secondary cerebral injury resulting from swelling of brain tissue

Cerebral Perfusion Promotion—Promotion of adequate perfusion and limitation of complications for a patient experiencing or at risk for inadequate cerebral perfusion

Cesarean Section Care—Preparation and support of patient delivering a baby by cesarean section

Chemical Restraint—Administration, monitoring, and discontinuation of psychotropic agents used to control an individual's extreme behavior

Chemotherapy Management—Assisting the patient and family to understand the action and minimize side effects of antineoplastic agents

Chest Physiotherapy—Assisting the patient to move airway secretions from peripheral airways to more central airways for expectoration and/or suctioning

Childbirth Preparation—Providing information and support to facilitate childbirth and to enhance the ability of an individual to develop and perform the role of parent

Circulatory Care: Arterial Insufficiency—Promotion of arterial circulation

Circulatory Care: Mechanical Assist Device—Temporary support of the circulation through the use of mechanical devices or pumps

Circulatory Care: Venous Insufficiency—Promotion of venous circulation

Circulatory Precautions—Protection of a localized area with limited perfusion

Circumcision Care—Preprocedural and postprocedural support to males undergoing circumcision

Code Management—Coordination of emergency measures to sustain life

Cognitive Restructuring—Challenging a patient to alter distorted thought patterns and view self and the world more realistically

Cognitive Stimulation—Promotion of awareness and comprehension of surroundings by utilization of planned stimuli

Communicable Disease Management—Working with a community to decrease and manage the incidence and prevalence of contagious diseases in a specific population

Communication Enhancement: Hearing Deficit—Assistance in accepting and learning alternate methods for living with diminished hearing

Communication Enhancement: Speech Deficit—Assistance in accepting and learning alternate methods for living with impaired speech

Communication Enhancement: Visual Deficit—Assistance in accepting and learning alternate methods for living with diminished vision

Community Disaster Preparedness—Preparing for an effective response to a large-scale disaster

Community Health Development—Facilitating members of a community to identify a community's health concerns, mobilize resources, and implement solutions

Complex Relationship Building—Establishing a therapeutic relationship with a patient to promote insight and behavioral change

Conflict Mediation—Facilitation of constructive dialogue between opposing parties with a goal of resolving disputes in a mutually acceptable manner

Constipation/Impaction Management—Prevention and alleviation of constipation/impaction

Consultation—Using expert knowledge to work with those who seek help in problem-solving to enable individuals, families, groups, or agencies to achieve identified goals

Contact Lens Care—Prevention of eye injury and lens damage by proper use of contact lenses

Controlled Substance Checking—Promoting appropriate use and maintaining security of controlled substances

Coping Enhancement—Assisting a patient to adapt to perceived stressors, changes, or threats which interfere with meeting life demands and roles

Cost Containment—Management and facilitation of efficient and effective use of resources

Cough Enhancement—Promotion of deep inhalation by the patient with subsequent generation of high intrathoracic pressures and compression of underlying lung parenchyma for the forceful expulsion of air

Counseling—Use of an interactive helping process focusing on the needs, problems, or feelings of the patient and significant others to enhance or support coping, problem-solving, and interpersonal relationships

Crisis Intervention—Use of short-term counseling to help the patient cope with a crisis and resume a state of functioning comparable to or better than the pre-crisis state

Critical Path Development—Constructing and using a timed sequence of patient care activities to enhance desired patient outcomes in a cost-efficient manner

Culture Brokerage—The deliberate use of culturally competent strategies to bridge or mediate between the patient's culture and the biomedical health care system

Cutaneous Stimulation—Stimulation of the skin and underlying tissues for the purpose of decreasing undesirable signs and symptoms such as pain, muscle spasm, or inflammation

Decision-Making Support—Providing information and support for a patient who is making a decision regarding health care

Delegation—Transfer of responsibility for the performance of patient care while retaining accountability for the outcome

Delirium Management—Provision of a safe and therapeutic environment for the patient who is experiencing an acute confusional state

Delusion Management—Promoting the comfort, safety, and reality orientation of a patient experiencing false, fixed beliefs that have little or no basis in reality

Dementia Management—Provision of a modified environment for the patient who is experiencing a chronic confusional state

Dementia Management: Bathing—Reduction of aggressive behavior during cleaning of the body

Deposition/Testimony—Provision of recorded sworn testimony for legal proceedings based upon knowledge of the case

Developmental Care—Structuring the environment and providing care in response to the behavioral cues and states of the preterm infant

Developmental Enhancement: Adolescent—Facilitating optimal physical, cognitive, social, and emotional growth of individuals during the transition from childhood to adulthood

Developmental Enhancement: Child—Facilitating or teaching parents/caregivers to facilitate the optimal gross motor, fine motor, language, cognitive, social, and emotional growth of preschool and school-aged children

Dialysis Access Maintenance—Preservation of vascular (arterial-venous) access sites

Diarrhea Management—Prevention and alleviation of diarrhea

Diet Staging—Instituting required diet restrictions with subsequent progression of diet as tolerated

Discharge Planning—Preparation for moving a patient from one level of care to another within or outside the current health care agency

Distraction—Purposeful focusing of attention away from undesirable sensations

Documentation—Recording of pertinent patient data in a clinical record

Dressing—Choosing, putting on, and removing clothes for a person who cannot do this for self

Dying Care—Promotion of physical comfort and psychological peace in the final phase of life

Dysreflexia Management—Prevention and elimination of stimuli which cause hyperactive reflexes and inappropriate autonomic responses in a patient with a cervical or high thoracic cord lesion

Dysrhythmia Management—Preventing, recognizing, and facilitating treatment of abnormal cardiac rhythms

Ear Care—Prevention or minimization of threats to ear or hearing

Eating Disorders Management—Prevention and treatment of severe diet restriction and overexercising or binging and purging of food and fluids

Electroconvulsive Therapy (ECT) Management—Assisting with the safe and efficient provision of electroconvulsive therapy in the treatment of psychiatric illness

Electrolyte Management—Promotion of electrolyte balance and prevention of complications resulting from abnormal or undesired serum electrolyte levels

Electrolyte Management: Hypercalcemia—Promotion of calcium balance and prevention of complications resulting from serum calcium levels higher than desired

Electrolyte Management: Hyperkalemia—Promotion of potassium balance and prevention of complications resulting from serum potassium levels higher than desired

Electrolyte Management: Hypermagnesemia—Promotion of magnesium balance and prevention of complications resulting from serum magnesium levels higher than desired

Electrolyte Management: Hypernatremia—Promotion of sodium balance and prevention of complications resulting from serum sodium levels higher than desired

Electrolyte Management: Hyperphosphatemia—Promotion of phosphate bal-

ance and prevention of complications resulting from serum phosphate levels higher than desired

Electrolyte Management: Hypocalcemia— Promotion of calcium balance and prevention of complications resulting from serum calcium levels lower than desired

Electrolyte Management: Hypokalemia— Promotion of potassium balance and prevention of complications resulting from serum potassium levels lower than desired

Electrolyte Management: Hypomagnesemia— Promotion of magnesium balance and prevention of complications resulting from serum magnesium levels lower than desired

Electrolyte Management: Hyponatremia— Promotion of sodium balance and prevention of complications resulting from serum sodium levels lower than desired

Electrolyte Management: Hypophosphatemia— Promotion of phosphate balance and prevention of complications resulting from serum phosphate levels lower than desired

Electrolyte Monitoring— Collection and analysis of patient data to regulate electrolyte balance

Electronic Fetal Monitoring: Antepartum— Electronic evaluation of fetal heart rate response to movement, external stimuli, or uterine contractions during antepartal testing

Electronic Fetal Monitoring: Intrapartum— Electronic evaluation of fetal heart rate response to uterine contractions during intrapartal care

Elopement Precautions— Minimizing the risk of a patient leaving a treatment setting without authorization when departure presents a threat to the safety of patient or others

Embolus Care: Peripheral— Limitation of complications for a patient experiencing, or at risk for, occlusion of peripheral circulation

Embolus Care: Pulmonary— Limitation of complications for a patient experiencing, or at risk for, occlusion of pulmonary circulation

Embolus Precautions— Reduction of the risk of an embolus in a patient with thrombi or at risk for developing thrombus formation

Emergency Care— Providing life-saving measures in life-threatening situations

Emergency Cart Checking— Systematic review and maintenance of the contents of an emergency cart at established time intervals

Emotional Support— Provision of reassurance, acceptance, and encouragement during times of stress

Endotracheal Extubation— Purposeful removal of the endotracheal tube from the nasopharyngeal or oropharyngeal airway

Energy Management— Regulating energy use to treat or prevent fatigue and optimize function

Enteral Tube Feeding— Delivering nutrients and water through a gastrointestinal tube

Environmental Management— Manipulation of the patient's surroundings for therapeutic benefit, sensory appeal, and psychological well-being

Environmental Management: Attachment Process— Manipulation of the patient's surroundings to facilitate the development of the parent-infant relationship

Environmental Management: Comfort— Manipulation of the patient's surroundings for promotion of optimal comfort

Environmental Management: Community— Monitoring and influencing the direction of the physical, social, cultural, economic, and political conditions that affect the health of groups and communities

Environmental Management: Home Preparation— Preparing the home for safe and effective delivery of care

Environmental Management: Safety— Monitoring and manipulation of the physical environment to promote safety

Environmental Management: Violence Prevention— Monitoring and manipulation of the physical environment to decrease the potential for violent behavior directed toward self, others, or environment

Environmental Management: Worker Safety— Monitoring and manipulating of the worksite environment to promote safety and health of workers

Environmental Risk Protection— Preventing and detecting disease and injury in populations at risk from environmental hazards

Examination Assistance— Providing assistance to the patient and another health care provider during a procedure or exam

Exercise Promotion— Facilitation of regular physical activity to maintain or advance to a higher level of fitness and health

Exercise Promotion: Strength Training— Facilitating regular resistive muscle training to maintain or increase muscle strength

Exercise Promotion: Stretching— Facilitation of systematic slow-stretch-hold muscle exercises to induce relaxation, prepare muscles/joints for more vigorous exercise, or to increase or maintain body flexibility

Exercise Therapy: Ambulation— Promotion and assistance with walking to maintain or restore autonomic and voluntary body functions during treatment and recovery from illness or injury

Exercise Therapy: Balance— Use of specific activities, postures, and movements to maintain, enhance, or restore balance

Exercise Therapy: Joint Mobility—Use of active or passive body movement to maintain or restore joint flexibility

Exercise Therapy: Muscle Control—Use of specific activity or exercise protocols to enhance or restore controlled body movement

Eye Care—Prevention or minimization of threats to eye or visual integrity

Fall Prevention—Instituting special precautions with patient at risk for injury from falling

Family Integrity Promotion—Promotion of family cohesion and unity

Family Integrity Promotion: Childbearing Family—Facilitation of the growth of individuals or families who are adding an infant to the family unit

Family Involvement Promotion—Facilitating family participation in the emotional and physical care of the patient

Family Mobilization—Utilization of family strengths to influence patient's health in a positive direction

Family Planning: Contraception—Facilitation of pregnancy prevention by providing information about the physiology of reproduction and methods to control conception

Family Planning: Infertility—Management, education, and support of the patient and significant other undergoing evaluation and treatment for infertility

Family Planning: Unplanned Pregnancy—Facilitation of decision-making regarding pregnancy outcome

Family Presence Facilitation—Facilitation of the family's presence in support of an individual undergoing resuscitation and/or invasive procedures

Family Process Maintenance—Minimization of family process disruption effects

Family Support—Promotion of family values, interests, and goals

Family Therapy—Assisting family members to move their family toward a more productive way of living

Feeding—Providing nutritional intake for patient who is unable to feed self

Fertility Preservation—Providing information, counseling, and treatment that facilitate reproductive health and the ability to conceive

Fever Treatment—Management of a patient with hyperpyrexia caused by nonenvironmental factors

Financial Resource Assistance—Assisting an individual/family to secure and manage finances to meet health care needs

Fire-Setting Precautions—Prevention of fire-setting behaviors

First Aid—Providing initial care of a minor injury

Fiscal Resource Management—Procuring and directing the use of financial resources to ensure the development and continuation of programs and services

Flatulence Reduction—Prevention of flatus formation and facilitation of passage of excessive gas

Fluid Management—Promotion of fluid balance and prevention of complications resulting from abnormal or undesired fluid levels

Fluid Monitoring—Collection and analysis of patient data to regulate fluid balance

Fluid Resuscitation—Administering prescribed intravenous fluids rapidly

Fluid/Electrolyte Management—Regulation and prevention of complications from altered fluid and/or electrolyte levels

Foot Care—Cleansing and inspecting the feet for the purposes of relaxation, cleanliness, and healthy skin

Forgiveness Facilitation—Assisting an individual's willingness to replace feelings of anger and resentment toward another, self, or higher power, with beneficence, empathy, and humility

Gastrointestinal Intubation—Insertion of a tube into the gastrointestinal tract

Genetic Counseling—Use of an interactive helping process focusing on assisting an individual, family, or group, manifesting or at risk for developing or transmitting a birth defect or genetic condition, to cope

Grief Work Facilitation—Assistance with the resolution of a significant loss

Grief Work Facilitation: Perinatal Death—Assistance with the resolution of a perinatal loss

Guided Imagery—Purposeful use of imagination to achieve relaxation and/or direct attention away from undesirable sensations

Guilt Work Facilitation—Helping another to cope with painful feelings of responsibility, actual or perceived

Hair Care—Promotion of neat, clean, attractive hair

Hallucination Management—Promoting the safety, comfort, and reality orientation of a patient experiencing hallucinations

Health Care Information Exchange—Providing patient care information to other health professionals

Health Education—Developing and providing instruction and learning experiences to facilitate voluntary adaptation of behavior conducive to health in individuals, families, groups, or communities

Health Policy Monitoring—Surveillance and influence of government and organization regulations, rules, and standards that affect nursing systems and practices to ensure quality care of patients

Health Screening—Detecting health risks or problems by means of history, examination, and other procedures

Health System Guidance—Facilitating a patient's location and use of appropriate health services

Heat Exposure Treatment— Management of patient overcome by heat due to excessive environmental heat exposure

Heat/Cold Application— Stimulation of the skin and underlying tissues with heat or cold for the purpose of decreasing pain, muscle spasms, or inflammation

Hemodialysis Therapy— Management of extracorporeal passage of the patient's blood through a dialyzer

Hemodynamic Regulation— Optimization of heart rate, preload, afterload, and contractility

Hemofiltration Therapy— Cleansing of acutely ill patient's blood via a hemofilter controlled by the patient's hydrostatic pressure

Hemorrhage Control— Reduction or elimination of rapid and excessive blood loss

High-Risk Pregnancy Care— Identification and management of a high-risk pregnancy to promote healthy outcomes for mother and baby

Home Maintenance Assistance— Helping the patient/family to maintain the home as a clean, safe, and pleasant place to live

Hope Inspiration— Facilitation of the development of a positive outlook in a given situation

Hormone Replacement Therapy— Facilitation of safe and effective use of hormone replacement therapy

Humor— Facilitating the patient to perceive, appreciate, and express what is funny, amusing, or ludicrous in order to establish relationships, relieve tension, release anger, facilitate learning, or cope with painful feelings

Hyperglycemia Management— Preventing and treating above normal blood glucose levels

Hypervolemia Management— Reduction in extracellular and/or intracellular fluid volume and prevention of complications in a patient who is fluid overloaded

Hypnosis— Assisting a patient to achieve a state of attentive focused concentration with suspension of some peripheral awareness to create changes in sensations, thoughts, or behavior

Hypoglycemia Management— Preventing and treating low blood glucose levels

Hypothermia Treatment— Rewarming and surveillance of a patient whose core body temperature is below 35°C

Hypovolemia Management— Expansion of intravascular fluid volume in a patient who is volume depleted

Immunization/Vaccination Management— Monitoring immunization status, facilitating access to immunizations, and providing immunizations to prevent communicable disease

Impulse Control Training— Assisting the patient to mediate impulsive behavior through application of problem-solving strategies to social and interpersonal situations

Incident Reporting— Written and verbal reporting of any event in the process of patient care that is inconsistent with desired patient outcomes or routine operations of the health care facility

Incision Site Care— Cleansing, monitoring, and promotion of healing in a wound that is closed with sutures, clips, or staples

Infant Care— Provision of developmentally appropriate family-centered care to the child under 1 year of age

Infection Control— Minimizing the acquisition and transmission of infectious agents

Infection Control: Intraoperative— Preventing nosocomial infection in the operating room

Infection Protection— Prevention and early detection of infection in a patient at risk

Insurance Authorization— Assisting the patient and provider to secure payment for health services or equipment from a third party

Intracranial Pressure (ICP) Monitoring— Measurement and interpretation of patient data to regulate intracranial pressure

Intrapartal Care— Monitoring and management of stages one and two of the birth process

Intrapartal Care: High-Risk Delivery— Assisting vaginal birth of multiple or malpositioned fetuses

Intravenous (IV) Insertion— Insertion of a needle into a peripheral vein for the purpose of administering fluids, blood, or medications

Intravenous (IV) Therapy— Administration and monitoring of intravenous fluids and medications

Invasive Hemodynamic Monitoring— Measurement and interpretation of invasive hemodynamic parameters to determine cardiovascular function and regulate therapy as appropriate

Kangaroo Care— Promoting closeness between parent and physiologically stable preterm infant by preparing the parent and providing the environment for skin-to-skin contact

Labor Induction— Initiation or augmentation of labor by mechanical or pharmacological methods

Labor Suppression— Controlling uterine contractions prior to 37 weeks of gestation to prevent preterm birth

Laboratory Data Interpretation— Critical analysis of patient laboratory data in order to assist with clinical decision-making

Lactation Counseling— Use of an interactive helping process to assist in maintenance of successful breastfeeding

Lactation Suppression— Facilitating the cessation of milk production and mini-

mizing breast engorgement after giving birth

Laser Precautions—Limiting the risk of injury to the patient related to use of a laser

Latex Precautions—Reducing the risk of systemic reaction to latex

Learning Facilitation—Promoting the ability to process and comprehend information

Learning Readiness Enhancement—Improving the ability and willingness to receive information

Leech Therapy—Application of medicinal leeches to help drain replanted or transplanted tissue engorged with venous blood

Limit Setting—Establishing the parameters of desirable and acceptable patient behavior

Lower Extremity Monitoring—Collection, analysis, and use of patient data to categorize risk and prevent injury to the lower extremities

Malignant Hyperthermia Precautions—Prevention or reduction of hypermetabolic response to pharmacological agents used during surgery

Massage—Stimulation of the skin and underlying tissues with varying degrees of hand pressure to decrease pain, produce relaxation, and/or improve circulation

Mechanical Ventilation—Use of an artificial device to assist a patient to breathe

Mechanical Ventilatory Weaning—Assisting the patient to breathe without the aid of a mechanical ventilator

Medication Administration—Preparing, giving, and evaluating the effectiveness of prescription and nonprescription drugs

Medication Administration: Ear—Preparing and instilling otic medications

Medication Administration: Enteral—Delivering medications through a tube inserted into the gastrointestinal system

Medication Administration: Eye—Preparing and instilling ophthalmic medications

Medication Administration: Inhalation—Preparing and administering inhaled medications

Medication Administration: Interpleural—Administration of medication through an interpleural catheter for reduction of pain

Medication Administration: Intradermal—Preparing and giving medications via the intradermal route

Medication Administration: Intramuscular (IM)—Preparing and giving medications via the intramuscular route

Medication Administration: Intraosseous—Insertion of a needle through the bone cortex into the medullary cavity for the purpose of short-term, emergency administration of fluid, blood, or medication

Medication Administration: Intraspinal—Administration and monitoring of medication via an established epidural or intrathecal route

Medication Administration: Intravenous (IV)—Preparing and giving medications via the intravenous route

Medication Administration: Nasal—Preparing and giving medications via nasal passages

Medication Administration: Oral—Preparing and giving medications by mouth

Medication Administration: Rectal—Preparing and inserting rectal suppositories

Medication Administration: Skin—Preparing and applying medications to the skin

Medication Administration: Subcutaneous—Preparing and giving medications via the subcutaneous route

Medication Administration: Vaginal—Preparing and inserting vaginal medications

Medication Administration: Ventricular Reservoir—Administration and monitoring of medication through an indwelling catheter into the lateral ventricle of the brain

Medication Management—Facilitation of safe and effective use of prescription and over-the-counter drugs

Medication Prescribing—Prescribing medication for a health problem

Meditation Facilitation—Facilitating a person to alter his/her level of awareness by focusing specifically on an image or thought

Memory Training—Facilitation of memory

Milieu Therapy—Use of people, resources, and events in the patient's immediate environment to promote optimal psychosocial functioning

Mood Management—Providing for safety, stabilization, recovery, and maintenance of a patient who is experiencing dysfunctionally depressed mood or elevated mood

Multidisciplinary Care Conference—Planning and evaluating patient care with health professionals from other disciplines

Music Therapy—Using music to help achieve a specific change in behavior, feeling, or physiology

Mutual Goal Setting—Collaborating with patient to identify and prioritize care goals, then developing a plan for achieving those goals

Nail Care—Promotion of clean, neat, attractive nails and prevention of skin lesions related to improper care of nails

Nausea Management—Prevention and alleviation of nausea

Neurologic Monitoring—Collection and analysis of patient data to prevent or minimize neurological complications

Newborn Care— Management of neonate during the transition to extrauterine life and subsequent period of stabilization

Newborn Monitoring— Measurement and interpretation of physiologic status of the neonate the first 24 hours after delivery

Nonnutritive Sucking— Provision of sucking opportunities for the infant

Normalization Promotion— Assisting parents and other family members of children with chronic illnesses or disabilities in providing normal life experiences for their children and families

Nutrition Management— Assisting with or providing a balanced dietary intake of foods and fluids

Nutrition Therapy— Administration of food and fluids to support metabolic processes of a patient who is malnourished or at high risk for becoming malnourished

Nutritional Counseling— Use of an interactive helping process focusing on the need for diet modification

Nutritional Monitoring— Collection and analysis of patient data to prevent or minimize malnourishment

Oral Health Maintenance— Maintenance and promotion of oral hygiene and dental health for the patient at risk for developing oral or dental lesions

Oral Health Promotion— Promotion of oral hygiene and dental care for a patient with normal oral and dental health

Oral Health Restoration— Promotion of healing for a patient who has an oral mucosa or dental lesion

Order Transcription— Transferring information from order sheets to the nursing patient care planning and documentation system

Organ Procurement— Guiding families through the donation process to ensure timely retrieval of vital organs and tissue for transplant

Ostomy Care— Maintenance of elimination through a stoma and care of surrounding tissue

Oxygen Therapy— Administration of oxygen and monitoring of its effectiveness

Pacemaker Management: temporary— Temporary support of cardiac pumping through the insertion and use of temporary pacemakers

Pain Management— Alleviation of pain or a reduction in pain to a level of comfort that is acceptable to the patient

Parent Education: Adolescent— Assisting parents to understand and help their adolescent children

Parent Education: Childrearing Family— Assisting parents to understand and promote the physical, psychological, and social growth and development of their toddler, preschool, or school-aged child/children

Parent Education: Infant— Instruction on nurturing and physical care needed during the first year of life

Parenting Promotion— Providing parenting information, support and coordination of comprehensive services to high-risk families

Pass Facilitation— Arranging a leave for a patient from a health care facility

Patient Contracting— Negotiating an agreement with an individual that reinforces a specific behavior change

Patient-Controlled Analgesia (PCA) Assistance— Facilitating patient control of analgesic administration and regulation

Patient Rights Protection— Protection of health care rights of a patient, especially a minor, incapacitated, or incompetent patient unable to make decisions

Peer Review— Systematic evaluation of a peer's performance compared with professional standards of practice

Pelvic Muscle Exercise— Strengthening and training the levator ani and urogenital muscles through voluntary, repetitive contraction to decrease stress, urge, or mixed types of urinary incontinence

Perineal Care— Maintenance of perineal skin integrity and relief of perineal discomfort

Peripheral Sensation Management— Prevention or minimization of injury or discomfort in the patient with altered sensation

Peripherally Inserted Central (PIC) Catheter Care— Insertion and maintenance of a peripherally inserted central catheter, either midline or centrally located

Peritoneal Dialysis Therapy— Administration and monitoring of dialysis solution into and out of the peritoneal cavity

Pessary Management— Placement and monitoring of a vaginal device for treating stress urinary incontinence, uterine retroversion, genital prolapse, or incompetent cervix

Phlebotomy: Arterial Blood Sample— Obtaining a blood sample from an uncannulated artery to assess oxygen and carbon dioxide levels and acid-base balance

Phlebotomy: Blood Unit Acquisition— Procuring blood and blood products from donors

Phlebotomy: Cannulated Vessel— Aspirating a blood sample through an indwelling vascular catheter for laboratory tests

Phlebotomy: Venous Blood Sample— Removal of a sample of venous blood from an uncannulated vein

Phototherapy: Mood/Sleep Regulation— Administration of doses of bright light in order to elevate mood and/or normalize the body's internal clock

Phototherapy: Neonate— Use of light therapy to reduce bilirubin levels in newborn infants

Physical Restraint— Application, monitoring, and removal of mechanical restraining devices or manual restraints

which are used to limit physical mobility of a patient

Physician Support— Collaborating with physicians to provide quality patient care

Pneumatic Tourniquet Precautions— Applying a pneumatic tourniquet while minimizing the potential for patient injury from use of the device

Positioning— Deliberative placement of the patient or a body part to promote physiological and/or psychological well-being

Positioning: Intraoperative— Moving the patient or body part to promote surgical exposure while reducing the risk of discomfort and complications

Positioning: Neurologic— Achievement of optimal, appropriate body alignment for the patient experiencing or at risk for spinal cord injury or vertebrae irritability

Positioning: Wheelchair— Placement of a patient in a properly selected wheelchair to enhance comfort, promote skin integrity, and foster independence

Postanesthesia Care— Monitoring and management of the patient who has recently undergone general or regional anesthesia

Postmortem Care— Providing physical care of the body of an expired patient and support for the family viewing the body

Postpartal Care— Monitoring and management of the patient who has recently given birth

Preceptor: Employee— Assisting and supporting a new or transferred employee through a planned orientation to a specific clinical area

Preceptor: Student— Assisting and supporting learning experiences for a student

Preconception Counseling— Screening and providing information and support to individuals of childbearing age before pregnancy to promote health and reduce risks

Pregnancy Termination Care— Management of the physical and psychological needs of the woman undergoing a spontaneous or elective abortion

Premenstrual Syndrome (PMS) Management— Alleviation/attenuation of physical and/or behavioral symptoms occurring during the luteal phase of the menstrual cycle

Prenatal Care— Monitoring and management of patient during pregnancy to prevent complications of pregnancy and promote a healthy outcome for both mother and infant

Preoperative Coordination— Facilitating preadmission diagnostic testing and preparation of the surgical patient

Preparatory Sensory Information— Describing in concrete and objective terms the typical sensory experiences and events associated with an upcoming stressful health care procedure/treatment

Presence— Being with another, both physically and psychologically, during times of need

Pressure Management— Minimizing pressure to body parts

Pressure Ulcer Care— Facilitation of healing in pressure ulcers

Pressure Ulcer Prevention— Prevention of pressure ulcers for an individual at high risk for developing them

Product Evaluation— Determining the effectiveness of new products or equipment

Program Development— Planning, implementing, and evaluating a coordinated set of activities designed to enhance wellness, or to prevent, reduce, or eliminate one or more health problems for a group or community

Progressive Muscle Relaxation— Facilitating the tensing and releasing of successive muscle groups while attending to the resulting differences in sensation

Prompted Voiding— Promotion of urinary continence through the use of timed verbal toileting reminders and positive social feedback for successful toileting

Prosthesis Care— Care of a removable appliance worn by a patient and the prevention of complications associated with its use

Pruritus Management— Preventing and treating itching

Quality Monitoring— Systematic collection and analysis of an organization's quality indicators for the purpose of improving patient care

Radiation Therapy Management— Assisting the patient to understand and minimize the side effects of radiation treatments

Rape-Trauma Treatment— Provision of emotional and physical support immediately following a reported rape

Reality Orientation— Promotion of patient's awareness of personal identity, time, and environment

Recreation Therapy— Purposeful use of recreation to promote relaxation and enhancement of social skills

Rectal Prolapse Management— Prevention and/or manual reduction of rectal prolapse

Referral— Arrangement for services by another care provider or agency

Relaxation Therapy— Use of techniques to encourage and elicit relaxation for the purpose of decreasing undesirable signs and symptoms such as pain, muscle tension, or anxiety

Religious Addiction Prevention— Prevention of a self-imposed controlling religious lifestyle

Religious Ritual Enhancement— Facilitating participation in religious practices

Relocation Stress Reduction— Assisting the individual to prepare for and cope with movement from one equipment to another

Reminiscence Therapy— Using the recall of past events, feelings, and thoughts

to facilitate pleasure, quality of life, or adaptation to present circumstances

Reproductive Technology Management—Assisting a patient through the steps of complex infertility treatment

Research Data Collection—Collecting research data

Resiliency Promotion—Assisting individuals, families, and communities in development, use, and strengthening of protective factors to be used in coping with environmental and societal stressors

Respiratory Monitoring—Collection and analysis of patient data to ensure airway patency and adequate gas exchange

Respite Care—Provision of short-term care to provide relief for family caregiver

Resuscitation—Administering emergency measures to sustain life

Resuscitation: Fetus—Administering emergency measures to improve placental perfusion or correct fetal acid-base status

Resuscitation: Neonate—Administering emergency measures to support newborn adaptation to extrauterine life

Risk Identification—Analysis of potential risk factors, determination of health risks, and prioritization of risk reduction strategies for an individual or group

Risk Identification: Childbearing Family—Identification of an individual or family likely to experience difficulties in parenting and prioritization of strategies to prevent parenting problems

Risk Identification: Genetic—Identification and analysis of potential genetic risk factors in an individual, family, or group

Role Enhancement—Assisting a patient, significant other, and/or family to improve relationships by clarifying and supplementing specific role behaviors

Seclusion—Solitary containment in a fully protective environment with close surveillance by nursing staff for purposes of safety or behavior management

Security Enhancement—Intensifying a patient's sense of physical and psychological safety

Sedation Management—Administration of sedatives, monitoring of the patient's response, and provision of necessary physiological support during a diagnostic or therapeutic procedure

Seizure Management—Care of a patient during a seizure and the postictal state

Seizure Precautions—Prevention or minimization of potential injuries sustained by a patient with a known seizure disorder

Self-Awareness Enhancement—Assisting a patient to explore and understand his/her thoughts, feelings, motivations, and behaviors

Self-Care Assistance—Assisting another to perform activities of daily living

Self-Care Assistance: Bathing/Hygiene—Assisting patient to perform personal hygiene

Self-Care Assistance: Dressing/Grooming—Assisting patient with clothes and makeup

Self-Care Assistance: Feeding—Assisting a person to eat

Self-Care Assistance (IADL)—Assisting and instructing a person to perform instrumental activities of daily living (IADL) needed to function in the home or community

Self-Care Assistance: Toileting—Assisting a patient with limitation of independent movement to learn to change body location

Self-Care Assistance: Transfer—Assisting a person to change body location

Self-Esteem Enhancement—Assisting a patient to increase his/her personal judgment of self-worth

Self-Hypnosis Facilitation—Teaching and monitoring the use of self-initiated hypnotic state for therapeutic benefit

Self-Modification Assistance—Reinforcement of self-directed change initiated by the patient to achieve personally important goals

Self-Responsibility Facilitation—Encouraging a patient to assume more responsibility for own behavior

Sexual Counseling—Use of an interactive helping process focusing on the need to make adjustments in sexual practice or to enhance coping with a sexual event/disorder

Shift Report—Exchanging essential patient care information with other nursing staff at change of shift

Shock Management—Facilitation of the delivery of oxygen and nutrients to systemic tissue with removal of cellular waste products in a patient with severely altered tissue perfusion

Shock Management: Cardiac—Promotion of adequate tissue perfusion for a patient with severely compromised pumping function of the heart

Shock Management: Vasogenic—Promotion of adequate tissue perfusion for a patient with severe loss of vascular tone

Shock Management: Volume—Promotion of adequate tissue perfusion for a patient with severely compromised intravascular volume

Shock Prevention—Detecting and treating a patient at risk for impending shock

Sibling Support—Assisting a sibling to cope with a brother's or sister's illness/chronic condition/disability

Skin Care: Donor Site—Prevention of wound complications and promotion of healing at the donor site

Skin Care: Graft Site—Prevention of wound complications and promotion of graft site healing

Skin Care: Topical Treatments—Application of topical substances or manipulation of devices to promote skin integrity and minimize skin breakdown

Skin Surveillance— Collection and analysis of patient data to maintain skin and mucous membrane integrity
Sleep Enhancement— Facilitation of regular sleep/wake cycles
Smoking Cessation Assistance— Helping another to stop smoking
Socialization Enhancement— Facilitation of another person's ability to interact with others
Specimen Management— Obtaining, preparing, and preserving a specimen for a laboratory test
Spiritual Growth Facilitation— Facilitation of growth in patient's capacity to identify, connect with, and call upon the source of meaning, purpose, comfort, strength, and hope in his/her life
Spiritual Support— Assisting the patient to feel balance and connection with a greater power
Splinting— Stabilization, immobilization, and/or protection of an injured body part with a supportive appliance
Sports-Injury Prevention: Youth— Reduce the risk of sport-related injury in young athletes
Staff Development— Developing, maintaining, and monitoring competence of staff
Staff Supervision— Facilitating the delivery of high-quality patient care by others
Subarachnoid Hemorrhage Precautions— Reduction of internal and external stimuli or stressors to minimize risk of rebleeding prior to surgery or endovascular procedure to secure ruptured aneurysm
Substance Use Prevention— Prevention of an alcoholic or drug use lifestyle
Substance Use Treatment— Supportive care of patient/family members with physical and psychosocial problems associated with the use of alcohol or drugs
Substance Use Treatment: Alcohol Withdrawal— Care of the patient experiencing sudden cessation of alcohol consumption
Substance Use Treatment: Drug Withdrawal— Care of a patient experiencing drug detoxification
Substance Use Treatment: Overdose— Monitoring, treatment, and emotional support of a patient who has ingested prescription or over-the-counter drugs beyond the therapeutic range
Suicide Prevention— Reducing risk of self-inflicted harm with intent to end life
Supply Management— Ensuring acquisition and maintenance of appropriate items for providing patient care
Support Group— Use of a group environment to provide emotional support and health-related information for members
Support System Enhancement— Facilitation of support to patient by family, friends, and community
Surgical Assistance— Assisting the surgeon/dentist with operative procedures and care of the surgical patient
Surgical Precautions— Minimizing the potential for iatrogenic injury to the patient related to a surgical procedure
Surgical Preparation— Providing care to a patient immediately prior to surgery and verification of required procedures/tests and documentation in the clinical record
Surveillance— Purposeful and ongoing acquisition, interpretation, and synthesis of patient data for clinical decision-making
Surveillance: Community— Purposeful and ongoing acquisition, interpretation, and synthesis of data for decision-making in the community
Surveillance: Late Pregnancy— Purposeful and ongoing acquisition, interpretation, and synthesis of maternal-fetal data for treatment, observation, or admission
Surveillance: Remote Electronic— Purposeful and ongoing acquisition of patient data via electronic modalities (telephone, video, conferencing, e-mail) from distant locations as well as interpretation and synthesis of patient data for clinical decision-making with individuals or populations
Surveillance: Safety— Purposeful and ongoing collection and analysis of information about the patient and the environment for use in promoting and maintaining patient safety
Sustenance Support— Helping a needy individual/family to locate food, clothing, or shelter
Suturing— Approximating edges of a wound using sterile suture material and a needle
Swallowing Therapy— Facilitating swallowing and preventing complications of impaired swallowing
Teaching: Disease Process— Assisting the patient to understand information related to a specific disease process
Teaching: Foot Care— Preparing a patient at risk and/or significant other to provide preventive foot care
Teaching: Group— Development, implementation, and evaluation of a patient-teaching program for a group of individuals experiencing the same health condition
Teaching: Individual— Planning, implementation, and evaluation of a teaching program designed to address a patient's particular needs
Teaching: Preoperative— Assisting a patient to understand and mentally prepare for surgery and the postoperative recovery period
Teaching: Prescribed Activity/Exercise— Preparing a patient to achieve and/or maintain a prescribed level of activity
Teaching: Prescribed Diet— Preparing a patient to correctly follow a prescribed diet
Teaching: Prescribed Medication— Preparing a patient to safely take pre-

scribed medications and monitor for their effects

Teaching: Procedure/Treatment— Preparing a patient to understand and mentally prepare for a prescribed procedure or treatment

Teaching: Psychomotor Skill— Preparing a patient to perform a psychomotor skill

Teaching: Safe Sex— Providing instruction concerning sexual protection during sexual activity

Teaching: Sexuality— Assisting individuals to understand physical and psychosocial dimensions of sexual growth and development

Teaching: Toilet Training— Instruction on determining the child's readiness and strategies to assist the child to learn independent toileting skills

Technology Management— Use of technical equipment and devices to monitor patient condition or sustain life

Telephone Consultation— Eliciting patient's concerns, listening, and providing support, information, or teaching in response to patient's stated concerns, over the telephone

Telephone Follow-up— Providing results of testing or evaluating patient's response and determining potential for problems as a result of previous treatment, examination, or testing, over the telephone

Temperature Regulation— Attaining and/or maintaining body temperature within a normal range

Temperature Regulation: Intraoperative— Attaining and/or maintaining desired intraoperative body temperature

Therapeutic Play— Purposeful and directive use of toys and other materials to assist children in communicating their perception and knowledge of their world and to help in gaining mastery of their environment

Therapeutic Touch— Attuning to the universal healing field, seeking to act as an instrument for healing influence, and using the natural sensitivity of the hands to gently focus and direct the intervention process

Therapy Group— Application of psychotherapeutic techniques to a group, including the utilization of interactions between members of the group

Total Parenteral Nutrition (TPN) Administration— Preparation and delivery of nutrients intravenously and monitoring of patient responsiveness

Touch— Providing comfort and communication through purposeful tactile contact

Traction/Immobilization Care— Management of a patient who has traction and/or a stabilizing device to immobilize and stabilize a body part

Transcutaneous Electrical Nerve Stimulation (TENS)— Stimulation of skin and underlying tissues with controlled, low-voltage electrical vibration via electrodes

Trauma Therapy: Child— Use of an interactive helping process to resolve a trauma experienced by a child

Triage: Disaster— Establishing priorities of patient care for urgent treatment while allocating scarce resources

Triage: Emergency Center— Establishing priorities and initiating treatment for patients in an emergency center

Triage: Telephone— Determining the nature and urgency of a problem(s) and providing directions for the level of care required, over the telephone

Truth Telling— Use of whole truth, partial truth, or decision delay to promote the patient's self-determination and well-being

Tube Care— Management of a patient with an external drainage device exiting the body

Tube Care: Chest— Management of a patient with an external water-seal drainage device exiting the chest cavity

Tube Care: Gastrointestinal— Management of a patient with a gastrointestinal tube

Tube Care: Umbilical Line— Management of a newborn with an umbilical catheter

Tube Care: Urinary— Management of a patient with urinary drainage equipment

Tube Care: Ventriculostomy/Lumbar Drain— Management of a patient with an external cerebrospinal fluid drainage system

Ultrasonography: Limited Obstetric— Performance of ultrasound exams to determine ovarian, uterine, or fetal status

Unilateral Neglect Management— Protecting and safely reintegrating the affected part of the body while helping the patient adapt to disturbed perceptual abilities

Urinary Bladder Training— Improving bladder function for those with urge incontinence by increasing the bladder's ability to hold urine and the patient's ability to suppress urination

Urinary Catheterization— Insertion of a catheter into the bladder for temporary or permanent drainage of urine

Urinary Catheterization: Intermittent— Regular periodic use of a catheter to empty the bladder

Urinary Elimination Management— Maintenance of an optimum urinary elimination pattern

Urinary Habit Training— Establishing a predictable pattern of bladder emptying to prevent incontinence for persons with limited cognitive ability who have urge, stress, or functional incontinence

Urinary Incontinence Care— Assistance in promoting continence and maintaining perineal skin integrity

Urinary Incontinence Care: Enuresis— Promotion of urinary continence in children

Urinary Retention Care— Assistance in relieving bladder distention
Values Clarification— Assisting another to clarify her/his own values in order to facilitate effective decision-making
Vehicle Safety Promotion— Assisting individuals, families, and communities to increase awareness of measures to reduce unintentional injuries in motorized and non-motorized vehicles
Venous Access Devices (VAD) Maintenance— Management of the patient with prolonged venous access via tunneled and non-tunneled (percutaneous) catheters, and implanted ports
Ventilation Assistance— Promotion of an optimal spontaneous breathing pattern that maximizes oxygen and carbon dioxide exchange in the lungs
Visitation Facilitation— Promoting beneficial visits by family and friends
Vital Signs Monitoring— Collection and analysis of cardiovascular, respiratory, and body temperature data to determine and prevent complications
Vomiting Management— Prevention and alleviation of vomiting
Weight Gain Assistance— Facilitating gain of body weight
Weight Management— Facilitating maintenance of optimal body weight and percent body fat
Weight Reduction Assistance— Facilitating loss of weight and/or body fat
Wound Care— Prevention of wound complications and promotion of wound healing
Wound Care: Closed Drainage— Maintenance of a pressure drainage system at the wound site
Wound Irrigation— Flushing of an open wound to cleanse and remove debris and excessive drainage

SOURCE: Dochterman, J McCloskey and Bulecheck, GM: Nursing Interventions Classification, ed. 5, Mosby (Elsevier), St. Louis, 2007, with permission.

APPENDIX N3
Nursing Outcomes Classification System
Outcome Labels and Definitions

Abuse Cessation—Evidence that the victim is no longer exploited
Abuse Protection—Protection of self or dependent others from abuse
Abuse Recovery: Emotional—Extent of healing of psychological injuries due to abuse
Abuse Recovery: Financial—Extent of control of monetary and legal matters following financial exploitation
Abuse Recovery: Physical—Extent of healing of physical injuries due to abuse
Abuse Recovery: Sexual—Extent of healing of physical and psychological injuries due to sexual abuse or exploitation
Abuse Recovery Status—Extent of healing following physical or psychological abuse that may include sexual or financial exploitation
Abusive Behavior Self-Restraint—Self-restraint of abuse and neglectful behaviors towards others
Acceptance: Health Status—Reconciliation significant change in health circumstances
Activity Tolerance—Psychological response to energy-consuming movements with daily activities
Adaptation to Physical Disability—Adaptive response to a significant functional challenge due to a physical disability
Adherence Behavior—Self-initiated actions to promote wellness, recovery, and rehabilitation
Aggression Self-Control—Self-restraint of assaultive, combative, or destructive behavior toward others
Allergic Response: Localized—Severity of localized hypersensitive immune response to a specific environmental (exogenous) antigen
Allergic Response: Systemic—Severity of systemic hypersensitive immune response to a specific environmental (exogenous) antigen
Ambulation—Ability to walk from place to place independently with or without assistive device
Ambulation: Wheelchair—Ability to move from place to place in a wheelchair
Anxiety Self-Control—Personal actions to eliminate or reduce feelings of apprehension, tension, or uneasiness from an unidentifiable source
Anxiety Level—Severity of manifested apprehension, tension, or uneasiness arising from an unidentifiable source
Appetite—Desire to eat when ill or receiving treatment
Aspiration Prevention—Personal actions to prevent the passage of fluid and solid particles into the lung
Asthma Self-Management—Personal actions to reverse inflammatory condition resulting in bronchial constriction of the airways
Balance—Ability to maintain body equilibrium
Blood Coagulation—Extent to which blood clots within normal period of time
Blood Glucose Level—Extent to which plasma glucose levels in plasma and urine are maintained in normal range
Blood Loss Severity—Severity of internal or external bleeding/hemorrhage
Blood Transfusion Reaction—Severity of complications with blood transfusions reaction
Body Image—Perception of own appearance and body functions
Body Mechanics Performance—Personal actions to maintain proper body alignment and to prevent muscular skeletal strain
Body Positioning: Self-Initiated—Ability to change own body position independently with or without assistive device
Bone Healing—Extent of regeneration of cells and tissues following bone injury
Bowel Continence—Control of passage of stool from the bowel
Bowel Elimination—Formation and evacuation of stool
Breastfeeding Establishment: Infant—Infant attachment to and sucking from the mother's breast for nourishment during the first 3 weeks of breastfeeding
Breastfeeding Establishment: Maternal—Maternal establishment of proper attachment of an infant to and sucking from the breast for nourishment during the first 3 weeks of breastfeeding
Breastfeeding Maintenance—Continuation of breastfeeding for nourishment of an infant/toddler
Breastfeeding Weaning—Progressive discontinuation of breastfeeding
Cardiac Disease Self-Management—Personal actions to manage heart disease and prevent disease progression
Cardiac Pump Effectiveness—Adequacy of blood volume ejected from the left ventricle to support systemic perfusion pressure
Caregiver Adaptation to Patient Institutionalization—Adaptive response of family caregiver when the care recipient is moved to an institution

Caregiver Emotional Health—Emotional well-being of a family care provider while caring for a family member

Caregiver Home Care Readiness—Extent of preparedness of a caregiver to assume responsibility for the health care of a family member in the home

Caregiver Lifestyle Disruption—Severity of disturbances in the lifestyle of a family member due to caregiving

Caregiver-Patient Relationship—Positive interactions and connections between the caregiver and care recipient

Caregiver Performance: Direct Care—Provision by family care provider of appropriate personal and health care for a family member

Caregiver Performance: Indirect Care—Arrangement and oversight by family care provider of appropriate care for a family member

Caregiver Physical Health—Physical well-being of a family care provider while caring for a family member

Caregiver Stressors—Severity of biopsychosocial pressure on a family care provider caring for another over an extended period of time

Caregiver Well-Being—Extent of positive perception of primary care provider's health status and life circumstances

Caregiving Endurance Potential—Factors that promote family care provider continuance over an extended period of time

Child Adaptation to Hospitalization—Adaptive response of a child from 3 years through 17 years of age to hospitalization

Child Development: 1 month—Milestones of physical, cognitive, and psychosocial progression by 1 month of age

Child Development: 2 months—Milestones of physical, cognitive, and psychosocial progression by 2 months of age

Child Development: 4 months—Milestones of physical, cognitive, and psychosocial progression by 4 months of age

Child Development: 6 months—Milestones of physical, cognitive, and psychosocial progression by 6 months of age

Child Development: 12 months—Milestones of physical, cognitive, and psychosocial progression by 12 months of age

Child Development: 2 years—Milestones of physical, cognitive, and psychosocial progression by 2 years of age

Child Development: 3 years—Milestones of physical, cognitive, and psychosocial progression by 3 years of age

Child Development: 4 years—Milestones of physical, cognitive, and psychosocial progression by 4 years of age

Child Development: Preschool—Milestones of physical, cognitive, and psychosocial progression from 3 years through 5 years of age

Child Development: Middle Childhood—Milestones of physical, cognitive, and psychosocial progression from 6 years through 11 years of age

Child Development: Adolescence—Milestones of physical, cognitive, and psychosocial progression from 12 years through 17 years of age

Circulation Status—Unobstructed, unidirectional blood flow at an appropriate pressure through large vessels of the systemic and pulmonary circuits

Client Satisfaction: Access to Care Resources—Extent of positive perception of access to nursing staff, supplies, and equipment needed for care

Client Satisfaction: Caring—Extent of positive perception of nursing staff's concern for the client

Client Satisfaction: Communication—Extent of positive perception of information exchanged between client and nursing staff

Client Satisfaction: Continuity of Care—Extent of positive perception of coordination of cares as the patient moves from one care setting to another

Client Satisfaction: Cultural Needs Fulfillment—Extent of positive perception of integration of cultural beliefs, values, and social structures into nursing care

Client Satisfaction: Functional Assistance—Extent of positive perception of nursing assistance to achieve mobility and self-care as independently as health conditions permit

Client Satisfaction: Physical Care—Extent of positive perception of nursing care to maintain body functions and cleanliness

Client Satisfaction: Physical Environment—Extent of positive perception of living environment, treatment environment, equipment and supplies in acute or long term care settings

Client Satisfaction: Protection of Rights—Extent of positive perception of protection of a client's legal and moral rights provided by nursing staff

Client Satisfaction: Psychological Care—Extent of positive perception of nursing assistance to perform emotional and mental activities as independently as health condition permits

Client Satisfaction: Safety—Extent of positive perception of procedures, information, and nursing care to prevent harm or injury

Client Satisfaction: Symptom Control—Extent of positive perception of nursing care to relieve symptoms of illness

Client Satisfaction: Teaching—Extent of positive perception of instruction provided by nursing staff to improve knowledge, understanding, and participation in care

Client Satisfaction: Technical Aspects of Care—Extent of positive perception of nursing staff's knowledge and expertise used in providing care

Cognition—Ability to execute complex mental processes
Cognitive Orientation—Ability to identify person, place, and time accurately
Comfort Level—Extent of positive perception of physical and psychological ease
Comfortable Death—Physical and psychological ease with the impending end of life
Communication—Reception, interpretation, and expression of spoken, written, and nonverbal messages
Communication: Expressive—Expression of meaningful verbal and/or nonverbal messages
Communication: Receptive—Reception and interpretation of verbal and/or nonverbal messages
Community Competence—Capacity of a community to collectively problem solve to achieve community goals
Community Disaster Readiness—Community preparedness to respond to a natural or man-made calamitous event
Community Health Status—The general state of well-being of a community or population
Community Health Status: Immunity—Resistance of community members to the invasion and spread of an infectious agent that could threaten public health
Community Risk Control: Chronic Disease—Community actions to reduce the risk of chronic diseases and related complications
Community Risk Control: Communicable Disease—Community actions to eliminate or reduce the spread of infectious agents (bacteria, fungi, parasites, and viruses) that threaten public health
Community Risk Control: Lead Exposure—Community actions to reduce lead exposure and poisoning
Community Risk Control: Violence—Community actions to eliminate or reduce intentional violent acts resulting in serious physical or psychological harm
Community Violence Level—Incidence of violent acts compared with local, state or national values
Compliance Behavior—Personal actions to promote wellness, recovery, and rehabilitation based on professional advice
Concentration—Ability to focus on a specific stimulus
Coordinated Movement—Ability of muscles to work together voluntarily for purposeful movement
Coping—Personal actions to manage stressors that tax an individual's resources
Decision Making—Ability to make judgements and choose between two or more alternatives
Depression Self-Control—Personal actions to minimize melancholy and maintain interest in life events
Depression Level—Severity of melancholic mood and loss of interest in life events
Diabetes Self-Management—Personal actions to manage diabetes mellitus and prevent disease progression
Dignified Life Closure—Personal actions to maintain control during approaching end of life
Discharge Readiness: Independent Living—Readiness of a patient to relocate from a health care institution to living independently
Discharge Readiness: Supported Living—Readiness of a patient to relocate from a health care institution to a lower level of supported living
Distorted Thought Self-Control—Self-restraint or disruption in perception, thought processes, and thought content
Electrolyte Acid/Base Balance—Balance of the electrolytes and non-electrolytes in the intracellular and extracellular compartments of the body
Endurance—Capacity to sustain activity
Energy Conservation—Personal actions to manage energy for initiating and sustaining activity
Falls Occurrence—Number of falls in the past (define period of time)
Fall Prevention Behavior—Personal or family caregiver actions to minimize risk factors that might precipitate falls in the personal environment
Family Coping—Family actions to manage stressors that tax family resources
Family Functioning—Capacity of the family system to meet the needs of its members during developmental transitions
Family Health Status—Overall health and social competence of family unit
Family Integrity—Family members' behaviors that collectively demonstrate cohesion, strength, and emotional bonding
Family Normalization—Capacity of the family system to maintain routines and develop strategies for optimal functioning when a member has a chronic illness or disability
Family Participation in Professional Care—Family involvement in decision-making, delivery, and evaluation of care provided by health care personnel
Family Physical Environment—Physical arrangements in the home that provide safety and stimulation to family members
Family Resiliency—Capacity of the family system to successfully adapt and function competently following significant adversity or crises
Family Social Climate—Supportive milieu as characterized by family member relationships and goals
Family Support During Treatment—Family presence and emotional support for an individual undergoing treatment
Fear Self-Control—Personal actions to eliminate or reduce disabling feelings of apprehension, tension, or uneasiness from an identifiable source

Fear Level—Severity of manifested apprehension, tension, or uneasiness arising from an identifiable source

Fear Level: Child—Severity of manifested apprehension, tension, or uneasiness arising from an identifiable source in a child from 1 year through 17 years of age

Fetal Status: Antepartum—Extent to which fetal signs are within normal limits from conception to the onset of labor

Fetal Status: Intrapartum—Extent to which fetal signs are within normal limits from onset of labor to delivery

Fluid Balance—Water balance in the intracellular and extracellular compartments of the body

Fluid Overload Severity—Severity of excess fluids in the intracellular and extracellular compartments of the body

Grief Resolution—Adjustment to actual or impending loss

Growth—Normal increase in bone size and body weight during growth years

Health Beliefs—Personal convictions that influence health behaviors

Health Beliefs: Perceived Ability to Perform—Personal conviction that one can carry out a given health behavior

Health Beliefs: Perceived Control—Personal conviction that one can influence a health outcome

Health Beliefs: Perceived Resources—Personal conviction that one has adequate means to carry out a health behavior

Health Beliefs: Perceived Threat—Personal conviction that threatening health problem is serious and has potential negative consequences for lifestyle

Health Orientation—Personal commitment to health behaviors as lifestyle priorities

Health-Promoting Behavior—Personal actions to sustain or increase wellness

Health-Seeking Behavior—Personal actions to promote optimal wellness, recovery, and rehabilitation

Hearing Compensation Behavior—Personal actions to identify, monitor, and compensate for hearing loss

Hemodialysis Access—Functionality of a dialysis access site

Hope—Optimism that is personally satisfying and life-supporting

Hydration—Adequate water in the intracellular and extracellular compartments of the body

Hyperactivity Level: Child—Severity of patterns of inattention or impulsivity in a child from 1 year through 17 years of age

Identity—Distinguishes between self and nonself and characterizes one's essence

Immobility Consequences: Physiological—Severity of compromise in physiological functioning due to impaired physical mobility

Immobility Consequences: Psycho-Cognitive—Severity of compromise in psycho-cognitive functioning due to impaired physical mobility

Immune Hypersensitivity Response—Severity of inappropriate immune responses

Immune Status—Natural and acquired appropriately targeted resistance to internal and external antigens

Immunization Behavior—Personal actions to obtain immunization to prevent a communicable disease

Impulse Self-Control—Self-restraint of compulsive or impulsive behaviors

Infection Severity—Severity of infection and associated symptoms

Infection Severity: Newborn—Severity of infection and associated symptoms during the first 28 days of life

Information Processing—Ability to acquire, organize, and use information

Joint Movement: Ankle—Active range of motion of the ankle with self-initiated movement

Joint Movement: Elbow—Active range of motion of the elbow with self-initiated movement

Joint Movement: Fingers—Active range of motion of the fingers with self-initiated movement

Joint Movement: Hip—Active range of motion of the hip with self-initiated movement

Joint Movement: Knee—Active range of motion of the knee with self-initiated movement

Joint Movement: Neck—Active range of motion of the neck with self-initiated movement

Joint Movement: Passive—Joint movement with assistance

Joint Movement: Shoulder—Active range of motion of the shoulder with self-initiated movement

Joint Movement: Spine—Active range of motion of the spine with self-initiated movement

Joint Movement: Wrist—Active range of motion of the wrist with self-initiated movement

Kidney Function—Filtration of blood and elimination of metabolic waste products through the formation of urine

Knowledge: Body Mechanics—Extent of understanding conveyed about proper body alignment, balance and coordinated movement

Knowledge: Breastfeeding—Extent of understanding conveyed about lactation and nourishment of infant through breastfeeding

Knowledge: Cardiac Disease Management—Extent of understanding conveyed about heart disease and the prevention of complications

Knowledge: Child Physical Safety—Extent of understanding conveyed about

safely caring for a child from 1 year through 17 years of age

Knowledge: Conception Prevention—Extent of understanding conveyed about prevention of unintended pregnancy

Knowledge: Diabetes Management—Extent of understanding conveyed about diabetes mellitus and the prevention of complications

Knowledge: Diet—Extent of understanding conveyed about recommended diet

Knowledge: Disease Process—Extent of understanding conveyed about a specific disease process

Knowledge: Energy Conservation—Extent of understanding conveyed about energy conservation techniques

Knowledge: Fall Prevention—Extent of understanding conveyed about prevention of falls

Knowledge: Fertility Promotion—Extent of understanding conveyed about fertility testing and the conditions that affect conception

Knowledge: Health Behavior—Extent of understanding conveyed about the promotion and protection of health

Knowledge: Health Promotion—Extent of understanding conveyed about information needed to obtain and maintain optimal health

Knowledge: Health Resources—Extent of understanding conveyed about relevant health care resources

Knowledge: Illness Care—Extent of understanding conveyed about illness-related information needed to achieve and maintain optimal health

Knowledge: Infant Care—Extent of understanding conveyed about caring for a baby from birth to 1st birthday

Knowledge: Infection Control—Extent of understanding conveyed about prevention and control of infection

Knowledge: Labor and Delivery—Extent of understanding conveyed about labor and vaginal delivery

Knowledge: Medication—Extent of understanding conveyed about the safe use of medication

Knowledge: Ostomy Care—Extent of understanding conveyed about maintenance of an ostomy for elimination

Knowledge: Parenting—Extent of understanding about provision of a nurturing and constructive environment for a child from 1 year through 17 years of age

Knowledge: Personal Safety—Extent of understanding conveyed about preventing unintentional injuries

Knowledge: Postpartum Maternal Health—Extent of understanding conveyed about maternal health following delivery

Knowledge: Preconception Maternal Health—Extent of understanding conveyed about maternal health prior to conception to ensure a healthy pregnancy

Knowledge: Pregnancy—Extent of understanding conveyed about promotion of a healthy pregnancy and prevention of complications

Knowledge: Prescribed Activity—Extent of understanding conveyed about prescribed activity and exercise

Knowledge: Sexual Functioning—Extent of understanding conveyed about sexual development and responsible sexual practices

Knowledge: Substance Use Control—Extent of understanding conveyed about controlling the use of drugs, tobacco, or alcohol

Knowledge: Treatment Procedure(s)—Extent of understanding conveyed about procedure(s) required as part of a treatment regimen

Knowledge: Treatment Regimen—Extent of understanding conveyed about a specific treatment regimen

Leisure Participation—Use of relaxing, interesting, and enjoyable activities to promote well-being

Loneliness Severity—Severity of emotional, social, or existential isolation response

Maternal Status: Antepartum—Extent to which maternal well-being is within normal limits from conception to the onset of labor

Maternal Status: Intrapartum—Extent to which maternal well-being is within normal limits from onset of labor to delivery

Maternal Status: Postpartum—Extent to which maternal well-being is within normal limits from delivery of placenta to completion of involution

Mechanical Ventilation Response: Adult—Alveolar exchange and tissue perfusion are supported by mechanical ventilation

Mechanical Ventilation Weaning Response: Adult—Respiratory and psychological adjustment to progressive removal of mechanical ventilation

Medication Response—Therapeutic and adverse effects of prescribed medication

Memory—Ability to cognitively retrieve and report previously stored information

Mobility—Ability to move purposefully in own environment independently with or without assistive device

Mood Equilibrium—Appropriate adjustment of prevailing emotional tone in response to circumstances

Motivation—Inner urge that moves or prompts an individual to positive action(s)

Nausea and Vomiting Control—Personal actions to control nausea, retching, and vomiting symptoms

Nausea and Vomiting Disruptive Effects—Severity of observed or reported disruptive effects of nausea, retching, and vomiting on daily functioning

Nausea and Vomiting Severity—Severity of nausea, retching, and vomiting symptoms

Neglect Cessation—Evidence that the victim is no longer receiving substandard care

Neglect Recovery—Extent of healing following the cessation of substandard care

Neurological Status—Ability of the peripheral and central nervous system to receive, process, and respond to internal and external stimuli

Neurological Status: Autonomic—Ability of the autonomic nervous system to coordinate visceral and homeostatic function

Neurological Status: Central Motor Control—Ability of the central nervous system to coordinate skeletal muscle activity for body movement

Neurological Status: Consciousness—Arousal, orientation, and attention to the environment

Neurological Status: Cranial Sensory/Motor Function—Ability of the cranial nerves to convey sensory and motor impulses

Neurological Status: Spinal Sensory/Motor Function—Ability of the spinal nerves to convey sensory and motor impulses

Newborn Adaptation—Adaptive response to the extrauterine environment by a physiologically mature newborn during the first 28 days

Nutritional Status—Extent to which nutrients are available to meet metabolic needs

Nutritional Status: Biochemical Measures—Body fluid components and chemical indices of nutritional status

Nutritional Status: Energy—Extent to which nutrients and oxygen provide cellular energy

Nutritional Status: Food and Fluid Intake—Amount of food and fluid taken into the body over a 24-hour period

Nutritional Status: Nutrient Intake—Adequacy of usual pattern of nutrient intake

Oral Hygiene—Condition of the mouth, teeth, gums, and tongue

Ostomy Self-Care—Personal actions to maintain ostomy for elimination

Pain: Adverse Psychological Response—Severity of observed or reported adverse cognitive and emotional responses to physical pain

Pain Control—Personal actions to control pain

Pain: Disruptive Effects—Severity of observed or reported disruptive effects of chronic pain on daily functioning

Pain Level—Severity of observed or reported pain

Parent-Infant Attachment—Parent and infant behaviors that demonstrate an enduring affectionate bond

Parenting Performance—Parental actions taken to provide a child a nurturing and constructive physical, emotional, and social environment

Parenting: Adolescent Physical Safety—Parental actions to avoid physical injury in an adolescent from 12 years through 17 years of age

Parenting: Early/Middle Childhood Physical Safety—Parental actions to avoid physical injury of a child from 3 years through 11 years of age

Parenting: Infant/Toddler Physical Safety—Parental actions to avoid physical injury to a child from birth through 2 years of age

Parenting: Pyschosocial Safety—Parental actions to protect a child from social contacts that might cause harm or injury

Participation in Health Care Decisions—Personal involvement in selecting and evaluating health care options to achieve desired outcome

Personal Autonomy—Personal actions of a competent individual to exercise governance in life decisions

Personal Health Status—Overall physical, psychological, social, and spiritual functioning of an adult 18 years or older

Personal Safety Behavior—Personal actions of an adult to control behaviors that can cause physical injury

Personal Well-Being—An individual's expressed satisfaction with health status

Physical Aging—Normal physical changes that occur with the natural aging process

Physical Fitness—Performance of physical activities with vigor

Physical Injury Severity—Severity of injuries from accidents and trauma

Physical Maturation: Female—Normal physical changes in the female that occur with the transition from childhood to adulthood

Physical Maturation: Male—Normal physical changes in the male that occur with the transition from childhood to adulthood

Play Participation—Use of activities by a child from 1 year through 11 years of age to promote enjoyment, entertainment, and development

Postprocedure Recovery Status—Extent to which an individual returns to baseline function following a procedure(s) requiring anesthesia or sedation

Prenatal Health Behavior—Personal actions to promote a healthy pregnancy and a healthy newborn

Preterm Infant Organization—Extrauterine integration of physiologic and behavioral function by the infant born 24 to 37 (term) weeks of gestation

Psychomotor Energy—Personal drive and energy to maintain activities of daily living, nutrition, and personal safety

Psychosocial Adjustment: Life Change—Adaptive psychosocial response of an individual to a significant life change

Quality of Life—Extent of positive perception of current life circumstances

Respiratory Status: Airway Patency—Open, clear tracheobronchial passages for air exchange

Respiratory Status: Gas Exchange—Alveolar exchange of CO_2 or O_2 to maintain arterial blood gas concentrations

Respiratory Status: Ventilation—Movement of air in and out of the lungs

Rest—Quantity and pattern of diminished activity for mental and physical rejuvenation

Risk Control—Personal actions to prevent, eliminate, or reduce modifiable health threats

Risk Control: Alcohol Use—Personal actions to prevent, eliminate, or reduce alcohol use that poses a threat to health

Risk Control: Cancer—Personal actions to detect or reduce the threat of cancer

Risk Control: Cardiovascular Health—Personal actions to eliminate or reduce threats to cardiovascular health

Risk Control: Drug Use—Personal actions to prevent, eliminate, or reduce drug use that poses a threat to health

Risk Control: Hearing Impairment—Personal actions to prevent, eliminate, or reduce threats to hearing function

Risk Control: Sexually Transmitted Diseases (STDs)—Personal actions to prevent, eliminate, or reduce behaviors associated with sexually transmitted disease

Risk Control: Tobacco Use—Personal actions to prevent, eliminate, or reduce tobacco use

Risk Control: Unintended Pregnancy—Personal actions to prevent or reduce the possibility of unintended pregnancy

Risk Control: Visual Impairment—Personal actions to prevent, eliminate, or reduce the threats to visual function

Risk Detection—Personal actions to identify personal health threats

Role Performance—Congruence of an individual's role behavior with role expectations

Safe Home Environment—Physical arrangements to minimize environmental factors that might cause physical harm or injury in the home

Seizure Control—Personal actions to reduce or minimize the occurrence of seizure episodes

Self-Care Status—Ability to perform basic personal care activities and household tasks

Self-Care: Activities of Daily Living (ADLs)—Ability to perform the most basic physical tasks and personal care activities independently with or without assistive device

Self-Care: Bathing—Ability to cleanse own body independently with or without assistive device

Self-Care: Dressing—Ability to dress oneself independently with or without assistive device

Self-Care: Eating—Ability to prepare and ingest food and fluid independently with or without assistive device

Self-Care: Hygiene—Ability to maintain own personal cleanliness and kept appearance independently with or without assistive device

Self-Care: Instrumental Activities of Daily Living (IADLs)—Ability to perform activities needed to function in the home or community independently with or without assistive device

Self-Care: Nonparenteral Medication—Ability to administer oral and topical medications to meet therapeutic goals independently with or without assistive device

Self-Care: Oral Hygiene—Ability to care for own mouth and teeth independently with or without assistive device

Self-Care: Parenteral Medication—Ability to administer parenteral medications to meet therapeutic goals independently with or without assistive device

Self-Care: Toileting—Ability to toilet self independently with or without assistive device

Self-Direction of Care—Care recipient actions taken to direct others who assist with or perform physical tasks and personal health care

Self-Esteem—Personal judgment of self-worth

Self-Mutilation Restraint—Personal actions to refrain from intentional self-inflicted injury (nonlethal)

Sensory Function Status—Extent to which an individual correctly perceives skin stimulation, sounds, proprioception, taste and smell, and visual images

Sensory Function: Cutaneous—Extent to which stimulation of the skin is correctly sensed

Sensory Function: Hearing—Extent to which sounds are correctly sensed

Sensory Function: Proprioception—Extent to which the position and movement of the head and body are correctly sensed

Sensory Function: Taste and Smell—Extent to which chemicals inhaled or dissolved in saliva are correctly sensed

Sensory Function: Vision—Extent to which visual images are correctly sensed

Sexual Functioning—Integration of physical, socioemotional, and intellectual aspects of sexual expression and performance

Sexual Identity—Acknowledgment and acceptance of own sexual identity

Skeletal Function—Ability of the bones to support the body and facilitate movement

Sleep—Natural periodic suspension of consciousness during which the body is restored

Social Interaction Skills—Personal behaviors that promote effective relationships

Social Involvement—Social interactions with persons, groups, or organizations
Social Support—Perceived availability and actual provision of reliable assistance from others
Spiritual Health—Connectedness with self, others, higher power, all life, nature, and the universe that transcends and empowers the self
Stress Level—Severity of manifested physical or mental tension resulting form factors that alter an existing equilibrium
Student Health Status—Physical, cognitive/emotional, and social status of school age children that contribute to school attendance, participation in school activities, and ability to learn
Substance Addiction Consequences—Severity of change in health status and social functioning due to substance addiction
Suffering Severity—Severity of anguish associated with a distressing symptom, injury, or loss that has potential long-term effects
Suicide Self-Restraint—Personal actions to refrain from gestures and attempts at killing self
Swallowing Status—Safe passage of fluids and/or solids from the mouth to the stomach
Swallowing Status: Esophageal Phase—Safe passage of fluids and/or solids from the pharynx to the stomach
Swallowing Status: Oral Phase—Preparation, containment, and posterior movement of fluids and/or solids in the mouth
Swallowing Status: Pharyngeal Phase—Safe passage of fluids and/or solids from the mouth to the esophagus
Symptom Control—Personal actions to minimize perceived adverse changes in physical and emotional functioning
Symptom Severity—Severity of perceived adverse changes in physical, emotional, and social functioning
Symptom Severity: Perimenopause—Severity of symptoms caused by declining hormonal levels
Symptom Severity: Premenstrual Syndrome (PMS)—Severity of symptoms caused by cyclic hormonal fluctuations
Systemic Toxin Clearance: Dialysis—Clearance of toxins from the body with peritoneal or hemodialysis
Thermoregulation—Balance among heat production, heat gain, and heat loss
Thermoregulation: Newborn—Balance among heat production, heat gain, and heat loss during the first 28 days of life
Tissue Integrity: Skin and Mucous Membranes—Structural intactness and normal physiological function of skin and mucous membranes
Tissue Perfusion: Abdominal Organs—Adequacy of blood flow through the small vessels of the abdominal viscera to maintain organ function
Tissue Perfusion: Cardiac—Adequacy of blood flow through the coronary vasculature to maintain heart function
Tissue Perfusion: Cerebral—Adequacy of blood flow through the cerebral vasculature to maintain brain function
Tissue Perfusion: Peripheral—Adequacy of blood flow through the small vessels of the extremities to maintain tissue function
Tissue Perfusion: Pulmonary—Adequacy of blood flow through pulmonary vasculature to perfuse alveoli/capillary unit
Transfer Performance—Ability to change body location independently with or without assistive device
Treatment Behavior: Illness or Injury—Personal actions to palliate or eliminate pathology
Urinary Continence—Control of the elimination of urine from the bladder
Urinary Elimination—Collection and discharge or urine
Vision Compensation Behavior—Personal actions to compensate for visual impairment
Vital Signs—Extent to which temperature, pulse, respiration, and blood pressure are within normal range
Weight: Body Mass—Extent to which body weight, muscle, and fat are congruent to height, frame, gender, and age
Weight Control—Personal actions to achieve and maintain optimum body weight
Will to Live—Desire, determination, and effort to survive
Wound Healing: Primary Intention—Extent of regeneration of cells and tissues following intentional closure
Wound Healing: Secondary Intention—Extent of regeneration of cells and tissues in an open wound

SOURCE: Moorhead, S, Johnson, M, and Maas, M: Nursing Outcomes Classification, ed. 3, Mosby, St. Louis, 2004, with permission.

APPENDIX N4

Nursing Diagnoses *

Quick View of Contents

Appendices N4–1 and N4–2 Organize all approved NANDA nursing diagnoses by two nursing models: Gordon's Functional Health Patterns and Doenges and Moorhouse's Diagnostic Divisions. The use of a nursing model as a framework helps to organize the data needed to identify and validate nursing diagnoses.

Appendix N4–3 Lists the most recently approved NANDA nursing diagnoses (2007–2008) for quick reference.

Appendix N4–4 Provides a guide to choosing appropriate nursing diagnoses by alphabetically listing almost 300 diseases/disorders with their commonly associated nursing diagnoses. Each of the listed diseases/disorders has been cross-referenced from its position in the body of the dictionary. The nursing diagnoses are written in the form of patient problem statements, also known as PES format (Problem, Etiology, Signs/Symptoms). The phrases "may be related to" and "possibly evidenced by" in the patient problem statements serve to help one individualize the care for the specific patient situations. A "risk for" diagnosis is not evidenced by signs and symptoms, as the problem has not occurred and nursing interventions are directed at prevention. Because the patient's health status is perpetual and ongoing, other nursing diagnoses may be appropriate based on changing patient situations. To identify other applicable nursing diagnoses, check Appendix N4–1, then turn to Appendix N4–5 to test and validate your choices.

Appendix N4–5 Details the NANDA-approved diagnoses through 2007–2008 in alphabetical order with their associated etiology [Related/Risk Factors] and signs and symptoms [Defining Characteristics]. This specific focus on assessment data/evaluation criteria helps you complete the validation process.

*Adapted from North American Nursing Diagnosis Association (2007). NANDA Nursing Diagnoses: Definitions and Classification 2007–2008. Philadelphia: NANDA.

Appendix N4–1 Gordon's Functional Health Patterns

HEALTH PERCEPTION—HEALTH MANAGEMENT PATTERN

- Death syndrome, risk for sudden infant
- Energy Field Disturbance
- Environmental Interpretation Syndrome, impaired
- Falls, risk for
- Health Maintenance, ineffective
- Health-Seeking Behaviors (specify)
- Infection, risk for
- Injury (trauma), risk for
- Latex Allergy
- Latex Allergy, risk for
- Noncompliance (specify)
- Perioperative Positioning Injury, risk for
- Poisoning, risk for
- Protection, ineffective
- Recovery, delayed surgical
- Suffocation, risk for
- Suicide, risk for
- Therapeutic Regimen: effective management
- Therapeutic Regimen: ineffective management
- Therapeutic Regimen management: readiness for enhanced
- Therapeutic Regimen: family, ineffective management
- Therapeutic Regimen: community, ineffective management
- Trauma, risk for
- Wandering (specify sporadic or continual)

NUTRITIONAL—METABOLIC PATTERN

- Aspiration, risk for
- Body Temperature, imbalanced, risk for
- Breastfeeding, effective
- Breastfeeding, ineffective
- Breastfeeding, interrupted
- Dentition, impaired
- Failure to thrive, adult
- Fluid Balance, readiness for enhanced
- Fluid Volume, risk for deficient
- Fluid Volume Deficient [active loss]
- Fluid Volume Deficit [regulatory failure]
- Fluid Volume Deficit, risk for
- Fluid Volume Excess
- Fluid Volume Imbalance, risk for
- Hyperthermia
- Hypothermia
- Infant Feeding Pattern, ineffective
- Latex Allergy Response
- Latex Allergy Response, risk for
- Nausea
- Nutrition: imbalanced, less than body requirements
- Nutrition: imbalanced, more than body requirements
- Nutrition: imbalanced, risk for more than body requirements
- Nutrition: readiness for enhanced
- Oral Mucous Membrane, impaired
- Skin Integrity, impaired
- Skin Integrity, impaired, risk for
- Swallowing, impaired
- Thermoregulation, ineffective
- Tissue Integrity, impaired

ELIMINATION PATTERN

- Bowel Incontinence
- Constipation
- Constipation, perceived
- Constipation, risk for
- Diarrhea
- Failure to Thrive, adult
- Growth, risk for altered
- Hyperthermia
- Hypothermia
- Incontinence, functional
- Incontinence, reflex
- Incontinence, stress
- Incontinence, total
- Incontinence, urge
- Urinary Elimination, impaired
- Urinary Elimination, readiness for enhanced
- Urinary Retention [acute/chronic]
- Urinary Urge Incontinence, risk for

ACTIVITY—EXERCISE PATTERN

- Activity Intolerance [specify level]
- Activity Intolerance, risk for
- Adaptive Capacity, decreased, intracranial
- Airway Clearance, ineffective
- Autonomic Dysreflexia
- Autonomic Dysreflexia, risk for
- Bed Mobility, impaired
- Breathing Pattern, ineffective
- Cardiac Output, decreased
- Development, altered, risk for
- Development, risk for delayed
- Disorganized Infant Behavior
- Disorganized Infant Behavior, risk for
- Disuse Syndrome, risk for
- Diversional Activity, deficient
- Dysfunctional Ventilatory Weaning Response
- Dysreflexia
- Dysreflexia, autonomic, risk for
- Enhanced Organized Infant Behavior, potential for
- Fatigue
- Gas Exchange, impaired
- Growth and Development, altered
- Growth and Development, delayed
- Growth, risk for disproportionate
- Home Maintenance, impaired
- Home Maintenance Management, impaired
- Infant Behavior, disorganized
- Infant Behavior, readiness for enhanced organized
- Infant Behavior, risk for disorganized
- Injury, preoperative positioning, risk for
- Mobility, Bed, impaired

Mobility, Wheelchair, impaired
Peripheral Neurovascular Dysfunction, risk for
Physical Mobility, impaired
Self-Care Deficit [specify level]: feeding, bathing/hygiene, dressing/grooming, toileting
Spontaneous Ventilation, inability to sustain
Surgical Recovery, delayed
Tissue Perfusion, altered (specify): cerebral, cardiopulmonary, renal, gastrointestinal, peripheral
Transfer Ability, impaired
Ventilation, impaired spontaneous
Ventilatory Weaning Response, dysfunctional (DVWR)
Walking, impaired
Wandering
Wheelchair Transfer Ability, impaired

SLEEP—REST PATTERN
Sleep, readiness for enhanced
Sleep Deprivation
Sleep Pattern Disturbance

COGNITIVE—PERCEPTUAL PATTERN
Adaptive Capacity: intracranial, decreased
Confusion, acute
Confusion, chronic
Decisional Conflict
Environmental Interpretation Syndrome, impaired
Knowledge, readiness for enhanced
Knowledge Deficit [learning need] (specify)
Memory, impaired
Pain
Pain, acute
Pain, chronic
Sensory/Perceptual Alterations (specify): visual, auditory, kinesthetic, gustatory, tactile, olfactory
Thought Processes, altered
Thought Processes, disturbed
Unilateral Neglect

SELF-PERCEPTION—SELF-CONCEPT PATTERN
Anxiety [Mild, Moderate, Severe, Panic]
Anxiety, death
Body Image Disturbance
Fear
Hopelessness
Loneliness, risk for
Personal Identity Disturbance
Powerlessness
Powerlessness, risk for
Self-Concept, readiness for enhanced
Self-Esteem, chronic low
Self-Esteem Disturbance
Self-Esteem, situational low
Self-Esteem, situational low, risk for
Self-Mutilation
Self-Mutilation, risk for
Violence, self-directed, risk for

ROLE—RELATIONSHIP PATTERN
Caregiver Role Strain
Caregiver Role Strain, risk for
Communication, impaired, verbal
Communication, readiness for enhanced
Family Process, altered: alcoholism [substance abuse]
Family Processes, altered
Family Processes, interrupted
Family Processes, readiness for enhanced
Grieving, anticipatory
Grieving, dysfunctional
Parental Role Conflict
Parent/Infant/Child Attachment, altered, risk for
Parenting, altered
Parenting, altered, risk for
Parenting, impaired
Relocation Stress Syndrome
Relocation Stress Syndrome, risk for
Role Performance, altered
Role Performance, ineffective
Social Interaction, impaired
Social Isolation
Sorrow, chronic
Violence, directed at others, risk for
Violence, self-directed, risk for

SEXUALITY—REPRODUCTIVE PATTERN
Rape-Trauma Syndrome [specify]
Rape-Trauma Syndrome: compound reaction
Rape-Trauma Syndrome: silent reaction
Sexual Dysfunction
Sexuality Patterns, ineffective

COPING—STRESS TOLERANCE PATTERN
Adjustment, impaired
Community Coping, enhanced, potential for
Community Coping, ineffective
Coping, defensive
Coping, enhanced, readiness for
Coping, individual, ineffective
Coping, ineffective
Denial, ineffective
Family Coping, ineffective: compromised
Family Coping, ineffective: disabling
Family Coping, readiness for enhanced
Family Coping: potential for growth
Post-Trauma Response [specify stage]
Post-Trauma Syndrome
Post-Trauma Syndrome, risk for
Self-Mutilation
Self-Mutilation, risk for
Suicide, risk for
Violence, directed at others, risk for
Violence, self-directed, risk for

VALUE—BELIEF PATTERN
- Spiritual Distress (distress of the human spirit)
- Spiritual Distress, risk for
- Spiritual Well-Being, enhanced, potential for

Note: Information appearing in parentheses has been added to clarify and facilitate the use of nursing diagnoses.
SOURCE: Adapted from Gordon, M: Manual of Nursing Diagnosis, ed. 10, St. Louis, MO, Mosby/Elsevier Science, 2002, with permission.

Appendix N4–2 Doenges and Moorhouse's Diagnostic Divisions

ACTIVITY/REST
- Activity Intolerance
- Activity Intolerance, risk for
- Disuse Syndrome, risk for
- Diversional Activity, deficient
- Fatigue
- Insomnia
- Lifestyle, sedentary
- Mobility, impaired bed
- Mobility, impaired wheelchair
- Sleep, readiness for enhanced
- Sleep Deprivation
- Transfer ability, impaired
- Walking, impaired

CIRCULATION
- Autonomic Dysreflexia
- Autonomic Dysreflexia, risk for
- Cardiac Output, decreased
- Intracranial Adaptive Capacity, decreased
- Tissue Perfusion, ineffective (specify type: cerebral, cardiopulmonary, renal, gastrointestinal, peripheral)

EGO INTEGRITY
- Anxiety [specify level]
- Anxiety, death
- Behavior, risk-prone health
- Body Image, disturbed
- Conflict, decisional (specify)
- Coping, defensive
- Coping, ineffective
- Coping, readiness for enhanced
- Decision Making, readiness for enhanced
- Denial, ineffective
- Dignity, risk for compromised human
- Distress, moral
- Energy Field, disturbed
- Fear
- Grieving
- Grieving, complicated
- Grieving, risk for complicated
- Hope, readiness for enhanced
- Hopelessness
- Personal Identity, disturbed
- Post-Trauma Syndrome
- Post-Trauma Syndrome, risk for
- Power, readiness for enhanced
- Powerlessness
- Powerlessness, risk for
- Rape-Trauma Syndrome
- Rape-Trauma Syndrome: compound reaction
- Rape-Trauma Syndrome: silent reaction
- Religiosity, impaired
- Religiosity, readiness for enhanced
- Religiosity, risk for impaired
- Relocation Stress Syndrome
- Relocation Stress Syndrome, risk for
- Self-Concept, readiness for enhanced
- Self-Esteem, chronic low
- Self-Esteem, situational low
- Self-Esteem, risk for situational low
- Sorrow, chronic
- Spiritual Distress
- Spiritual Distress, risk for
- Spiritual Well-Being, readiness for enhanced

ELIMINATION
- Bowel Incontinence
- Constipation
- Constipation, perceived
- Constipation, risk for
- Diarrhea
- Urinary Elimination, impaired
- Urinary Elimination, readiness for enhanced
- Urinary Incontinence, functional
- Urinary Incontinence, overflow
- Urinary Incontinence, reflex
- Urinary Incontinence, risk for urge
- Urinary Incontinence, stress
- Urinary Incontinence, total
- Urinary Incontinence, urge
- Urinary Retention [acute/chronic]

FOOD/FLUID
- Breastfeeding, effective
- Breastfeeding, ineffective
- Breastfeeding, interrupted
- Dentition, impaired
- Failure to Thrive, adult
- Fluid Balance, readiness for enhanced
- [Fluid Volume, deficient (hyper/hypotonic)]
- Fluid Volume, deficient [isotonic]
- Fluid Volume, excess
- Fluid Volume, risk for deficient
- Fluid Volume, risk for imbalanced
- Glucose, risk for unstable blood
- Infant Feeding Pattern, ineffective
- Liver Function, risk for impaired
- Nausea
- Nutrition: less than body requirements, imbalanced
- Nutrition: more than body requirements, imbalanced

Nutrition: risk for more than body requirements, imbalanced
Nutrition, readiness for enhanced
Oral Mucous Membrane, impaired
Swallowing, impaired

HYGIENE
Self-Care, readiness for enhanced
Self-Care Deficit, bathing/hygiene
Self-Care Deficit, dressing/grooming
Self-Care Deficit, feeding
Self-Care Deficit, toileting

NEUROSENSORY
Confusion, acute
Confusion, chronic
Confusion, risk for acute
Infant Behavior, disorganized
Infant Behavior, readiness for enhanced organized
Infant Behavior, risk for disorganized
Memory, impaired
Neglect, unilateral
Peripheral Neurovascular Dysfunction, risk for
Sensory/Perception, disturbed (specify: visual, auditory, kinesthetic, gustatory, tactile, olfactory)
Stress Overload
Thought Processes, disturbed

PAIN/DISCOMFORT
Comfort, readiness for enhanced
Pain, acute
Pain, chronic

RESPIRATION
Airway Clearance, ineffective
Aspiration, risk for
Breathing Pattern, ineffective
Gas Exchange, impaired
Ventilation, impaired spontaneous
Ventilatory Weaning Response, dysfunctional

SAFETY
Allergy Response, latex
Allergy Response, risk for latex
Body Temperature, risk for imbalanced
Contamination
Contamination, risk for
Death Syndrome, risk for sudden infant
Environmental Interpretation Syndrome, impaired
Falls, risk for
Health Maintenance, ineffective
Home Maintenance, impaired
Hyperthermia
Hypothermia
Immunization status, readiness for enhanced
Infection, risk for
Injury, risk for
Injury, risk for perioperative positioning
Mobility, impaired physical
Poisoning, risk for
Protection, ineffective
Self-Mutilation
Self-Mutilation, risk for
Skin Integrity, impaired
Skin Integrity, risk for impaired
Suffocation, risk for
Suicide, risk for
Surgical Recovery, delayed
Thermoregulation, ineffective
Tissue Integrity, impaired
Trauma, risk for
Violence, [actual/] risk for other-directed
Violence, [actual/] risk for self-directed
Wandering [specify sporadic or continual]

SEXUALITY
Sexual Dysfunction
Sexuality Pattern, ineffective

SOCIAL INTERACTION
Attachment, risk for impaired parent/child
Caregiver Role Strain
Caregiver Role Strain, risk for
Communication, impaired, verbal
Communication, readiness for enhanced
Conflict, parental role
Coping, compromised family
Coping, disabled family
Coping, ineffective community
Coping, readiness for enhanced community
Coping, readiness for enhanced family
Family Processes: Alcoholism, dysfunctional
Family Processes, interrupted
Family Processes, readiness for enhanced
Loneliness, risk for
Parenting, impaired
Parenting, risk for impaired
Role Performance, ineffective
Social Interaction, impaired
Social Isolation

TEACHING/LEARNING
Development, risk for delayed
Growth, risk for disproportionate
Growth and Development, delayed
Health-Seeking Behaviors (specify)
Knowledge, deficient [Learning Need] (specify)
Knowledge (specify), readiness for enhanced
Noncompliance [Adherence, ineffective] (specify)
Therapeutic Regimen Management, effective
Therapeutic Regimen Management, ineffective
Therapeutic Regimen Management, ineffective community
Therapeutic Regimen Management, ineffective family
Therapeutic Regimen Management, readiness for enhanced

SOURCE: Adapted from Doenges, M. E., Moorhouse, M. F., and Geissler-Murr, A. C.: Nurse's Pocket Guide: Diagnoses, Interventions, and Rationales, ed. 10, F. A. Davis, Philadelphia, 2006, with permission.

Appendix N4–3 Additional Nursing Diagnoses Approved Through 2007–2008

Confusion, risk for Acute
Comfort, readiness for enhanced
Contamination
Contamination, risk for
Decision Making, readiness for enhanced
Dignity, risk for compromised Human
Glucose, risk for unstable Blood
Hope, readiness for enhanced
Immunization Status, readiness for enhanced
Liver Function, risk for impaired
Moral Distress
Self-Care, readiness for enhanced
Stress Overload
Urinary Incontinence, overflow

Appendix N4–4 Nursing Diagnoses Grouped by Diseases/ Disorders

abdominal perineal resection
(also refer to *surgery, general*)
disturbed Body Image may be related to presence of surgical wounds possibly evidenced by verbalizations of feelings/perceptions, fear of reaction by others, preoccupation with change.
risk for Constipation: risk factors may include decreased physical activity/gastric motility, abdominal muscle weakness, insufficient fluid intake, change in usual foods/eating pattern.
risk for Sexual Dysfunction: risk factors may include altered body structure/function, radical resection/treatment procedures, vulnerability/psychological concern about response of significant other(s), and disruption of sexual response pattern (e.g., erection difficulty).

abortion, elective termination
risk for decisional Conflict: risk factors may include unclear personal values/beliefs, lack of experience or interference with decision making, information from divergent sources, deficient support system.
deficient Knowledge [Learning Need] regarding reproduction, contraception, self-care, Rh factor may be related to lack of exposure/recall or misinterpretation of information possibly evidenced by request for information, statement of misconception, inaccurate follow-through of instructions, development of preventable events/complications.
risk for Spiritual Distress/Moral Distress: risk factors may include perception of moral/ethical implications of therapeutic procedure, time constraints for decision making.

abortion, spontaneous termination
deficient Fluid Volume [isotonic] may be related to excessive blood loss, possibly evidenced by decreased pulse volume and pressure, delayed capillary refill, or changes in sensorium.
risk for Spiritual Distress: risk factors may include need to adhere to personal religious beliefs/practices, blame for loss directed at self or God.
deficient Knowledge [Learning Need] regarding cause of abortion, self-care, contraception/future pregnancy may be related to lack of familiarity with new self/health care needs, sources for support, possibly evidenced by requests for information and statement of concern/misconceptions, development of preventable complications.
Grieving related to perinatal loss, possibly evidenced by crying, expressions of sorrow, or changes in eating habits/sleep patterns.
risk for ineffective Sexuality Pattern: risk factors may include increasing fear of pregnancy and/or repeat loss, impaired relationship with significant other(s), self-doubt regarding own femininity.

abruptio placentae
deficient Fluid Volume [isotonic] may be related to excessive blood loss, possibly evidenced by hypotension, increased heart rate, decreased pulse volume and pressure, delayed capillary refill, or changes in sensorium.
Fear related to threat of death (perceived or actual) to fetus/self, possibly evidenced by verbalization of specific concerns, increased tension, sympathetic stimulation.
acute Pain may be related to collection of blood between uterine wall and placenta, possibly evidenced by verbal reports, abdominal guarding, muscle tension, or alterations in vital signs.
impaired fetal Gas Exchange may be related to altered uteroplacental oxygen transfer, possibly evidenced by alterations in fetal heart rate and movement.

abscess, brain (acute)
acute Pain may be related to inflammation, edema of tissues, possibly evidenced by reports of headache, restlessness, irritability, and moaning.
risk for Hyperthermia: risk factors may include inflammatory process/hypermetabolic state and dehydration.
acute Confusion may be related to physiologic changes (e.g., cerebral edema/altered perfusion, fever), possibly evidenced by fluctuation in cognition/level of consciousness, increased agitation/restlessness, hallucinations.
risk for Suffocation/Trauma: risk factors may include development of clonic/tonic muscle activity and changes in consciousness (seizure activity).

abuse
(also refer to *battered child syndrome*)
risk for Trauma: risk factors may include vulnerable client, recipient of verbal threats, history of physical abuse.
Powerlessness may be related to abusive relationship, lifestyle of helplessness as evidenced by verbal expressions of having no control, reluctance to express true feelings, apathy, passivity.
chronic low Self-Esteem may be related to continual negative evaluation of self/capabilities, personal vulnerability, willingness to tolerate possible life-threatening domestic violence as evidenced by self-negative verbalization, evaluates self as unable to deal with events, rationalizes away/rejects positive feedback.

acidosis, metabolic
Refer to *diabetic ketoacidosis*.

acidosis, respiratory
(also refer to underlying cause/condition)
impaired Gas Exchange may be related to ventilation perfusion imbalance (decreased oxygen-carrying capacity of blood, altered oxygen supply, alveolar-capillary membrane changes) possibly evidenced by dyspnea with exertion, tachypnea, changes in mentation, irritability, tachycardia, hypoxia, hypercapnia.

acne
impaired Skin Integrity may be related to secretions, infectious process as evidenced by disruptions of skin surface.
disturbed Body Image may be related to change in visual appearance as evidenced by fear of rejection of others, focus on past appearance, negative feelings about body, change in social involvement.
situational low Self-Esteem may be related to adolescence, negative perception of appearance as evidenced by self-negating verbalizations, expressions of helplessness.

acute respiratory distress syndrome (ARDS)
ineffective Airway Clearance may be related to loss of ciliary action, increased amount and viscosity of secretions, and increased airway resistance, possibly evidenced by presence of dyspnea, changes in depth/rate of respiration, use of accessory muscles for breathing, wheezes/crackles, cough with or without sputum production.
impaired Gas Exchange may be related to changes in pulmonary capillary permeability with edema formation, alveolar hypoventilation and collapse, with intrapulmonary shunting; possibly evidenced by tachypnea, use of accessory muscles, cyanosis, hypoxia per arterial blood gases (ABGs)/oximetry; anxiety and changes in mentation.
risk for deficient Fluid Volume: risk factors may include active loss from diuretic use and restricted intake.
risk for decreased Cardiac Output: risk factors may include alteration in preload (hypovolemia, vascular pooling, diuretic therapy, and increased intrathoracic pressure/use of ventilator/positive end-expiratory pressure, PEEP).

Anxiety [specify level]/Fear may be related to physiologic factors (effects of hypoxemia); situational crisis, change in health status/threat of death; possibly evidenced by increased tension, apprehension, restlessness, focus on self, and sympathetic stimulation.
risk for barotrauma Injury: risk factors may include increased airway pressure associated with mechanical ventilation (PEEP).

Addison's disease

deficient Fluid Volume [hypotonic] may be related to vomiting, diarrhea, increased renal losses, possibly evidenced by delayed capillary refill, poor skin turgor, dry mucous membranes, report of thirst.
decreased Cardiac Output may be related to hypovolemia and altered electrical conduction (dysrhythmias) and/or diminished cardiac muscle mass, possibly evidenced by alterations in vital signs, changes in mentation, and irregular pulse or pulse deficit.
Fatigue may be related to decreased metabolic energy production, altered body chemistry (fluid, electrolyte, and glucose imbalance), possibly evidenced by unremitting, overwhelming lack of energy, inability to maintain usual routines, decreased performance, impaired ability to concentrate, lethargy, and disinterest in surroundings.
disturbed Body Image may be related to changes in skin pigmentation and mucous membranes, loss of axillary/pubic hair, possibly evidenced by verbalization of negative feelings about body and decreased social involvement.
risk for impaired physical Mobility: risk factors may include neuromuscular impairment (muscle wasting/weakness) and dizziness/syncope.
imbalanced Nutrition: less than body requirements may be related to glucocorticoid deficiency; abnormal fat, protein, and carbohydrate metabolism; nausea, vomiting, anorexia, possibly evidenced by weight loss, muscle wasting, abdominal cramps, diarrhea, and severe hypoglycemia.
risk for impaired Home Maintenance: risk factors may include effects of disease process, impaired cognitive functioning, and inadequate support systems.

adenoidectomy

Anxiety [specify level]/Fear may be related to separation from supportive others, unfamiliar surroundings, and perceived threat of injury/abandonment, possibly evidenced by crying, apprehension, trembling, and sympathetic stimulation (pupil dilation, increased heart rate).
risk for ineffective Airway Clearance: risk factors may include sedation, collection of secretions/blood in oropharynx, and vomiting.
risk for deficient Fluid Volume: risk factors may include operative trauma to highly vascular site/hemorrhage.
acute Pain may be related to physical trauma to oronasopharynx, presence of packing, possibly evidenced by restlessness, crying, and facial mask of pain.

adjustment disorder

moderate to severe Anxiety may be related to situational/maturational crisis, threat to self-concept, unmet needs, fear of failure, dysfunctional family system, fixation in earlier level of development, possibly evidenced by overexcitement/restlessness, increased tension, insomnia, feelings of inadequacy, focus on self, difficulty concentrating, continuous attention-seeking behaviors, numerous physical complaints.
risk for self/other-directed Violence: risk factors may include depressed mood, hopelessness, powerlessness, inability to tolerate frustration, rage reactions, unmet needs, negative role modeling, substance use/abuse, history of suicide attempt.
ineffective Coping may be related to situational/maturational crisis, dysfunctional family system, negative role modeling, unmet dependency needs, retarded ego development possibly evidenced by inability to problem-solve, chronic worry, depressed/anxious mood, manipulation of others, destructive behaviors, increased dependency, refusal to follow rules.
complicated Grieving may be related to real or perceived loss of any concept of value to individual, bereavement overload/cumulative grief, thwarted grieving response, feelings of guilt generated by ambivalent relationship with the lost concept/person, possibly evidenced by difficulty in expressing/denial of loss, excessive/inappropriately expressed anger, labile affect, developmental regression, changes in concentration/pursuit of tasks.

adrenal crisis, acute

(also refer to *Addison's disease*; *shock*)
deficient Fluid Volume [hypotonic] may be related to failure of regulatory mechanism (damage to/suppression of adrenal gland), inability to concentrate urine, possibly evidenced by decreased venous filling/pulse volume and pressure, hypotension, dry mucous membranes, changes in mentation, decreased serum sodium.

acute pain may be related to effects of disease process/metabolic imbalances, decreased tissue perfusion, possibly evidenced by reports of severe pain in abdomen, lower back, or legs.
impaired physical Mobility may be related to neuromuscular impairment, decreased muscle strength/control, possibly evidenced by generalized weakness, inability to perform desired activities/movements.
risk for Hyperthermia: risk factors may include presence of illness/infectious process, dehydration.
risk for ineffective Protection: risk factors may include hormone deficiency, drug therapy, nutritional/metabolic deficiencies.

adrenalectomy
ineffective Tissue Perfusion [specify] may be related to hypovolemia and vascular pooling (vasodilation), possibly evidenced by diminished pulse, pallor/cyanosis, hypotension, and changes in mentation.
risk for Infection: risk factors may include inadequate primary defenses (incision, traumatized tissues), suppressed inflammatory response, invasive procedures.
deficient Knowledge [Learning Need] regarding condition, prognosis, self-care and treatment needs may be related to unfamiliarity with long-term therapy requirements, possibly evidenced by request for information and statement of concern/misconceptions.

adult respiratory distress syndrome (ARDS)
Refer to *acute respiratory distress syndrome*.

affective disorder
Refer to *bipolar disorder*; *depressive disorders, major*.

affective disorder, seasonal
(also refer to *depressive disorders, major*)
intermittent ineffective Coping may be related to situational crisis (fall/winter season), disturbance in pattern of tension release, and inadequate resources available, possibly evidenced by verbalizations of inability to cope, changes in sleep pattern (too little or too much), reports of lack of energy/fatigue, lack of resolution of problem, behavioral changes (irritability, discouragement).
risk for imbalanced Nutrition: more/less than body requirements: risk factors may include eating in response to internal cues other than hunger, alteration in usual coping patterns, change in usual activity level, decreased appetite, lack of energy/interest to prepare food.

AIDS (acquired immunodeficiency syndrome)
(also refer to *HIV positive*)
risk for Infection [progression to sepsis/onset of new opportunistic infection]: risk factors may include depressed immune system, use of antimicrobial agents, inadequate primary defenses; broken skin, traumatized tissue; malnutrition; and chronic disease processes.
risk for deficient Fluid Volume: risk factors may include excessive losses: copious diarrhea, profuse sweating, vomiting, hypermetabolic state or fever; and restricted intake (nausea, anorexia; lethargy).
acute/chronic Pain may be related to tissue inflammation/destruction: infections, internal/external cutaneous lesions, rectal excoriation, malignancies, necrosis, peripheral neuropathies, myalgias, and arthralgias, possibly evidenced by verbal reports, self-focusing/narrowed focus, alteration in muscle tone, paresthesias, paralysis, guarding behaviors, changes in vital signs (acute), autonomic responses, and restlessness.
imbalanced Nutrition: less than body requirements may be related to altered ability to ingest, digest, and/or absorb nutrients (nausea/vomiting, hyperactive gag reflex, intestinal disturbances); increased metabolic activity/nutritional needs (fever, infection), possibly evidenced by weight loss, decreased subcutaneous fat/muscle mass; lack of interest in food/aversion to eating, altered taste sensation; abdominal cramping, hyperactive bowel sounds, diarrhea, sore and inflamed buccal cavity.
Fatigue may be related to decreased metabolic energy production, increased energy requirements (hypermetabolic state), overwhelming psychological/emotional demands; altered body chemistry (side effects of medication, chemotherapy), possibly evidenced by unremitting/overwhelming lack of energy, inability to maintain usual routines, decreased performance; impaired ability to concentrate, lethargy/restlessness, and disinterest in surroundings.
ineffective Protection may be related to chronic disease affecting immune and neurological systems, inadequate nutrition, drug therapies, possibly evidenced by deficient

immunity, impaired healing, neurosensory alterations, maladaptive stress response, fatigue, anorexia, disorientation.

Social Isolation may be related to changes in physical appearance/mental status, state of wellness, perceptions of unacceptable social or sexual behavior/values, physical isolation, phobic fear of others (transmission of disease); possibly evidenced by expressed feelings of aloneness/rejection, absence of supportive significant other(s) (SOs), and withdrawal from usual activities.

disturbed Thought Processes/chronic Confusion may be related to physiologic changes (hypoxemia, central nervous system [CNS] infection by HIV, brain malignancies, and/or disseminated systemic opportunistic infection); altered drug metabolism/excretion, accumulation of toxic elements (renal failure, severe electrolyte imbalance, hepatic insufficiency), possibly evidenced by clinical evidence of organic impairment, altered attention span, distractibility, memory deficit, disorientation, cognitive dissonance, delusional thinking, impaired ability to make decisions/problem solve, inability to follow complex commands/mental tasks, loss of impulse control and altered personality.

AIDS dementia

(also refer to *Dementia, presenile/senile*)

impaired Environmental Interpretation Syndrome may be related to dementia, depression, possibly evidenced by consistent disorientation, inability to follow simple directions/instructions, loss of social functioning from memory decline.

ineffective Protection may be related to chronic disease affecting immune and neurological systems, inadequate nutrition, drug therapies, possibly evidenced by deficient immunity, impaired healing, neurosensory alterations, maladaptive stress response, fatigue, anorexia, disorientation.

alcohol abuse/withdrawal

Refer to *Drug overdose, acute [depressants]*; *Delirium tremens*; *Substance dependency/abuse rehabilitation*.

alcohol intoxication, acute

(also refer to *Delirium tremens*)

acute Confusion may be related to substance abuse, hypoxemia, possibly evidenced by hallucinations, exaggerated emotional response, fluctuation in cognition/level of consciousness, increased agitation.

risk for ineffective Breathing Pattern: risk factors may include neuromuscular impairment/CNS depression.

risk for Aspiration: risk factors may include reduced level of consciousness, depressed cough/gag reflexes, delayed gastric emptying.

aldosteronism, primary

deficient Fluid Volume [isotonic] may be related to increased urinary losses, possibly evidenced by dry mucous membranes, poor skin turgor, dilute urine, excessive thirst, weight loss.

impaired physical Mobility may be related to neuromuscular impairment, weakness, and pain, possibly evidenced by impaired coordination, decreased muscle strength, paralysis, and positive Chvostek's and Trousseau's signs.

risk for decreased Cardiac Output: risk factors may include hypovolemia and altered electrical conduction/dysrhythmias.

alkalosis, respiratory

(also refer to underlying cause/condition)

impaired Gas Exchange may be related to ventilation perfusion imbalance (decreased oxygen-carrying capacity of blood, altered oxygen supply, alveolar-capillary membrane changes), possibly evidenced by dyspnea, tachypnea, changes in mentation, tachycardia, hypoxia, hypocapnia.

allergy, latex

Refer to *latex allergy*.

Alzheimer's disease

(also refer to *dementia, presenile/senile*)

risk for Injury/Trauma: risk factors may include inability to recognize/identify danger in environment, disorientation, confusion, impaired judgment, weakness, muscular incoordination, balancing difficulties, and altered perception.

chronic Confusion related to physiological changes (neuronal degeneration); possibly evidenced by inaccurate interpretation of/response to stimuli, progressive/long-standing cognitive impairment, short-term memory deficit, impaired socialization, altered personality, and clinical evidence of organic impairment.

disturbed Sensory Perception (specify) may be related to altered sensory reception, transmission, and/or integration (neurologic disease/deficit), socially restricted environment (homebound/institutionalized), sleep deprivation possibly evidenced by changes in usual response to stimuli, change in problem-solving abilities, exaggerated emotional responses (anxiety, paranoia, hallucinations), inability to tell position of body parts, diminished/altered sense of taste.

Insomnia may be related to sensory impairment, changes in activity patterns, psychological stress (neurologic impairment), possibly evidenced by wakefulness, disorientation (day/night reversal); increased aimless wandering, inability to identify need/time for sleeping, changes in behavior/performance, lethargy; dark circles under eyes and frequent yawning.

ineffective Health Maintenance may be related to deterioration affecting ability in all areas including coordination/communication, cognitive impairment; ineffective coping, possibly evidenced by reported or observed inability to take responsibility for meeting basic health practices, lack of equipment/financial or other resources, and impairment of personal support system.

risk for Stress Overload: risk factors may include inadequate resources, chronic illness, physical demands, threats of violence.

Compromised family Coping/Caregiver Role Strain may be related to family disorganization, role changes, family/caregiver isolation, long-term illness/complexity and amount of homecare needs exhausting supportive/financial capabilities of family member(s), lack of respite; possibly evidenced by verbalizations of frustrations in dealing with day-to-day care, reports of conflict, feelings of depression, expressed anger/guilt directed toward client, and withdrawal from interaction with client/social contacts.

risk for Relocation Stress Syndrome: risk factors may include little or no preparation for transfer to a new setting, changes in daily routine, sensory impairment, physical deterioration, separation from support systems.

amputation

risk for ineffective peripheral Tissue Perfusion: risk factors may include reduced arterial/venous blood flow; tissue edema, hematoma formation; hypovolemia.

acute Pain may be related to tissue and nerve trauma, psychological impact of loss of body part, possibly evidenced by reports of incisional/phantom pain, guarding/protective behavior, narrowed/self-focus, and autonomic responses.

impaired physical Mobility may be related to loss of limb (primarily lower extremity), altered sense of balance, pain/discomfort, possibly evidenced by reluctance to attempt movement, impaired coordination; decreased muscle strength, control, and mass.

disturbed Body Image may be related to loss of a body part, possibly evidenced by verbalization of feelings of powerlessness, grief, preoccupation with loss, and unwillingness to look at/touch stump.

amyotrophic lateral sclerosis (ALS)

impaired physical Mobility may be related to muscle wasting/weakness, possibly evidenced by impaired coordination, limited range of motion, and impaired purposeful movement.

ineffective Breathing Pattern/impaired spontaneous Ventilation may be related to neuromuscular impairment, decreased energy, fatigue, tracheobronchial obstruction, possibly evidenced by shortness of breath, fremitus, respiratory depth changes, and reduced vital capacity.

impaired Swallowing may be related to muscle wasting and fatigue, possibly evidenced by recurrent coughing/choking and signs of aspiration.

Powerlessness [specify level] may be related to chronic/debilitating nature of illness, lack of control over outcome, possibly evidenced by expressions of frustration about inability to care for self and depression over physical deterioration.

Grieving may be related to perceived potential loss of self/physiopsychosocial well-being, possibly evidenced by sorrow, choked feelings, expression of distress, changes in eating habits/sleeping patterns, and altered communication patterns/libido.

impaired verbal Communication may be related to physical barrier (neuromuscular impairment), possibly evidenced by impaired articulation, inability to speak in sentences, and use of nonverbal cues (changes in facial expression).

risk for Caregiver Role Strain: risk factors may include illness severity of care receiver, complexity and amount of home-care needs, duration of caregiving required, caregiver is spouse, family/caregiver isolation, lack of respite/recreation for caregiver.

anaphylaxis

(also refer to *shock*)

ineffective Airway Clearance may be related to airway spasm (bronchial), laryngeal edema possibly evidenced by diminished/adventitious breath sounds, cough ineffective or absent, difficulty vocalizing, wide-eyed.

decreased Cardiac Ouput may be related to decreased preload–increased capillary permeability (third spacing) and vasodilation, possibly evidenced by tachycardia/palpitations, changes in blood pressure (BP), anxiety, restlessness.

anemia

Activity Intolerance may be related to imbalance between oxygen supply (delivery) and demand, possibly evidenced by reports of fatigue and weakness, abnormal heart rate or blood pressure (BP) response, decreased exercise/activity level, and exertional discomfort or dyspnea.

imbalanced Nutrition: less than body requirements may be related to failure to ingest/inability to digest food or absorb nutrients necessary for formation of normal red blood cells (RBCs); possibly evidenced by weight loss/weight below normal for age, height, body build; decreased triceps skinfold measurement, changes in gums/oral mucous membranes; decreased tolerance for activity, weakness, and loss of muscle tone.

deficient Knowledge [Learning Need] regarding condition, prognosis, self-care, and treatment needs may be related to inadequate understanding or misinterpretation of dietary/physiologic needs, possibly evidenced by inadequate dietary intake, request for information, and development of preventable complications.

anemia, sickle cell

impaired Gas Exchange may be related to decreased oxygen-carrying capacity of blood, reduced RBC life span, abnormal RBC structure, increased blood viscosity, predisposition to bacterial pneumonia/pulmonary infarcts, possibly evidenced by dyspnea, use of accessory muscles, cyanosis/signs of hypoxia, tachycardia, changes in mentation, and restlessness.

ineffective Tissue Perfusion: [specify] may be related to stasis, vaso-occlusive nature of sickling, inflammatory response, atrioventricular (AV) shunts in pulmonary and peripheral circulation, myocardial damage (small infarcts, iron deposits, fibrosis), possibly evidenced by signs and symptoms dependent on system involved, for example: renal: decreased specific gravity and pale urine in face of dehydration; cerebral: paralysis and visual disturbances; peripheral: distal ischemia, tissue infarctions, ulcerations, bone pain; cardiopulmonary: angina, palpitations.

acute/chronic Pain may be related to intravascular sickling with localized vascular stasis, occlusion, infarction/necrosis and deprivation of oxygen and nutrients, accumulation of noxious metabolites, possibly evidenced by reports of localized, generalized, or migratory joint and/or abdominal/back pain; guarding and distraction behaviors (moaning, crying, restlessness), facial grimacing, narrowed focus, and autonomic responses.

deficient Knowledge [Learning Need] regarding disease process, genetic factors, prognosis, self-care and treatment needs may be related to lack of exposure/recall, misinterpretation of information, unfamiliarity with resources, possibly evidenced by questions, statement of concern/misconceptions, exacerbation of condition, inadequate follow-through of therapy instructions, and development of preventable complications.

delayed Growth and Development may be related to effects of physical condition, possibly evidenced by altered physical growth and delay/difficulty performing skills typical of age group.

risk for sedentary Lifestyle: risk factors may include lack of interest/motivation, resources; lack of training or knowledge of specific exercise needs, safety concerns/fear of injury.

compromised family Coping may be related to chronic nature of disease/disability, family disorganization, presence of other crises/situations impacting significant person/parent, lifestyle restrictions, possibly evidenced by significant person/parent expressing preoccupation with own reaction and displaying protective behavior disproportionate to patient's ability or need for autonomy.

angina pectoris

acute Pain may be related to decreased myocardial blood flow, increased cardiac workload/oxygen consumption, possibly evidenced by verbal reports, narrowed focus, distraction behaviors (restlessness, moaning), and autonomic responses (diaphoresis, changes in vital signs).

decreased Cardiac Output may be related to inotropic changes (transient/prolonged myocardial ischemia, effects of medications), alterations in rate/rhythm and electrical conduction, possibly evidenced by changes in hemodynamic readings, dyspnea, restlessness, decreased tolerance for activity, fatigue, diminished peripheral pulses, cool/pale skin, changes in mental status, and continued chest pain.

Anxiety [specify level] may be related to situational crises, change in health status and/or threat of death, negative self-talk possibly evidenced by verbalized apprehension, facial tension, extraneous movements, and focus on self.

Activity Intolerance may be related to imbalance between oxygen supply and demand, possibly evidenced by exertional dyspnea, abnormal pulse/BP response to activity, and electrocardiogram (ECG) changes.
deficient Knowledge [Learning Need] regarding condition, prognosis, self-care and treatment needs may be related to lack of exposure, inaccurate/misinterpretation of information, possibly evidenced by questions, request for information, statement of concern, and inaccurate follow-through of instructions.
risk for sedentary Lifestyle: risk factors may include lack of training or knowledge of specific exercise needs, safety concerns/fear of myocardial injury.
risk for risk-prone health Behavior: risk factors may include condition requiring long-term therapy/change in lifestyle, multiple stressors, assault to self-concept, and altered locus of control.

anorexia nervosa
imbalanced Nutrition: less than body requirements may be related to psychological restrictions of food intake and/or excessive activity, self-induced vomiting, laxative abuse, possibly evidenced by weight loss, poor skin turgor/muscle tone, denial of hunger, unusual hoarding or handling of food, amenorrhea, electrolyte imbalance, cardiac irregularities, hypotension.
risk for deficient Fluid Volume: risk factors may include inadequate intake of food and liquids, chronic/excessive laxative or diuretic use, self-induced vomiting.
disturbed Thought Processes may be related to severe malnutrition/electrolyte imbalance, psychological conflicts; possibly evidenced by impaired ability to make decisions, problem-solve, nonreality-based verbalizations, ideas of reference, altered sleep patterns, altered attention span/distractibility; perceptual disturbances with failure to recognize hunger, fatigue, anxiety, and depression.
disturbed Body Image/chronic low Self-Esteem may be related to altered perception of body, perceived loss of control in some aspect of life, unmet dependency needs, personal vulnerability, dysfunctional family system, possibly evidenced by negative feelings, distorted view of body, use of denial, feeling powerless to prevent/make changes, ex¬pressions of shame/guilt, overly conforming, dependent on others' opinions.
interrupted Family Processes may be related to ambivalent family relationships and ways of transacting issues of control, situational/maturational crises, possibly evidenced by enmeshed family, dissonance among family members, family developmental tasks not being met, family members acting as enablers.

antisocial personality disorder
risk for other-directed Violence: risk factors may include contempt for authority/rights of others, inability to tolerate frustration, need for immediate gratification, easy agitation, vulnerable self-concept, inability to verbalize feelings, use of maladjusted coping mechanisms including substance use.
ineffective Coping may be related to very low tolerance for external stress, lack of experience of internal anxiety (e.g., guilt/shame), personal vulnerability, unmet expectations, multiple life changes possibly evidenced by choice of aggression and manipulation to handle problems/conflicts, inappropriate use of defense mechanisms (e.g., denial, projection), chronic worry, anxiety, destructive behaviors, high rate of accidents.
chronic low Self-Esteem may be related to lack of positive and/or repeated negative feedback, unmet dependency needs, retarded ego development, dysfunctional family system possibly evidenced by acting-out behaviors (e.g., substance abuse, sexual promiscuity), feelings of inadequacy, nonparticipation in therapy.
compromised/disabled family Coping may be related to family disorganization/role changes, highly ambivalent family relationships, client providing little support in turn for the primary person(s), history of abuse/neglect in the home, possibly evidenced by expressions of concern or complaints, preoccupation of primary person with own reactions to situation, display of protective behaviors disproportionate to client's abilities or need for autonomy.
impaired Social Interaction may be related to inadequate personal resources (shallow feelings), immature interests, underdeveloped conscience, unaccepted social values, possibly evidenced by difficulty meeting expectations of others, lack of belief that rules pertain to self, sense of emptiness/inadequacy covered by expressions of self-conceit/arrogance/contempt, behavior unaccepted by dominant cultural group.

anxiety disorder, generalized
Anxiety [specify level]/Powerlessness may be related to real or perceived threat to physical integrity or self-concept (may or may not be able to identify the threat), unconscious conflict about essential values/beliefs and goals of life, unmet needs, negative self-talk, possibly evidenced by sympathetic stimulation, extraneous movements (foot shuffling, hand/arm fidgeting, rocking movements, restlessness), persistent feelings

of apprehension and uneasiness, a general anxious feeling that patient has difficulty alleviating, poor eye contact, focus on self, impaired functioning, free-floating anxiety, and nonparticipation in decision making.

ineffective Coping may be related to level of anxiety being experienced by the patient, personal vulnerability; unmet expectations/unrealistic perceptions, inadequate coping methods and/or support systems, possibly evidenced by verbalization of inability to cope/problem-solve, excessive compulsive behaviors (e.g., smoking, drinking), and emotional/muscle tension, alteration in societal participation, high rate of accidents.

Insomnia may be related to psychological stress, repetitive thoughts, possibly evidenced by reports of difficulty in falling asleep/awakening earlier or later than desired, reports of not feeling rested, dark circles under eyes, and frequent yawning.

risk for compromised family Coping: risk factors may include inadequate/incorrect information or understanding by a primary person, temporary family disorganization and role changes, prolonged disability that exhausts the supportive capacity of significant other(s).

impaired Social Interaction/Social Isolation may be related to low self-concept, inadequate personal resources, misinterpretation of internal/external stimuli, hypervigilance possibly evidenced by discomfort in social situations, withdrawal from or reported change in pattern of interactions, dysfunctional interactions; expressed feelings of difference from others; sad, dull affect.

aortic aneurysm repair, abdominal

(also refer to *Surgery, general*)

Fear related to threat of injury/death, surgical intervention, possibly evidenced by verbal reports, apprehension, decreased self-assurance, increased tension, changes in vital signs.

risk for deficient Fluid Volume: risk factors may include weakening of vascular wall, failure of vascular repair.

risk for ineffective renal/peripheral Tissue Perfusion: risk factors may include interruption of arterial blood flow, hypovolemia.

aortic stenosis

decreased Cardiac Output may be related to structural changes of heart valve, left ventricular outflow obstruction, alteration of afterload (increased left ventricular end-diastolic pressure and systemic vascular resistance—SVR), alteration in preload/increased atrial pressure and venous congestion, alteration in electrical conduction, possibly evidenced by fatigue, dyspnea, changes in vital signs/hemodynamic parameters, and syncope.

risk for impaired Gas Exchange: risk factors may include alveolar-capillary membrane changes/congestion.

risk for acute Pain: risk factors may include episodic ischemia of myocardial tissues and stretching of left atrium.

Activity Intolerance may be related to imbalance between oxygen supply and demand (decreased/fixed cardiac output), possibly evidenced by exertional dyspnea, reported fatigue/weakness, and abnormal blood pressure or ECG changes/dysrhythmias in response to activity.

aplastic anemia

(also refer to *anemia*)

risk for ineffective Protection: risk factors may include abnormal blood profile (leukopenia, thrombocytopenia), drug therapies (antineoplastics, antibiotics, NSAIDs [nonsteroidal anti-inflammatory drugs], anticonvulsants).

Fatigue may be related to anemia, disease states, malnutrition, possibly evidenced by verbalization of overwhelming lack of energy, inability to maintain usual routines/level of physical activity, tired, decreased libido, lethargy, increase in physical complaints.

appendicitis

acute Pain may be related to distention of intestinal tissues by inflammation, possibly evidenced by verbal reports, guarding behavior, narrowed focus, and autonomic responses (diaphoresis, changes in vital signs).

risk for deficient Fluid Volume: risk factors may include nausea, vomiting, anorexia, and hypermetabolic state.

risk for Infection: risk factors may include release of pathogenic organisms into peritoneal cavity.

arrhythmia, cardiac

Refer to *dysrhythmia, cardiac*.

arthritis, juvenile rheumatoid
(also refer to *arthritis, rheumatoid*)
risk for delayed Development: risk factors may include effects of physical disability and required therapy.
risk for Social Isolation: risk factors may include delay in accomplishing developmental task, altered state of wellness, and changes in physical appearance.

arthritis, rheumatoid
acute/chronic Pain may be related to accumulation of fluid/inflammatory process, degeneration of joint, and deformity, possibly evidenced by verbal reports, narrowed focus, guarding/protective behaviors, and physical and social withdrawal.
impaired physical Mobility may be related to musculoskeletal deformity, pain/discomfort, decreased muscle strength, possibly evidenced by limited range of motion, impaired coordination, reluctance to attempt movement, and decreased muscle strength/control and mass.
Self-Care Deficit [specify] may be related to musculoskeletal impairment, decreased strength/endurance and range of motion, pain on movement, possibly evidenced by inability to manage activities of daily living (ADLs).
disturbed Body Image/ineffective Role Performance may be related to change in body structure/function, impaired mobility/ability to perform usual tasks, focus on past strength/function/appearance, possibly evidenced by negative self-talk, feeling of helplessness, change in lifestyle/physical abilities, dependence on others for assistance, decreased social involvement.

arthroplasty
risk for Infection: risk factors may include breach of primary defenses (surgical incision), stasis of body fluids at operative site, and altered inflammatory response.
risk for deficient Fluid Volume [isotonic]: risk factors may include surgical procedure/trauma to vascular area.
impaired physical Mobility may be related to decreased strength, pain, musculoskeletal changes, possibly evidenced by impaired coordination and reluctance to attempt movement.
acute Pain may be related to tissue trauma, local edema, possibly evidenced by verbal reports, narrowed focus, guarded movement, and autonomic responses (diaphoresis, changes in vital signs).

arthroscopy, knee
deficient Knowledge [Learning Need] regarding procedure/outcomes and self-care needs may be related to unfamiliarity with information/resources, misinterpretations, possibly evidenced by questions and requests for information, misconceptions.
risk for impaired Walking: risk factors may include joint stiffness, discomfort, prescribed movement restrictions, use of assistive devices/crutches for ambulation.

asthma
(also refer to *emphysema*)
ineffective Airway Clearance may be related to increased production/retained pulmonary secretions, bronchospasm, decreased energy/fatigue, possibly evidenced by wheezing, difficulty breathing, changes in depth/rate of respirations, use of accessory muscles, and persistent ineffective cough with or without sputum production.
impaired Gas Exchange may be related to altered delivery of inspired oxygen/air trapping, possibly evidenced by dyspnea, restlessness, reduced tolerance for activity, cyanosis, and changes in ABGs and vital signs.
Anxiety [specify level] may be related to perceived threat of death, possibly evidenced by apprehension, fearful expression, and extraneous movements.
Activity Intolerance may be related to imbalance between oxygen supply and demand, possibly evidenced by fatigue and exertional dyspnea.
risk for Contamination: risk factors may include presence of atmospheric pollutants, environmental contaminants in the home (e.g., smoking/secondhand tobacco smoke).

athlete's foot
impaired Skin Integrity may be related to fungal invasion, humidity, secretions, possibly evidenced by disruption of skin surface, reports of painful itching.
risk for Infection [spread]: risk factors may include multiple breaks in skin, exposure to moist/warm environment.

attention deficit disorder (ADD)

ineffective Coping may be related to situational/maturational crisis, retarded ego development, low self-concept possibly evidenced by easy distraction by extraneous stimuli, shifting between uncompleted activities.

chronic low Self-Esteem may be related to retarded ego development, lack of positive/repeated negative feedback, negative role models, possibly evidenced by lack of eye contact, derogatory self-comments, hesitance to try new tasks, inadequate level of confidence.

deficient Knowledge regarding condition, prognosis, therapy may be related to misinformation/misinterpretations, unfamiliarity with resources, possibly evidenced by verbalization of problems/misconceptions, poor school performance, unrealistic expectations of medication regimen.

autistic disorder

impaired Social Interaction may be related to abnormal response to sensory input/inadequate sensory stimulation, organic brain dysfunction; delayed development of secure attachment/trust, lack of intuitive skills to comprehend and accurately respond to social cues, disturbance in self-concept, possibly evidenced by lack of responsiveness to others, lack of eye contact or facial responsiveness, treating persons as objects, lack of awareness of feelings in others, indifference/aversion to comfort, affection, or physical contact; failure to develop cooperative social play and peer friendships in childhood.

impaired verbal Communication may be related to inability to trust others, withdrawal into self, organic brain dysfunction, abnormal interpretation/response to and/or inadequate sensory stimulation, possibly evidenced by lack of interactive communication mode, no use of gestures or spoken language, absent or abnormal nonverbal communication; lack of eye contact or facial expression; peculiar patterns of speech (form, content, or speech production), and impaired ability to initiate or sustain conversation despite adequate speech.

risk for Self-Mutilation: risk factors may include organic brain dysfunction, inability to trust others, disturbance in self-concept, inadequate sensory stimulation or abnormal response to sensory input (sensory overload); history of physical, emotional, or sexual abuse; and response to demands of therapy, realization of severity of condition.

disturbed Personal Identity may be related to organic brain dysfunction, lack of development of trust, maternal deprivation, fixation at presymbiotic phase of development, possibly evidenced by lack of awareness of the feelings or existence of others, increased anxiety resulting from physical contact with others, absent or impaired imitation of others, repeating what others say, persistent preoccupation with parts of objects, obsessive attachment to objects, marked distress over changes in environment; autoerotic/ritualistic behaviors, self-touching, rocking, swaying.

compromised/disabled family Coping may be related to family members unable to express feelings; excessive guilt, anger, or blaming among family members regarding child's condition; ambivalent or dissonant family relationships, prolonged coping with problem exhausting supportive ability of family members, possibly evidenced by denial of existence or severity of disturbed behaviors, preoccupation with personal emotional reaction to situation, rationalization that problem will be outgrown, attempts to intervene with child are achieving increasingly ineffective results, family withdraws from or becomes overly protective of child.

battered child syndrome

(also refer to *abuse*)

risk for Trauma: risk factors may include dependent position in relationship(s), vulnerability (e.g., congenital problems/chronic illness), history of previous abuse/neglect, lack/nonuse of support systems by caregiver(s).

interrupted Family Processes/impaired Parenting may be related to poor role model/identity, unrealistic expectations, presence of stressors, and lack of support, possibly evidenced by verbalization of negative feelings, inappropriate caretaking behaviors, and evidence of physical/psychological trauma to child.

chronic low Self-Esteem may be related to deprivation and negative feedback of family members, personal vulnerability, feelings of abandonment, possibly evidenced by lack of eye contact, withdrawal from social contacts, discounting own needs, nonassertive/passive, indecisive, or overly conforming behaviors.

Post-Trauma Syndrome may be related to sustained/recurrent physical or emotional abuse; possibly evidenced by acting-out behavior, development of phobias, poor impulse control, and emotional numbness.

ineffective Coping may be related to situational or maturational crisis, overwhelming threat to self, personal vulnerability, inadequate support systems, possibly evidenced by verbalized concern about ability to deal with current situation, chronic worry,

anxiety, depression, poor self-esteem, inability to problem-solve, high illness rate, destructive behavior toward self/others.

benign prostatic hypertrophy

[acute/chronic] Urinary Retention/overflow Urinary Incontinence may be related to mechanical obstruction (enlarged prostate), decompensation of detrusor musculature, inability of bladder to contract adequately, possibly evidenced by frequency, hesitancy, inability to empty bladder completely, incontinence/dribbling, nocturia, bladder distention, residual urine.

acute Pain may be related to mucosal irritation, bladder distention, colic, urinary infection, and radiation therapy, possibly evidenced by reports (bladder/rectal spasm), narrowed focus, altered muscle tone, grimacing, distraction behaviors, restlessness, and autonomic responses.

risk for deficient Fluid Volume: risk factors may include postobstructive diuresis, endocrine/electrolyte imbalances.

Fear/Anxiety [specify level] may be related to change in health status (possibility of surgical procedure/malignancy); embarrassment/loss of dignity associated with genital exposure before, during, and after treatment, and concern about sexual ability, possibly evidenced by increased tension, apprehension, worry, expressed concerns regarding perceived changes, and fear of unspecified consequences.

bipolar disorder

risk for other-directed Violence: risk factors may include irritability, impulsive behavior; delusional thinking; angry response when ideas are refuted or wishes denied; manic excitement, with possible indicators of threatening body language/verbalizations, increased motor activity, overt and aggressive acts; and hostility.

imbalanced Nutrition: less than body requirements may be related to inadequate intake in relation to metabolic expenditures, possibly evidenced by body weight 20% or more below ideal weight, observed inadequate intake, inattention to mealtimes, and distraction from task of eating; laboratory evidence of nutritional deficits/imbalances.

risk for Poisoning [lithium toxicity]: risk factors may include narrow therapeutic range of drug, patient's ability (or lack of) to follow through with medication regimen and monitoring, and denial of need for information/therapy.

Insomnia may be related to psychological stress, lack of recognition of fatigue/need to sleep, hyperactivity, possibly evidenced by denial of need to sleep, interrupted nighttime sleep, one or more nights without sleep, changes in behavior and performance, increasing irritability/restlessness, and dark circles under eyes.

disturbed Sensory/Perception [specify] [overload] may be related to decrease in sensory threshold, endogenous chemical alteration, psychological stress, sleep deprivation, possibly evidenced by increased distractibility and agitation, anxiety, disorientation, poor concentration, auditory/visual hallucination, bizarre thinking, and motor incoordination.

interrupted Family Processes may be related to situational crises (illness, economics, change in roles); euphoric mood and grandiose ideas/actions of patient, manipulative behavior and limit-testing, patient's refusal to accept responsibility for own actions, possibly evidenced by statements of difficulty coping with situation, lack of adaptation to change or not dealing constructively with illness; ineffective family decision-making process, failure to send and to receive clear messages, and inappropriate boundary maintenance.

borderline personality disorder

risk for self/other-directed Violence/Self-Mutilation: risk factors may include use of projection as a major defense mechanism, pervasive problems with negative transference, feelings of guilt/need to "punish" self, distorted sense of self, inability to cope with increased psychological or physiological tension in a healthy manner.

Anxiety [severe to panic] may be related to unconscious conflicts (experience of extreme stress), perceived threat to self-concept, unmet needs, possibly evidenced by easy frustration and feelings of hurt, abuse of alcohol/other drugs, transient psychotic symptoms and performance of self-mutilating acts.

chronic low Self-Esteem/ disturbed personal Identity may be related to lack of positive feedback, unmet dependency needs, retarded ego development/fixation at an earlier level of development, possibly evidenced by difficulty identifying self or defining self-boundaries, feelings of depersonalization, extreme mood changes, lack of tolerance of rejection or being alone, unhappiness with self, striking out at others, performance of ritualistic self-damaging acts, and belief that punishing self is necessary.

Social Isolation may be related to immature interests, unaccepted social behavior, inadequate personal resources, and inability to engage in satisfying personal relationships, possibly evidenced by alternating clinging and distancing behaviors, difficulty meeting expectations of others, experiencing feelings of difference from others, ex-

pressing interests inappropriate to developmental age, and exhibiting behavior unaccepted by dominant cultural group.

botulism (food-borne)

deficient Fluid Volume [isotonic] may be related to active losses—vomiting, diarrhea; decreased intake—nausea, dysphagia, possibly evidenced by reports of thirst; dry skin/mucous membranes, decreased BP and urine output, change in mental state, increased hematocrit (Hct).

impaired physical Mobility may be related to neuromuscular impairment, possibly evidenced by limited ability to perform gross/fine motor skills.

Anxiety [specify level]/Fear may be related to threat of death, interpersonal transmission, possibly evidenced by expressed concerns, apprehension, awareness of physiological symptoms, focus on self.

risk for impaired spontaneous Ventilation: risk factors may include neuromuscular impairment, presence of infectious process.

Contamination may be related to lack of proper precautions in food storage/preparation as evidenced by gastrointestinal and neurological effects of exposure to biological agent.

brain tumor

acute Pain may be related to pressure on brain tissues, possibly evidenced by reports of headache, facial mask of pain, narrowed focus, and autonomic responses (changes in vital signs).

disturbed Thought Processes may be related to altered circulation to and/or destruction of brain tissue, possibly evidenced by memory loss, personality changes, impaired ability to make decisions/conceptualize, and inaccurate interpretation of environment.

disturbed Sensory/Perception [specify] may be related to compression/displacement of brain tissue, disruption of neuronal conduction, possibly evidenced by changes in visual acuity, alterations in sense of balance/gait disturbance, and paresthesia.

risk for deficient Fluid Volume: risk factors may include recurrent vomiting from irritation of vagal center in medulla, and decreased intake.

Self-Care Deficit [specify] may be related to sensory/neuromuscular impairment interfering with ability to perform tasks, possibly evidenced by unkempt/disheveled appearance, body odor, and verbalization/observation of inability to perform activities of daily living.

breast cancer

(also refer to *cancer*)

Anxiety [specify level] may be related to change in health status, threat of death, stress, interpersonal transmission, possibly evidenced by expressed concerns, apprehension, uncertainty, focus on self, diminished productivity.

deficient Knowledge [Learning Need] regarding diagnosis, prognosis, and treatment options may be related to lack of exposure/unfamiliarity with information resources, information misinterpretation, cognitive limitation/anxiety, possibly evidenced by verbalizations, statements of misconceptions, inappropriate behaviors.

risk for disturbed Body Image: risk factors may include significance of body part with regard to sexual perceptions.

risk for ineffective Sexuality Pattern: risk factors may include health-related changes, medical treatments, concern about relationship with significant other.

bronchitis

ineffective Airway Clearance may be related to excessive, thickened mucous secretions, possibly evidenced by presence of rhonchi, tachypnea, and ineffective cough.

Activity Intolerance [specific level] may be related to imbalance between oxygen supply and demand, possibly evidenced by reports of fatigue, dyspnea, and abnormal vital sign response to activity.

acute Pain may be related to localized inflammation, persistent cough, aching associated with fever, possibly evidenced by reports of discomfort, distraction behavior, and facial mask of pain.

bronchopneumonia

(also refer to *bronchitis*)

ineffective Airway Clearance may be related to tracheal bronchial inflammation, edema formation, increased sputum production, pleuritic pain, decreased energy, fatigue, possibly evidenced by changes in rate/depth of respirations, abnormal breath sounds, use of accessory muscles, dyspnea, cyanosis, effective/ineffective cough—with or without sputum production.

impaired Gas Exchange may be related to inflammatory process, collection of secretions affecting oxygen exchange across alveolar membrane, and hypoventilation, possibly

evidenced by restlessness/changes in mentation, dyspnea, tachycardia, pallor, cyanosis, and ABGs/oximetry evidence of hypoxia.
risk for Infection [spread]: risk factors may include decreased ciliary action, stasis of secretions, presence of existing infection.

bulimia nervosa

(also refer to *anorexia nervosa*)
impaired Dentition may be related to dietary habits, poor oral hygiene, chronic vomiting, possibly evidenced by erosion of tooth enamel, multiple caries, abraded teeth.
impaired Oral Mucous Membrane may be related to malnutrition or vitamin deficiency; poor oral hygiene; chronic vomiting, possibly evidenced by sore, inflamed buccal mucosa; swollen salivary glands; ulcerations of mucosa; reports of constant sore mouth/throat.
risk for deficient Fluid Volume: risk factors may include consistent self-induced vomiting, chronic/excessive laxative/diuretic use, esophageal erosion or tear (Mallory-Weiss syndrome).
deficient Knowledge [Learning Need] regarding condition, prognosis, complication, treatment may be related to lack of exposure to/unfamiliarity with information about condition, learned maladaptive coping skills, possibly evidenced by verbalization of misconception of relationship of current situation and behaviors, distortion of body image, binging and purging behaviors, verbalized need for information/desire to change behaviors.

burn (dependent on type, degree, and severity of the injury)

risk for deficient Fluid Volume: risk factors may include loss of fluids through wounds, capillary damage and evaporation, hypermetabolic state, insufficient intake, hemorrhagic losses.
risk for ineffective Airway Clearance: risk factors may include mucosal edema and loss of ciliary action (smoke inhalation), direct upper airway injury by flame, steam, chemicals.
risk for Infection: risk factors may include loss of protective dermal barrier, traumatized/necrotic tissue, decreased hemoglobin, suppressed inflammatory response, environmental exposure/invasive procedures.
acute/chronic Pain may be related to destruction of/trauma to tissue and nerves, edema formation, and manipulation of impaired tissues, possibly evidenced by verbal reports, narrowed focus, distraction and guarding behaviors, facial mask of pain, and autonomic responses (changes in vital signs).
risk for imbalanced Nutrition: less than body requirements: risk factors may include hypermetabolic state in response to burn injury/stress, inadequate intake, protein catabolism.
Post-Trauma Syndrome may be related to life-threatening event, possibly evidenced by re-experiencing the event, repetitive dreams/nightmares, psychic/emotional numbness, and sleep disturbance.
ineffective Protection may be related to extremes of age, inadequate nutrition, anemia, impaired immune system, possibly evidenced by impaired healing, deficient immunity, fatigue, anorexia.
deficient Diversional Activity may be related to long-term hospitalization, frequent lengthy treatments, and physical limitations, possibly evidenced by expressions of boredom, restlessness, withdrawal, and requests for something to do.
risk for delayed Development: risk factors may include effects of physical disability, separation from significant other(s), and environmental deficiencies.

bursitis

acute/chronic Pain may be related to inflammation of affected joint, possibly evidenced by verbal reports, guarding behavior, and narrowed focus.
impaired physical Mobility may be related to inflammation and swelling of joint, and pain, possibly evidenced by diminished range of motion, reluctance to attempt movement, and imposed restriction of movement by medical treatment.

calculi, urinary

acute Pain may be related to increased frequency/force of ureteral contractions, tissue distention/trauma and edema formation, cellular ischemia, possibly evidenced by reports of sudden, severe, colicky pains; guarding and distraction behaviors, self-focus, and autonomic responses.
impaired Urinary Elimination may be related to stimulation of the bladder by calculi, renal or ureteral irritation, mechanical obstruction of urinary flow, edema, inflammation, possibly evidenced by urgency and frequency; oliguria (retention); hematuria.

risk for deficient Fluid Volume: risk factors may include stimulation of renal-intestinal reflexes causing nausea, vomiting, and diarrhea; changes in urinary output, postoperative diuresis; and decreased intake.
risk for Infection: risk factors may include stasis of urine.
deficient Knowledge [Learning Need] regarding condition, prognosis, self-care and treatment needs may be related to lack of exposure/recall and information misinterpretation, possibly evidenced by requests for information, statements of concern, and recurrence/development of preventable complications.

cancer

(also refer to *chemotherapy*)

Fear/death Anxiety may be related to situational crises, threat to/change in health/socioeconomic status, role functioning, interaction patterns; threat of death, separation from family, interpersonal transmission of feelings, possibly evidenced by expressed concerns, feelings of inadequacy/helplessness, insomnia; increased tension, restlessness, focus on self, sympathetic stimulation.
Grieving may be related to potential loss of physiologic well-being (body part/function), perceived separation from significant other(s)/lifestyle (death), possibly evidenced by anger, sadness, withdrawal, choked feelings, changes in eating/sleep patterns, activity level, libido, and communication patterns.
acute/chronic Pain may be related to the disease process (compression of nerve tissue, infiltration of nerves or their vascular supply, obstruction of a nerve pathway, inflammation), or side effects of therapeutic agents, possibly evidenced by verbal reports, self-focusing/narrowed focus, alteration in muscle tone, facial mask of pain, distraction/guarding behaviors, autonomic responses, and restlessness.
Fatigue may be related to decreased metabolic energy production, increased energy requirements (hypermetabolic state), overwhelming psychological/emotional demands, and altered body chemistry (side effects of medications, chemotherapy), possibly evidenced by unremitting/overwhelming lack of energy, inability to maintain usual routines, decreased performance, impaired ability to concentrate, lethargy/listlessness, and disinterest in surroundings.
impaired Home Maintenance may be related to debilitation, lack of resources, and/or inadequate support systems, possibly evidenced by verbalization of problem, request for assistance, and lack of necessary equipment or aids.
compromised/disabled family Coping may be related to chronic nature of disease and disability, ongoing treatment needs, parental supervision, and lifestyle restrictions, possibly evidenced by expression of denial/despair, depression, and protective behavior disproportionate to client's abilities or need for autonomy.
readiness for enhanced family Coping may be related to the fact that the individual's needs are being sufficiently gratified and adaptive tasks effectively addressed, enabling goals of self-actualization to surface, possibly evidenced by verbalizations of impact of crisis on own values, priorities, goals, or relationships.

cardiac surgery

Anxiety [specify level]/Fear may be related to change in health status and threat to self-concept/of death, possibly evidenced by sympathetic stimulation, increased tension, and apprehension.
risk for decreased Cardiac Output: risk factors may include decreased preload (hypovolemia), depressed myocardial contractility, changes in SVR (afterload), and alterations in electrical conduction (dysrhythmias).
deficient Fluid Volume [isotonic] may be related to intraoperative bleeding with inadequate blood replacement; bleeding related to insufficient heparin reversal, fibrinolysis, or platelet destruction; or volume depletion effects of intraoperative/postoperative diuretic therapy, possibly evidenced by increased pulse rate, decreased pulse volume/pressure, decreased urine output, hemoconcentration.
risk for impaired Gas Exchange: risk factors may include alveolar-capillary membrane changes (atelectasis), intestinal edema, inadequate function or premature discontinuation of chest tubes, and diminished oxygen-carrying capacity of the blood.
acute Pain/[Discomfort] may be related to tissue inflammation/trauma, edema formation, intraoperative nerve trauma, and myocardial ischemia, possibly evidenced by reports of incisional discomfort/pain in chest and donor site; paresthesia/pain in hand, arm, shoulder, anxiety, restlessness, irritability; distraction behaviors, and autonomic responses.
impaired Skin/Tissue Integrity related to mechanical trauma (surgical incisions, puncture wounds) and edema, evidenced by disruption of skin surface/tissues.

carpal tunnel syndrome

acute/chronic Pain may be related to pressure on median nerve, possibly evidenced by verbal reports, reluctance to use affected extremity, guarding behaviors, expressed fear of reinjury, altered ability to continue previous activities.

impaired physical Mobility may be related to neuromuscular impairment and pain, possibly evidenced by decreased hand strength, weakness, limited range of motion, and reluctance to attempt movement.

risk for Peripheral Neurovascular Dysfunction: risks include mechanical compression (e.g., brace, repetitive tasks/motions), immobilization.

deficient Knowledge [Learning Need] regarding condition, prognosis and treatment/safety needs may be related to lack of exposure/recall, information misinterpretation, possibly evidenced by questions, statements of concern, request for information, inaccurate follow-through of instructions/development of preventable complications.

casts

(also refer to *fractures*)

risk for Peripheral Neurovascular Dysfunction: risk factors may include presence of fracture(s), mechanical compression (cast), tissue trauma, immobilization, vascular obstruction.

risk for impaired Skin Integrity: risk factors may include pressure of cast, moisture/debris under cast, objects inserted under cast to relieve itching, and/or altered sensation/circulation.

Self-Care Deficit [specify] may be related to impaired ability to perform self-care tasks, possibly evidenced by statements of need for assistance and observed difficulty in performing activities of daily living.

cataract

disturbed visual Sensory/Perception may be related to altered sensory reception/status of sense organs, and therapeutically restricted environment (surgical procedure, patching), possibly evidenced by diminished acuity, visual distortions, and change in usual response to stimuli.

risk for Trauma: risk factors may include poor vision, reduced hand/eye coordination.

Anxiety [specify level]/Fear may be related to alteration in visual acuity, threat of permanent loss of vision/independence, possibly evidenced by expressed concerns, apprehension, and feelings of uncertainty.

deficient Knowledge [Learning Need] regarding ways of coping with altered abilities, therapy choices, lifestyle changes may be related to lack of exposure/recall, misinterpretation, or cognitive limitations, possibly evidenced by requests for information, statement of concern, inaccurate follow-through of instructions/development of preventable complications.

cat scratch disease

acute Pain may be related to effects of circulating toxins (fever, headache, and lymphadenitis), possibly evidenced by verbal reports, guarding behavior, and autonomic response (changes in vital signs).

Hyperthermia may be related to inflammatory process, possibly evidenced by increased body temperature, flushed warm skin, tachypnea, and tachycardia.

cerebrovascular accident (CVA)

ineffective cerebral Tissue Perfusion may be related to interruption of blood flow (occlusive disorder, hemorrhage, cerebral vasospasm/edema), possibly evidenced by altered level of consciousness, changes in vital signs, changes in motor/sensory responses, restlessness, memory loss; sensory, language, intellectual, and emotional deficits.

impaired physical Mobility may be related to neuromuscular involvement (weakness, paresthesia, flaccid/hypotonic paralysis, spastic paralysis), perceptual/cognitive impairment, possibly evidenced by inability to purposefully move involved body parts/limited range of motion; impaired coordination and/or decreased muscle strength/control.

impaired verbal [and/or written] Communication may be related to impaired cerebral circulation, neuromuscular impairment, loss of facial/oral muscle tone and control; generalized weakness/fatigue, possibly evidenced by impaired articulation, does not/cannot speak (dysarthria); inability to modulate speech, find and/or name words, identify objects, and/or inability to comprehend written/spoken language; inability to produce written communication.

Self-Care Deficit [specify] may be related to neuromuscular impairment, decreased strength/endurance, loss of muscle control/coordination, perceptual/cognitive impairment, pain/discomfort, and depression, possibly evidenced by stated/observed inability to perform ADLs, requests for assistance, disheveled appearance, and incontinence.

risk for impaired Swallowing: risk factors may include muscle paralysis and perceptual impairment.
risk for unilateral Neglect: risk factors may include sensory loss of part of visual field with perceptual loss of corresponding body segment.
impaired Home Maintenance may be related to condition of individual family member, insufficient finances/family organization or planning, unfamiliarity with resources, and inadequate support systems, possibly evidenced by members expressing difficulty in managing home in a comfortable manner/requesting assistance with home maintenance, disorderly surroundings, and overtaxed family members.
situational low Self-Esteem/disturbed Body Image/ineffective Role performance may be related to biophysical, psychosocial, and cognitive/perceptual changes, possibly evidenced by actual change in structure and/or function, change in usual patterns of responsibility/physical capacity to resume role; and verbal/nonverbal response to actual or perceived change.

cesarean birth, postpartal

(also refer to *postpartal period*)
risk for impaired parent/infant Attachment: risk factors may include developmental transition/gain of a family member, situational crisis (e.g., surgical intervention, physical complications interfering with initial acquaintance/interaction, negative self-appraisal).
acute Pain/[Discomfort] may be related to surgical trauma, effects of anesthesia, hormonal effects, bladder/abdominal distention, possibly evidenced by verbal reports (e.g., incisional pain, cramping/afterpains, spinal headache), guarding/distraction behaviors, irritability, facial mask of pain.
risk for situational low Self-Esteem: risk factors may include perceived "failure" at life event, maturational transition, perceived loss of control in unplanned delivery.
risk for Injury: risk factors may include biochemical or regulatory functions (e.g., orthostatic hypotension, development of pregnancy-induced hypertension or eclampsia), effects of anesthesia, thromboembolism, abnormal blood profile (anemia/excessive blood loss, rubella sensitivity, Rh incompatibility), tissue trauma.
risk for Infection: risk factors may include tissue trauma/broken skin, decreased Hb, invasive procedures and/or increased environmental exposure, prolonged rupture of amniotic membranes, malnutrition.
Self-Care Deficit [specify] may be related to effects of anesthesia, decreased strength and endurance, physical discomfort, possibly evidenced by verbalization of inability to perform desired ADL(s).

cesarean birth, unplanned

(also refer to *cesarean birth, postpartal*)
deficient Knowledge [Learning Need] regarding underlying procedure, pathophysiology, and self-care needs may be related to incomplete/inadequate information, possibly evidenced by request for information, verbalization of concerns/misconceptions, and inappropriate/exaggerated behavior.
Anxiety [specify level] may be related to actual/perceived threat to mother/fetus, emotional threat to self-esteem, unmet needs/expectations, and interpersonal transmission, possibly evidenced by increased tension, apprehension, feelings of inadequacy, sympathetic stimulation, and narrowed focus, restlessness.
Powerlessness may be related to interpersonal interaction, perception of illness-related regimen, lifestyle of helplessness, possibly evidenced by verbalization of lack of control, lack of participation in care or decision making, passivity.
risk for impaired fetal Gas Exchange: risk factors may include altered blood flow to placenta and/or through umbilical cord.
risk for acute Pain: risk factors may include increased/prolonged contractions, psychological reaction.
risk for Infection: risk factors may include invasive procedures, rupture of amniotic membranes, break in skin, decreased hemoglobin, exposure to pathogens.

chemotherapy

(also refer to *cancer*)
risk for deficient Fluid volume: risk factors may include gastrointestinal losses (vomiting), interference with adequate intake (stomatitis/anorexia), losses through abnormal routes (indwelling tubes, wounds, fistulas), and hypermetabolic state.
imbalanced Nutrition: less than body requirements may be related to inability to ingest adequate nutrients (nausea, stomatitis, and fatigue), hypermetabolic state, possibly evidenced by weight loss (wasting), aversion to eating, reported altered taste sensation, sore, inflamed buccal cavity; diarrhea and/or constipation.

impaired Oral Mucous Membrane may be related to side effects of therapeutic agents/radiation, dehydration, and malnutrition, possibly evidenced by ulcerations, leukoplakia, decreased salivation, and reports of pain.
disturbed Body Image may be related to anatomical/structural changes; loss of hair and weight, possibly evidenced by negative feelings about body, preoccupation with change, feelings of helplessness/hopelessness, and change in social environment.
ineffective Protection may be related to inadequate nutrition, drug therapy/radiation, abnormal blood profile, disease state (cancer), possibly evidenced by impaired healing, deficient immunity, anorexia, fatigue.
readiness for enhanced Hope may be related to expectations of therapeutic interventions, results of diagnostic procedures as evidenced by expressed desire to enhance belief in possibilities/sense of meaning to life.

cholecystectomy

acute Pain may be related to interruption in skin/tissue layers with mechanical closure (sutures/staples) and invasive procedures (including T-tube/nasogastric (NG) tube), possibly evidenced by verbal reports, guarding/distraction behaviors, and autonomic responses (changes in vital signs).
ineffective Breathing Pattern may be related to decreased lung expansion (pain and muscle weakness), decreased energy/fatigue, ineffective cough, possibly evidenced by fremitus, tachypnea, and decreased respiratory depth/vital capacity.
risk for deficient Fluid Volume: risk factors may include vomiting/NG aspiration, medically restricted intake, altered coagulation.

cholelithiasis

acute Pain may be related to inflammation and distortion of tissues, ductal spasm, possibly evidenced by verbal reports, guarding/distraction behaviors, and autonomic responses (changes in vital signs).
imbalanced Nutrition: less than body requirements may be related to inability to ingest/absorb adequate nutrients (food intolerance/pain, nausea/vomiting, anorexia), possibly evidenced by aversion to food/decreased intake and weight loss.
deficient Knowledge [Learning Need] regarding pathophysiology, therapy choices, and self-care needs may be related to lack of information, misinterpretation, possibly evidenced by verbalization of concerns, questions, and recurrence of condition.

chronic obstructive lung disease

impaired Gas Exchange may be related to altered oxygen delivery (obstruction of airways by secretions/bronchospasm, air-trapping) and alveoli destruction, possibly evidenced by dyspnea, restlessness, confusion, abnormal ABG values, and reduced tolerance for activity.
ineffective Airway Clearance may be related to bronchospasm, increased production of tenacious secretions, retained secretions, and decreased energy/fatigue, possibly evidenced by presence of wheezes, crackles, tachypnea, dyspnea, changes in depth of respirations, use of accessory muscles, cough (persistent), and chest x-ray findings.
Activity Intolerance may be related to imbalance between oxygen supply and demand, and generalized weakness, possibly evidenced by verbal reports of fatigue, exertional dyspnea, and abnormal vital sign response.
imbalanced Nutrition: less than body requirements may be related to inability to ingest adequate nutrients (dyspnea, fatigue, medication side effects, sputum production, anorexia), possibly evidenced by weight loss, reported altered taste sensation, decreased muscle mass/subcutaneous fat, poor muscle tone, and aversion to eating/lack of interest in food.
risk for Infection: risk factors may include decreased ciliary action, stasis of secretions, and debilitated state/malnutrition.

cirrhosis

(also refer to *substance dependence/abuse rehabilitation*; *hepatitis, acute viral*)
risk for impaired Liver Function: risk factors may include viral infection, alcohol abuse.
imbalanced Nutrition: less than body requirements may be related to inability to ingest/absorb nutrients (anorexia, nausea, indigestion, early satiety), abnormal bowel function, impaired storage of vitamins, possibly evidenced by aversion to eating, observed lack of intake, muscle wasting, weight loss, and imbalances in nutritional studies.
excess Fluid Volume may be related to compromised regulatory mechanism (e.g., syndrome of inappropriate antidiuretic hormone [SIADH], decreased plasma proteins/malnutrition) and excess sodium/fluid intake, possibly evidenced by generalized or abdominal edema, weight gain, dyspnea, BP changes, positive hepatojugular reflex, change in mentation, altered electrolytes, changes in urine specific gravity, and pleural effusion.

risk for impaired Skin Integrity: risk factors may include altered circulation/metabolic state, poor skin turgor, skeletal prominence, and presence of edema/ascites, accumulation of bile salts in skin.
risk for acute Confusion: risk factors may include alcohol abuse, increased serum ammonia level, and inability of liver to detoxify certain enzymes/drugs.
situational low Self-Esteem [specify]/disturbed Body Image may be related to biophysical changes/altered physical appearance, uncertainty of prognosis, changes in role function, personal vulnerability, self-destructive behavior (alcohol-induced disease), possibly evidenced by verbalization of changes in lifestyle, fear of rejection/reaction of others, negative feelings about body/abilities, and feelings of helplessness/hopelessness/powerlessness.
risk for ineffective Protection: risk factors may include abnormal blood profile (altered clotting factors), portal hypertension/development of esophageal varices.

cocaine hydrochloride poisoning, acute
(also refer to *substance dependence/abuse rehabilitation*)
ineffective Breathing Pattern may be related to pharmacological effects on respiratory center of the brain, possibly evidenced by tachypnea, altered depth of respiration, shortness of breath, and abnormal ABGs.
risk for decreased Cardiac Output: risk factors may include drug effect on myocardium (degree dependent on drug purity/quality used), alterations in electrical rate/rhythm/conduction, pre-existing myocardiopathy.
risk for impaired Liver Function: risk factors may include cocaine abuse
imbalanced Nutrition: less than body requirements may be related to anorexia, insufficient/inappropriate use of financial resources, possibly evidenced by reported inadequate intake, weight loss/less than normal weight gain; lack of interest in food, poor muscle tone, signs/laboratory evidence of vitamin deficiencies.
risk for Infection: risk factors may include injection techniques, impurities of drugs; localized trauma/nasal septum damage, malnutrition, altered immune state.
ineffective Coping may be related to personal vulnerability, negative role modeling, inadequate support systems; ineffective/inadequate coping skills with substitution of drug, possibly evidenced by use of harmful substance, despite evidence of undesirable consequences.
disturbed Sensory/Perception (specify) may be related to exogenous chemical, altered sensory reception/transmission/integration (hallucination), altered status of sense organs, possibly evidenced by responding to internal stimuli from hallucinatory experiences, bizarre thinking, anxiety/panic, changes in sensory acuity (sense of smell/taste).

coccidioidomycosis (San Joaquin/Valley Fever)
acute Pain may be related to inflammation, possibly evidenced by verbal reports, distraction behaviors, and narrowed focus.
Fatigue may be related to decreased energy production; states of discomfort, possibly evidenced by reports of overwhelming lack of energy, inability to maintain usual routine, emotional lability/irritability, impaired ability to concentrate, and decreased endurance/libido.
deficient Knowledge [Learning Need] regarding nature/course of disease, therapy and self-care needs may be related to lack of information, possibly evidenced by statements of concern and questions.

colitis, ulcerative
Diarrhea may be related to inflammation or malabsorption of the bowel, presence of toxins and/or segmental narrowing of the lumen, possibly evidenced by increased bowel sounds/peristalsis, urgency, frequent/watery stools (acute phase), changes in stool color, and abdominal pain/cramping.
acute/chronic Pain may be related to inflammation of the intestines/hyperperistalsis and anal/rectal irritation, possibly evidenced by verbal reports, guarding/distraction behaviors.
risk for deficient Fluid Volume: risk factors may include continued gastrointestinal losses (diarrhea, vomiting, capillary plasma loss), altered intake, hypermetabolic state.
imbalanced Nutrition: less than body requirements may be related to altered intake/absorption of nutrients (medically restricted intake, fear that eating may cause diarrhea) and hypermetabolic state, possibly evidenced by weight loss, decreased subcutaneous fat/muscle mass, poor muscle tone, hyperactive bowel sounds, steatorrhea, pale conjunctiva and mucous membranes, and aversion to eating.
ineffective Coping may be related to chronic nature and indefinite outcome of disease, multiple stressors (repeated over time), personal vulnerability, severe pain, inadequate sleep, lack of/ineffective support systems, possibly evidenced by verbalization

of inability to cope, discouragement, anxiety; preoccupation with physical self, chronic worry, emotional tension; depression, and recurrent exacerbation of symptoms.
risk for Powerlessness: risk factors may include unresolved dependency conflicts, feelings of insecurity/resentment, repression of anger and aggressive feelings, lacking a sense of control in stressful situations, sacrificing own wishes for others, and retreat from aggression or frustration.

colostomy
risk for impaired Skin Integrity: risk factors may include absence of sphincter at stoma and chemical irritation from caustic bowel contents, reaction to product/removal of adhesive, and improperly fitting appliance.
risk for Diarrhea/Constipation: risk factors may include interruption/alteration of normal bowel function (placement of ostomy), changes in dietary/fluid intake, and effects of medication.
deficient Knowledge [Learning Need] regarding changes in physiologic function and self-care/treatment needs may be related to lack of exposure/recall, information misinterpretation, possibly evidenced by questions, statement of concern, and inaccurate follow-through of instruction/development of preventable complications.
disturbed Body Image may be related to biophysical changes (presence of stoma; loss of control of bowel elimination) and psychosocial factors (altered body structure, disease process/associated treatment regimen, e.g., cancer, colitis), possibly evidenced by verbalization of change in perception of self, negative feelings about body, fear of rejection/reaction of others, not touching/looking at stoma, and refusal to participate in care.
impaired Social Interaction may be related to fear of embarrassing situation secondary to altered bowel control with loss of contents, odor, possibly evidenced by reduced participation and verbalized/observed discomfort in social situations.
risk for Sexual Dysfunction: risk factors may include altered body structure/function, radical resection/treatment procedures, vulnerability/psychological concern about response of significant other(s), and disruption of sexual response pattern (e.g., erection difficulty).

coma, diabetic
Refer to *diabetic ketoacidosis*.

concussion of the brain
acute Pain may be related to trauma to/edema of cerebral tissue, possibly evidenced by reports of headache, guarding/distraction behaviors, and narrowed focus.
risk for deficient Fluid Volume: risk factors may include vomiting, decreased intake, and hypermetabolic state (fever).
risk for disturbed Thought Processes: risk factors may include trauma to/edema of cerebral tissue.
deficient Knowledge [Learning Need] regarding condition, treatment/safety needs, and potential complications may be related to lack of recall, misinterpretation, cognitive limitation, possibly evidenced by questions/statement of concerns, development of preventable complications.

conduct disorder (childhood, adolescence)
risk for self/other-directed Violence: risk factors may include retarded ego development, antisocial character, poor impulse control, dysfunctional family system, loss of significant relationships, history of suicidal/acting-out behaviors.
defensive Coping may be related to inadequate coping strategies, maturational crisis, multiple life changes/losses, lack of control of impulsive actions, and personal vulnerability, possibly evidenced by inappropriate use of defense mechanisms, inability to meet role expectations, poor self-esteem, failure to assume responsibility for own actions, hypersensitivity to slight or criticism, and excessive smoking/drinking/drug use.
disturbed Thought Processes may be related to physiological changes, lack of appropriate psychological conflict, biochemical changes, as evidenced by tendency to interpret the intentions/actions of others as blaming and hostile; deficits in problem-solving skills, with physical aggression the solution most often chosen.
chronic low Self-Esteem may be related to life choices perpetuating failure, personal vulnerability, possibly evidenced by self-negating verbalizations, anger, rejection of positive feedback, frequent lack of success in life events.
compromised/disabled family Coping may be related to excessive guilt, anger, or blaming among family members regarding child's behavior; parental inconsistencies; disagreements regarding discipline, limit setting, and approaches; and exhaustion of parental resources (prolonged coping with disruptive child), possibly evidenced by unrealistic parental expectations, rejection or overprotection of child; and exaggerated

expressions of anger, disappointment, or despair regarding child's behavior or ability to improve or change.
impaired Social Interaction may be related to retarded ego development, developmental state (adolescence), lack of social skills, low self-concept, dysfunctional family system, and neurological impairment, possibly evidenced by dysfunctional interaction with others (difficulty waiting turn in games or group situations, not seeming to listen to what is being said), difficulty playing quietly and maintaining attention to task or play activity, often shifting from one activity to another and interrupting or intruding on others.

Conn's syndrome
Refer to *aldosteronism, primary*.

constipation
Constipation may be related to weak abdominal musculature, gastrointestinal obstructive lesions, pain on defecation, diagnostic procedures, pregnancy, possibly evidenced by change in character/frequency of stools, feeling of abdominal/rectal fullness or pressure, changes in bowel sounds, abdominal distention.
acute Pain may be related to abdominal fullness/pressure, straining to defecate, and trauma to delicate tissues, possibly evidenced by verbal reports, reluctance to defecate, and distraction behaviors.
deficient Knowledge [Learning Need] regarding dietary needs, bowel function, and medication effect may be related to lack of information/misconceptions, possibly evidenced by development of problem and verbalization of concerns/questions.

coronary artery bypass surgery
risk for decreased Cardiac Output: risk factors may include decreased myocardial contractility, diminished circulating volume (preload), alterations in electrical conduction, and increased SVR (afterload).
acute Pain may be related to direct chest tissue/bone trauma, invasive tubes/lines, donor site incision, tissue inflammation/edema formation, intraoperative nerve trauma, possibly evidenced by verbal reports, autonomic responses (changes in vital signs), and distraction behaviors/ (restlessness), irritability.
disturbed Sensory/Perception [specify] may be related to restricted environment (postoperative/acute), sleep deprivation, effects of medications, continuous environmental sounds/activities, and psychological stress of procedure, possibly evidenced by disorientation, alterations in behavior, exaggerated emotional responses, and visual/auditory distortions.
ineffective Role Performance may be related to situational crises (dependency role)/recuperative process, uncertainty about future, possibly evidenced by delay/alteration in physical capacity to resume role, change in usual role or responsibility change in self/others' perception of role.

Crohn's disease
(also refer to *colitis, ulcerative*)
imbalanced Nutrition: less than body requirements may be related to intestinal pain after eating; and decreased transit time through bowel, possibly evidenced by weight loss, aversion to eating, and observed lack of intake.
Diarrhea may be related to inflammation of small intestines, presence of toxins, particularly dietary intake, possibly evidenced by hyperactive bowel sounds, cramping, and frequent loose liquid stools.
deficient Knowledge [Learning Need] regarding condition, nutritional needs, and prevention of recurrence may be related to insufficient information/misinterpretation, unfamiliarity with resources, possibly evidenced by statements of concern/questions, inaccurate follow-through of instructions, and development of preventable complications/exacerbation of condition.

croup
ineffective Airway Clearance may be related to presence of thick, tenacious mucus and swelling/spasms of the epiglottis, possibly evidenced by harsh/brassy cough, tachypnea, use of accessory breathing muscles, and presence of wheezes.
deficient Fluid Volume [isotonic] may be related to decreased ability/aversion to swallowing, presence of fever, and increased respiratory losses, possibly evidenced by dry mucous membranes, poor skin turgor, and scanty/concentrated urine.

croup, membranous
(also refer to *croup*)
risk for Suffocation: risk factors may include inflammation of larynx with formation of false membrane.

Anxiety [specify level]/Fear may be related to change in environment, perceived threat to self (difficulty breathing), and transmission of anxiety of adults, possibly evidenced by restlessness, facial tension, glancing about, and sympathetic stimulation.

Cushing's syndrome

risk for excess Fluid Volume: risk factors may include compromised regulatory mechanism (fluid/sodium retention).
risk for Infection: risk factors may include immunosuppressed inflammatory response, skin and capillary fragility, and negative nitrogen balance.
imbalanced Nutrition: less than body requirements may be related to inability to utilize nutrients (disturbance of carbohydrate metabolism), possibly evidenced by decreased muscle mass and increased resistance to insulin.
Self-Care Deficit [specify] may be related to muscle wasting, generalized weakness, fatigue, and demineralization of bones, possibly evidenced by statements of/observed inability to complete or perform ADLs.
disturbed Body Image may be related to change in structure/appearance (effects of disease process, drug therapy), possibly evidenced by negative feelings about body, feelings of helplessness, and changes in social involvement.
Sexual Dysfunction may be related to loss of libido, impotence, and cessation of menses, possibly evidenced by verbalization of concerns and/or dissatisfaction with and alteration in relationship with significant other.
risk for Trauma [fractures]: risk factors may include increased protein breakdown, negative protein balance, demineralization of bones.

cystic fibrosis

ineffective Airway Clearance may be related to excessive production of thick mucus and decreased ciliary action, possibly evidenced by abnormal breath sounds, ineffective cough, cyanosis, and altered respiratory rate/depth.
risk for Infection: risk factors may include stasis of respiratory secretions and development of atelectasis.
imbalanced Nutrition: less than body requirements may be related to impaired digestive process and absorption of nutrients, possibly evidenced by failure to gain weight, muscle wasting, and retarded physical growth.
deficient Knowledge [Learning Need] regarding pathophysiology of condition, medical management, and available community resources may be related to insufficient information/misconceptions, possibly evidenced by statements of concern, questions; inaccurate follow-through of instructions, development of preventable complications.
compromised family Coping may be related to chronic nature of disease and disability, inadequate/incorrect information or understanding by a primary person, and possibly evidenced by significant person attempting assistive or supportive behaviors with less than satisfactory results, protective behavior disproportionate to patient's abilities or need for autonomy.

cystitis

acute Pain may be related to inflammation and bladder spasms, possibly evidenced by verbal reports, distraction behaviors, and narrowed focus.
impaired Urinary Elimination may be related to inflammation/irritation of bladder, possibly evidenced by frequency, nocturia, and dysuria.
deficient Knowledge [Learning Need] regarding condition, treatment, and prevention of recurrence may be related to inadequate information/misconceptions, possibly evidenced by statements of concern and questions; recurrent infections.

cytomegalic inclusion disease

Refer to *herpes*.

cytomegalovirus (CMV) infection

risk for disturbed visual Sensory Perception: risk factors may include inflammation of the retina.
risk for fetal Infection: risk factors may include transplacental exposure, contact with blood/body fluids.

deep vein thrombosis (DVT)

Refer to *thrombophlebitis*.

dehiscence (abdominal)

impaired Skin Integrity may be related to altered circulation, altered nutritional state (obesity/malnutrition), and physical stress on incision, possibly evidenced by poor/delayed wound healing and disruption of skin surface/wound closure.

risk for Infection: risk factors may include inadequate primary defenses (separation of incision, traumatized intestines, environmental exposure).
risk for impaired Tissue Integrity: risk factors may include exposure of abdominal contents to external environment.
Fear/[severe] Anxiety may be related to crises, perceived threat of death, possibly evidenced by fearfulness, restless behaviors, and sympathetic stimulation.
deficient Knowledge [Learning Need] regarding condition/prognosis and treatment needs may be related to lack of information/recall and misinterpretation of information, possibly evidenced by development of preventable complication, requests for information, and statement of concern.

dehydration

deficient Fluid volume [specify] may be related to etiology as defined by specific situation, possibly evidenced by dry mucous membranes, poor skin turgor, decreased pulse volume/pressure, and thirst.
risk for impaired Oral Mucous Membrane: risk factors may include dehydration and decreased salivation.
deficient Knowledge [Learning Need] regarding fluid needs may be related to lack of information/misinterpretation, possibly evidenced by questions, statement of concern, and inadequate follow-through of instructions/development of preventable complications.

delirium tremens (acute alcohol withdrawal)

Anxiety [severe/panic]/Fear may be related to cessation of alcohol intake/physiological withdrawal, threat to self-concept, perceived threat of death, possibly evidenced by increased tension, apprehension, fear of unspecified consequences; identifies object of fear.
disturbed Sensory/Perception [specify] may be related to exogenous (alcohol consumption/sudden cessation)/endogenous (electrolyte imbalance, elevated ammonia and blood urea nitrogen—BUN) chemical alterations, sleep deprivation, and psychological stress, possibly evidenced by disorientation, restlessness, irritability, exaggerated emotional responses, bizarre thinking and visual and auditory distortions/hallucinations.
risk for decreased Cardiac Output: risk factors may include direct effect of alcohol on heart muscle, altered SVR, presence of dysrhythmias.
risk for Trauma: risk factors may include alterations in balance, reduced muscle coordination, cognitive impairment, and involuntary clonic/tonic muscle activity.
imbalanced Nutrition: less than body requirements may be related to poor dietary intake, effects of alcohol on organs involved in digestion, interference with absorption/metabolism of nutrients and amino acids, possibly evidenced by reports of inadequate food intake, altered taste sensation, lack of interest in food, debilitated state, decreased subcutaneous fat/muscle mass, signs of mineral/electrolyte deficiency, including abnormal laboratory findings.

delivery, precipitous/out of hospital

(also refer to *labor, precipitous*; *labor, stages I and II*)
risk for deficient Fluid Volume: risk factors may include presence of nausea/vomiting, lack of intake, excessive vascular loss.
risk for Infection: risk factors may include broken/traumatized tissue, increased environmental exposure, rupture of amniotic membranes.
risk for fetal Injury: risk factors may include rapid descent/pressure changes, compromised circulation, environmental exposure.

delusional disorder

risk for self/other-directed Violence: risk factors may include perceived threats of danger, increased feelings of anxiety, acting out in an irrational manner.
[severe] Anxiety may be related to inability to trust, possibly evidenced by rigid delusional system, frightened of other people and own hostility.
Powerlessness may be related to lifestyle of helplessness, feelings of inadequacy, interpersonal interaction, possibly evidenced by verbal expressions of no control/influence over situation(s), use of paranoid delusions, aggressive behavior to compensate for lack of control.
disturbed Thought Processes may be related to psychological conflicts, increasing anxiety/fear, possibly evidenced by interference with ability to think clearly/logically, fragmentation and autistic thinking, delusions, beliefs and behaviors of suspicion/violence.
impaired Social Interaction may be related to mistrust of others/delusional thinking, lack of knowledge/skills to enhance mutuality, possibly evidenced by discomfort in

social situations, difficulty in establishing relationships with others, expression of feelings of rejection, no sense of belonging.

dementia, presenile/senile
(also refer to *Alzheimer's disease*)
impaired Memory may be related to neurological disturbances, possibly evidenced by observed experiences of forgetting, inability to determine if a behavior was performed, inability to perform previously learned skills, inability to recall factual information or recent/past events.
Fear may be related to decreases in functional abilities, public disclosure of disabilities, further mental/physical deterioration, possibly evidenced by social isolation, apprehension, irritability, defensiveness, suspiciousness, aggressive behavior.
Self-Care Deficit [specify] may be related to cognitive decline, physical limitations, frustration over loss of independence, depression, possibly evidenced by impaired ability to perform ADLs.
risk for Trauma: risk factors may include changes in muscle coordination/balance, impaired judgment, seizure activity.
risk for sedentary Lifestyle: risk factors may include lack of interest/motivation, resources; lack of training or knowledge of specific exercise needs, safety concerns/fear of injury.
risk for Caregiver Role Strain: risk factors may include illness severity of care receiver, duration of caregiving required, care receiver exhibiting deviant/bizarre behavior; family/caregiver isolation, lack of respite/recreation, spouse is caregiver.
risk for complicated Grieving: risk factors may include preloss psychological symptoms, predisposition for anxiety and feelings of inadequacy, frequency of major life events.

depressant abuse
(also refer to *drug overdose, acute [depressants]*)
ineffective Denial may be related to weak underdeveloped ego, unmet self-needs, possibly evidenced by inability to admit impact of condition on life, minimizes symptoms/problem, refuses health care attention.
ineffective Coping may be related to weak ego, possibly evidenced by abuse of chemical agents, lack of goal-directed behavior, inadequate problem solving, destructive behavior toward self.
imbalanced Nutrition: less than body requirements may be related to use of substance in place of nutritional food, possibly evidenced by loss of weight, pale conjunctiva and mucous membranes, electrolyte imbalances, anemias.
risk for Injury: risk factors may include changes in sleep, decreased concentration, loss of inhibitions.

depressive disorders, major depression, dysthymia
risk for self-directed Violence: risk factors may include depressed mood and feeling of worthlessness and hopelessness.
[moderate to severe] Anxiety/disturbed Thought Processes may be related to psychological conflicts, unconscious conflict about essential values/goals of life, unmet needs, threat to self-concept, sleep deprivation, interpersonal transmission/contagion, possibly evidenced by reports of nervousness or fearfulness, feelings of inadequacy; agitation, angry/tearful outbursts, rambling/discoordinated speech, restlessness, hand rubbing or wringing, tremulousness; poor memory/concentration, decreased ability to grasp ideas, inability to follow/impaired ability to make decisions, numerous/repetitious physical complaints without organic cause, ideas of reference, hallucinations/delusions.
Insomnia may be related to biochemical alterations (decreased serotonin), unresolved fears and anxieties, and inactivity, possibly evidenced by difficulty in falling/remaining asleep, early morning awakening/awakening later than desired, reports of not feeling rested, and physical signs (e.g., dark circles under eyes, excessive yawning); hypersomnia (using sleep as an escape).
Social Isolation/ impaired Social Interaction may be related to alterations in mental status/thought processes (depressed mood), inadequate personal resources, decreased energy/inertia, difficulty engaging in satisfying personal relationships, feelings of worthlessness/low self-concept, inadequacy in or absence of significant purpose in life, and knowledge/skill deficit about social interactions, possibly evidenced by decreased involvement with others, expressed feelings of difference from others, remaining in home/room/bed, refusing invitations/suggestions of social involvement, and dysfunctional interaction with peers, family, and/or others.
interrupted Family Processes may be related to situational crises of illness of family member with change in roles/responsibilities, developmental crises (e.g., loss of family member/relationship), possibly evidenced by statements of difficulty coping with situation, family system not meeting needs of its members, difficulty accepting or re-

ceiving help appropriately, ineffective family decision-making process, and failure to send and to receive clear messages.
risk for impaired Religiosity: risk factors may include ineffective support/coping, lack of social interaction, depression.
risk for Injury [effects of electroconvulsive therapy (ECT)]: risk factors may include effects of therapy on the cardiovascular, respiratory, musculoskeletal, and nervous systems; and pharmacological effects of anesthesia.

dermatitis seborrheica
impaired Skin Integrity may be related to chronic inflammatory condition of the skin, possibly evidenced by disruption of skin surface with dry or moist scales, yellowish crusts, erythema, and fissures.

diabetes mellitus
deficient Knowledge [Learning Need] regarding disease process/treatment and individual care needs may be related to unfamiliarity with information/lack of recall, misinterpretation, possibly evidenced by requests for information, statements of concern/misconceptions, inadequate follow-through of instructions, and development of preventable complications.
risk for unstable Blood Glucose: risk factors may include lack of adherence to diabetes management, medication management, inadequate blood glucose monitoring, physical activity level, health status, stress, rapid growth periods.
imbalanced Nutrition: less than body requirements may be related to inability to utilize nutrients (imbalance between intake and utilization of glucose) to meet metabolic needs, possibly evidenced by change in weight, muscle weakness, increased thirst/urination, and hyperglycemia.
risk for risk-prone health Behavior: risk factors may include all-encompassing change in lifestyle, self-concept requiring lifelong adherence to therapeutic regimen and internal/altered locus of control.
risk for Infection: risk factors may include decreased leukocytic function, circulatory changes, and delayed healing.
risk for disturbed Sensory/Perception [specify]: risk factors may include endogenous chemical alteration (glucose/insulin and/or electrolyte imbalance).
compromised family Coping may be related to inadequate or incorrect information or understanding by primary person(s), other situational/developmental crises or situations the significant person(s) may be facing, lifelong condition requiring behavioral changes impacting family, possibly evidenced by family expressions of confusion about what to do, verbalizations that they are having difficulty coping with situation; family does not meet physical/emotional needs of its members; significant other(s) preoccupied with personal reaction (e.g., guilt, fear), display protective behavior disproportionate (too little/too much) to client's abilities or need for autonomy.

diabetic ketoacidosis
deficient Fluid Volume [specify] may be related to hyperosmolar urinary losses, gastric losses, and inadequate intake, possibly evidenced by increased urinary output/dilute urine, reports of weakness, thirst; sudden weight loss, hypotension, tachycardia, delayed capillary refill, dry mucous membranes, poor skin turgor.
unstable Blood Glucose: may be related to medication management, lack of diabetes management, inadequate blood glucose monitoring, presence of infection, possibly evidenced by elevated serum glucose level, presence of ketones in urine, nausea, weight loss, blurred vision, irritability.
imbalanced Nutrition: less than body requirements may be related to inadequate utilization of nutrients (insulin deficiency), decreased oral intake, hypermetabolic state, possibly evidenced by recent weight loss, reports of weakness, lack of interest in food, gastric fullness/abdominal pain.
Fatigue may be related to decreased metabolic energy production, altered body chemistry (insufficient insulin), increased energy demands (hypermetabolic state/infection), possibly evidenced by overwhelming lack of energy, inability to maintain usual routines, decreased performance, impaired ability to concentrate, listlessness.
risk for Infection: risk factors may include high glucose levels, decreased leukocyte function, stasis of body fluids, invasive procedures, alteration in circulation/perfusion.

dialysis, general
(also refer to *dialysis, peritoneal*; *hemodialysis*)
imbalanced Nutrition: less than body requirements may be related to inadequate ingestion of nutrients (dietary restrictions, anorexia, nausea/vomiting, stomatitis), loss of peptides and amino acids (building blocks for proteins) during procedure, possibly evidenced by reported inadequate intake, aversion to eating, altered taste sensation,

poor muscle tone/weakness, sore/inflamed buccal cavity, pale conjunctiva/mucous membranes.

Grieving may be related to actual or perceived loss, chronic and/or fatal illness, and thwarted grieving response to a loss, possibly evidenced by verbal expression of distress/unresolved issues, denial of loss; altered eating habits, sleep and dream patterns, activity levels, libido; crying, labile affect; feelings of sorrow, guilt, and anger.

disturbed Body Image/situational low Self-Esteem may be related to situational crisis and chronic illness with changes in usual roles/body image, possibly evidenced by verbalization of changes in lifestyle, focus on past function, negative feelings about body, feelings of helplessness/powerlessness, extension of body boundary to incorporate environmental objects (e.g., dialysis setup), change in social involvement, overdependence on others for care, not taking responsibility for self-care/lack of follow-through, and self-destructive behavior.

Self-Care Deficit [specify] may be related to perceptual/cognitive impairment (accumulated toxins); intolerance to activity, decreased strength and endurance; pain/discomfort, possibly evidenced by reported inability to perform ADLs, disheveled/unkempt appearance, strong body odor.

Powerlessness may be related to illness-related regimen and health care environment, possibly evidenced by verbal expression of having no control, depression over physical deterioration, nonparticipation in care, anger, and passivity.

compromised/ disabled family Coping may be related to inadequate or incorrect information or understanding by a primary person, temporary family disorganization and role changes, patient providing little support in turn for the primary person, and prolonged disease/disability progression that exhausts the supportive capacity of significant persons, possibly evidenced by expressions of concern or reports about response of significant other(s)/family to patient's health problem, preoccupation of significant other(s) with own personal reactions, display of intolerance/rejection, and protective behavior disproportionate (too little or too much) to patient's abilities or need for autonomy.

dialysis, peritoneal

(also refer to *dialysis, general*)

risk for excess Fluid Volume: risk factors may include inadequate osmotic gradient of dialysate, fluid retention (dialysate drainage problems/inappropriate osmotic gradient of solution, bowel distention), excessive PO/IV intake.

risk for Trauma: risk factors may include improper placement during insertion or manipulation of catheter.

acute Pain may be related to procedural factors (catheter irritation, improper catheter placement), presence of edema/abdominal distention, inflammation, or infection, rapid infusion/infusion of cold or acidic dialysate, possibly evidenced by verbal reports, guarding/distraction behaviors, and self-focus.

risk for Infection [peritoneal]: risk factors may include contamination of catheter/infusion system, skin contaminants, sterile peritonitis (response to composition of dialysate).

risk for ineffective Breathing Pattern: risk factors may include increased abdominal pressure with restricted diaphragmatic excursion, rapid infusion of dialysate, pain/discomfort, inflammatory process (e.g., atelectasis/pneumonia).

diarrhea

deficient Knowledge [Learning Need] regarding causative/contributing factors and therapeutic needs may be related to lack of information/misconceptions, possibly evidenced by statements of concern, questions, and development of preventable complications.

risk for deficient Fluid Volume: risk factors may include excessive losses through gastrointestinal tract, altered intake.

acute Pain may be related to abdominal cramping and irritation/excoriation of skin, possibly evidenced by verbal reports, facial grimacing, and autonomic responses.

impaired Skin Integrity may be related to effects of excretions on delicate tissues, possibly evidenced by reports of discomfort and disruption of skin surface/destruction of skin layers.

digitalis toxicity

decreased Cardiac Output may be related to altered myocardial contractility/electrical conduction, properties of digitalis (long half-life and narrow therapeutic range), concurrent medications, age/general health status and electrolyte/acid-base balance, possibly evidenced by changes in rate/rhythm/conduction (development/worsening of dysrhythmias), changes in mentation, worsening of heart failure, elevated serum drug levels.

risk for imbalanced Fluid Volume: risk factors may include excessive losses from vomiting/diarrhea, decreased intake/nausea, decreased plasma proteins, malnutrition, continued use of diuretics; excess sodium/fluid retention.
deficient Knowledge [Learning Need] regarding condition/therapy and self-care needs may be related to information misinterpretation and lack of recall, possibly evidenced by inaccurate follow-through of instructions and development of preventable complications.
risk for disturbed Thought Processes: risk factors may include physiologic effects of toxicity/reduced cerebral perfusion.

dilation and curettage (D and C)

(also refer to *abortion, spontaneous*)
deficient Knowledge [Learning Need] regarding surgical procedure, possible postprocedural complications, and therapeutic needs may be related to lack of exposure/unfamiliarity with information, possibly evidenced by requests for information and statements of concern/misconceptions.

dilation of cervix, premature

(also refer to *labor, preterm*)
Anxiety [specify level] may be related to situational crisis, threat of death/fetal loss, possibly evidenced by increased tension, apprehension, feelings of inadequacy, sympathic stimulation, and repetitive questioning.
risk for maternal Injury: risk factors may include surgical intervention, use of tocolytic drugs.
risk for fetal Injury: risk factors may include premature delivery, surgical procedure.
Grieving may be related to perceived potential fetal loss, possibly evidenced by expression of distress, guilt, anger, choked feelings

disseminated intravascular coagulation (DIC)

risk for deficient Fluid Volume: risk factors may include failure of regulatory mechanism (coagulation process) and active loss/hemorrhage.
ineffective Tissue Perfusion [specify] may be related to alteration of arterial/venous flow (microemboli throughout circulatory system and hypovolemia), possibly evidenced by changes in respiratory rate and depth, changes in mentation, decreased urinary output, and development of acral cyanosis/focal gangrene.
Anxiety [specify level]/Fear may be related to sudden change in health status/threat of death, interpersonal transmission/contagion, possibly evidenced by sympathetic stimulation, restlessness, focus on self, and apprehension.
risk for impaired Gas Exchange: risk factors may include reduced oxygen-carrying capacity, development of acidosis, fibrin deposition in microcirculation, and ischemic damage of lung parenchyma.
acute Pain may be related to bleeding into joints/muscles, with hematoma formation, and ischemic tissues with areas of acral cyanosis/focal gangrene, possibly evidenced by verbal reports, narrowed focus, alteration in muscle tone, guarding/distraction behaviors, restlessness, autonomic responses.

dissociative disorders

Anxiety [severe/panic]/Fear may be related to maladaptation of ineffective coping continuing from early life, unconscious conflict(s), threat to self-concept, unmet needs, or phobic stimulus, possibly evidenced by maladaptive response to stress (e.g., dissociating self/fragmentation of the personality), increased tension, feelings of inadequacy, and focus on self, projection of personal perceptions onto the environment.
risk for self/other-directed Violence: risk factors may include dissociative state/conflicting personalities, depressed mood, panic states, and suicidal/homicidal behaviors.
disturbed personal Identity may be related to psychological conflicts (dissociative state), childhood trauma/abuse, threat to physical integrity/self-concept, and underdeveloped ego, possibly evidenced by alteration in perception or experience of self, loss of one's own sense of reality/the external world, poorly differentiated ego boundaries, confusion about sense of self, purpose or direction in life; memory loss, presence of more than one personality within the individual.
compromised family Coping may be related to multiple stressors repeated over time, prolonged progression of disorder that exhausts the supportive capacity of significant person(s), family disorganization and role changes, high-risk family situation, possibly evidenced by family/significant other(s) describing inadequate understanding or knowledge that interferes with assistive or supportive behaviors; relationship and marital conflict.

diverticulitis
acute Pain may be related to inflammation of intestinal mucosa, abdominal cramping, and presence of fever/chills, possibly evidenced by verbal reports, guarding/distraction behaviors, autonomic responses, and narrowed focus.
Diarrhea/Constipation may be related to altered structure/function and presence of inflammation, possibly evidenced by signs and symptoms dependent on specific problem (e.g., increase/decrease in frequency of stools and change in consistency).
deficient Knowledge [Learning Need] regarding disease process, potential complications, therapeutic and self-care needs may be related to lack of information/misconceptions, possibly evidenced by statements of concern, request for information, and development of preventable complications.
risk for Powerlessness: risk factors may include chronic nature of disease process with recurrent episodes despite cooperation with medical regimen.

Down syndrome
(also refer to *mental retardation*)
delayed Growth and Development may be related to effects of physical/mental disability, possibly evidenced by altered physical growth; delay/inability in performing skills and self-care/self-control activities appropriate for age.
risk for Trauma: risk factors may include cognitive difficulties and poor muscle tone/coordination, weakness.
imbalanced Nutrition: less than body requirements may be related to poor muscle tone and protruding tongue, possibly evidenced by weak and ineffective sucking/swallowing and observed lack of adequate intake with weight loss/failure to gain.
interrupted Family Processes may be related to situational/maturational crisis requiring incorporation of new skills into family dynamics, possibly evidenced by confusion about what to do, verbalized difficulty coping with situation, unexamined family myths.
risk for complicated Grieving: risk factors may include loss of "the perfect child," chronic condition requiring long-term care, and unresolved feelings.
risk for impaired parent/infant/child Attachment: risk factors may include ill infant/child who is unable to effectively initiate parental contact due to altered behavioral organization, inability of parents to meet the personal needs.
risk for Social Isolation: risk factors may include withdrawal from usual social interactions and activities, assumption of total child care, and becoming overindulgent/overprotective.

drug overdose, acute (depressants)
(also refer to *substance dependence/abuse rehabilitation*)
ineffective Breathing Pattern/impaired Gas Exchange may be related to neuromuscular impairment/CNS depression, decreased lung expansion, possibly evidenced by changes in respirations, cyanosis, and abnormal ABGs.
risk for Trauma/Suffocation/Poisoning: risk factors may include CNS depression/agitation, hypersensitivity to the drug(s), psychological stress.
risk for self/other-directed Violence: risk factors may include suicidal behaviors, toxic reactions to drug(s).
risk for Infection: risk factors may include drug injection techniques, impurities in injected drugs, localized trauma; malnutrition, altered immune state.

Duchenne's muscular dystrophy
Refer to *muscular dystrophy (Duchenne's)*.

dysmenorrhea
acute Pain may be related to exaggerated uterine contractility, possibly evidenced by verbal reports, guarding/distraction behaviors, narrowed focus, and autonomic responses (changes in vital signs).
risk for Activity Intolerance: risk factors may include severity of pain and presence of secondary symptoms (nausea, vomiting, syncope, chills), depression.
ineffective Coping may be related to chronic, recurrent nature of problem; anticipatory anxiety, and inadequate coping methods, possibly evidenced by muscular tension, headaches, general irritability, chronic depression, and verbalization of inability to cope, report of poor self-concept.

dysrhythmia, cardiac
risk for decreased Cardiac Output: risk factors may include altered electrical conduction and reduced myocardial contractility.
Anxiety [specify level] may be related to perceived threat of death, possibly evidenced by increased tension, apprehension, and expressed concerns.

deficient Knowledge [Learning Need] regarding medical condition/therapy needs may be related to lack of information/misinterpretation and unfamiliarity with information resources, possibly evidenced by questions, statement of misconception, failure to improve on previous regimen, and development of preventable complications.
risk for Activity Intolerance: risk factors may include imbalance between myocardial oxygen supply and demand, and cardiac depressant effects of certain drugs (beta blockers, antidysrhythmics).
risk for Poisoning [digitalis toxicity]: risk factors may include limited range of therapeutic effectiveness, lack of education/proper precautions, reduced vision/cognitive limitations.

eclampsia
Refer to *pregnancy-induced hypertension*.

ectopic pregnancy (tubal)
(also refer to *abortion, spontaneous termination*)
acute Pain may be related to distention/rupture of fallopian tube, possibly evidenced by reports, guarding/distraction behaviors, facial mask of pain, and autonomic responses (diaphoresis, changes in vital signs).
risk for deficient Fluid Volume [isotonic]: risk factors may include hemorrhagic losses and decreased/restricted intake.
Anxiety [specify level]/Fear may be related to threat of death and possible loss of ability to conceive, possibly evidenced by increased tension, apprehension, sympathetic stimulation, restlessness, and focus on self.

eczema (dermatitis)
Pain [Discomfort] may be related to cutaneous inflammation and irritation, possibly evidenced by verbal reports, irritability, and scratching.
risk for Infection: risk factors may include broken skin and tissue trauma.
Social Isolation may be related to alterations in physical appearance, possibly evidenced by expressed feelings of rejection and decreased interaction with peers.

edema, pulmonary
excess Fluid Volume may be related to decreased cardiac functioning, excessive fluid/sodium intake, possibly evidenced by dyspnea, presence of crackles (rales), pulmonary congestion on x-ray, restlessness, anxiety, and increased central venous pressure (CVP)/pulmonary pressures.
impaired Gas Exchange may be related to altered blood flow and decreased alveolar/capillary exchange (fluid collection/shifts into interstitial space/alveoli), possibly evidenced by hypoxia, restlessness, and confusion.
Anxiety [specify level]/Fear may be related to perceived threat of death (inability to breathe), possibly evidenced by responses ranging from apprehension to panic state, restlessness, and focus on self.

emphysema
impaired Gas Exchange may be related to alveolar capillary membrane changes/destruction, possibly evidenced by dyspnea, restlessness, changes in mentation, abnormal ABG values.
ineffective Airway Clearance may be related to increased production/retained tenacious secretions, decreased energy level, and muscle wasting, possibly evidenced by abnormal breath sounds (rhonchi), ineffective cough, changes in rate/depth of respirations, and dyspnea.
Activity Intolerance may be related to imbalance between oxygen supply and demand, possibly evidenced by reports of fatigue/weakness, exertional dyspnea, and abnormal vital sign response to activity.
imbalanced Nutrition: less than body requirements may be related to inability to ingest food (shortness of breath, anorexia, generalized weakness, medication side effects), possibly evidenced by lack of interest in food, reported altered taste, loss of muscle mass and tone, fatigue, and weight loss.
risk for Infection: risk factors may include inadequate primary defenses (stasis of body fluids, decreased ciliary action), chronic disease process, and malnutrition.
Powerlessness may be related to illness-related regimen and health care environment, possibly evidenced by verbal expression of having no control, depression over physical deterioration, nonparticipation in therapeutic regimen; anger, and passivity.

encephalitis
risk for ineffective cerebral Tissue Perfusion: risk factors may include cerebral edema altering/interrupting cerebral arterial/venous blood flow, hypovolemia, exchange problems at cellular level (acidosis).

Hyperthermia may be related to increased metabolic rate, illness, and dehydration, possibly evidenced by increased body temperature, flushed/warm skin, and increased pulse and respiratory rates.
acute Pain may be related to inflammation/irritation of the brain and cerebral edema, possibly evidenced by verbal reports of headache, photophobia, distraction behaviors, restlessness, and autonomic response (changes in vital signs).
risk for Trauma/Suffocation: risk factors may include restlessness, clonic/tonic activity, altered sensorium, cognitive impairment; generalized weakness, ataxia, vertigo.

endocarditis

risk for decreased Cardiac Output: risk factors may include inflammation of lining of heart and structural change in valve leaflets.
Anxiety [specify level] may be related to change in health status and threat of death, possibly evidenced by apprehension, expressed concerns, and focus on self.
acute Pain may be related to generalized inflammatory process and effects of embolic phenomena, possibly evidenced by reports, narrowed focus, distraction behaviors, and autonomic responses (changes in vital signs).
risk for Activity Intolerance: risk factors may include imbalance between oxygen supply and demand, debilitating condition.
risk for ineffective Tissue Perfusion [specify]: risk factors may include embolic interruption of arterial flow (embolization of thrombi/valvular vegetations).

endometriosis

acute/chronic Pain may be related to pressure of concealed bleeding/formation of adhesions, possibly evidenced by verbal reports (pain between/with menstruation), guarding/distraction behaviors, and narrowed focus.
Sexual Dysfunction may be related to pain secondary to presence of adhesions, possibly evidenced by verbalization of problem, and altered relationship with partner.
deficient Knowledge [Learning Need] regarding pathophysiology of condition and therapy needs may be related to lack of information/misinterpretations, possibly evidenced by statements of concern and misconceptions.

enteritis

Refer to *colitis, ulcerative*; *Crohn's disease*.

epididymitis

acute Pain may be related to inflammation, edema formation, and tension on the spermatic cord, possibly evidenced by verbal reports, guarding/distraction behaviors (restlessness), and autonomic responses (changes in vital signs).
risk for Infection [spread]: risk factors may include presence of inflammation/infectious process, insufficient knowledge to avoid spread of infection.
deficient Knowledge [Learning Need] regarding pathophysiology, outcome, and self-care needs may be related to lack of information/misinterpretations, possibly evidenced by statements of concern, misconceptions, and questions.

epilepsy

Refer to *seizure disorder*.

erectile dysfunction

Sexual Dysfunction may be related to altered body function possibly evidenced by reports of disruption of sexual response pattern, inability to achieve desired satisfaction.
situational low Self-Esteem may be related to functional impairment; rejection of other(s).

failure to thrive, infant/child

imbalanced Nutrition: less than body requirements, may be related to inability to ingest/digest/absorb nutrients (defects in organ function/metabolism, genetic factors), physical deprivation/psychosocial factors), possibly evidenced by lack of appropriate weight gain/weight loss, poor muscle tone, pale conjunctiva, and laboratory tests reflecting nutritional deficiency.
delayed Growth and Development may be related to inadequate caretaking (physical/emotional neglect or abuse); indifference, inconsistent responsiveness, multiple caretakers; environmental and stimulation deficiencies, possibly evidenced by altered physical growth, flat affect, listlessness, decreased response; delay or difficulty in performing skills or self-control activities appropriate for age group.
risk for impaired Parenting: risk factors may include lack of knowledge, inadequate bonding, unrealistic expectations for self/infant, and lack of appropriate response of child to relationship.

deficient Knowledge [Learning Need] regarding pathophysiology of condition, nutritional needs, growth/development expectations, and parenting skills may be related to lack of information/misinformation or misinterpretation, possibly evidenced by verbalization of concerns, questions, misconceptions; and development of preventable complications.

fatigue syndrome, chronic

Fatigue may be related to disease state, inadequate sleep, possibly evidenced by verbalization of unremitting/overwhelming lack of energy, inability to maintain usual routines, listlessness, compromised concentration.

chronic Pain may be related to chronic physical disability, possibly evidenced by verbal reports of headache, sore throat, arthralgias, abdominal pain, muscle aches; altered ability to continue previous activities, changes in sleep pattern.

Self-Care Deficit [specify] may be related to tiredness, pain/discomfort, possibly evidenced by reports of inability to perform desired ADLs.

risk for ineffective Role Performance: risk factors may include health alterations, stress.

fetal alcohol syndrome

risk for Injury [CNS damage]: risk factors may include external chemical factors (alcohol intake by mother), placental insufficiency, fetal drug withdrawal in utero/postpartum and prematurity.

disorganized Infant Behavior may be related to prematurity, environmental overstimulation, lack of containment/boundaries, possibly evidenced by change from baseline physiological measures; tremors, startles, twitches, hyperextension of arms/legs, deficient self-regulatory behaviors, deficient response to visual/auditory stimuli.

risk for impaired Parenting: risk factors may include mental and/or physical illness, inability of mother to assume the overwhelming task of unselfish giving and nurturing, presence of stressors (financial/legal problems), lack of available or ineffective role model, interruption of bonding process, lack of appropriate response of child to relationship.

ineffective [maternal Coping may be related to personal vulnerability, low self-esteem, inadequate coping skills, and multiple stressors (repeated over period of time), possibly evidenced by inability to meet basic needs/fulfill role expectations/problem solve, and excessive use of drug(s).

dysfunctional Family Processes: alcoholism may be related to lack of/insufficient support from others, mother's drug problem and treatment status, together with poor coping skills, lack of family stability/overinvolvement of parents with children and multigenerational addictive behaviors, possibly evidenced by abandonment, rejection, neglectful relationships with family members, and decisions and actions by family that are detrimental.

fetal demise

Grieving may be related to death of fetus/infant (wanted or unwanted), possibly evidenced by verbal expression of distress, anger, loss; crying; alteration in eating habits or sleep pattern.

situational low Self-Esteem may be related to perceived "failure" at a life event, possibly evidenced by negative self-appraisal in response to life event in a person with a previous positive self-evaluation, verbalization of negative feelings about the self (helplessness, uselessness), difficulty making decisions.

risk for Spiritual Distress: risk factors may include loss of loved one, low self-esteem, poor relationships, challenged belief and value system (birth is supposed to be the beginning of life, not of death) and intense suffering.

fractures

(also refer to *casts*; *traction*)

risk for Trauma [additional injury]: risk factors may include loss of skeletal integrity/movement of skeletal fragments, use of traction apparatus, and so on.

acute Pain may be related to muscle spasms, movement of bone fragments, tissue trauma/edema, traction/immobility device, stress and anxiety, possibly evidenced by verbal reports, distraction behaviors, self-focusing/narrowed focus, facial mask of pain, guarding/protective behavior, alteration in muscle tone, and autonomic responses (changes in vital signs).

risk for Peripheral Neurovascular Dysfunction: risk factors may include reduction/interruption of blood flow (direct vascular injury, tissue trauma, excessive edema, thrombus formation, hypovolemia).

impaired physical Mobility may be related to neuromuscular/skeletal impairment, pain/discomfort, restrictive therapies (bedrest, extremity immobilization), and psychological immobility, possibly evidenced by inability to purposefully move within the phys-

ical environment, imposed restrictions, reluctance to attempt movement, limited range of motion, and decreased muscle strength/control.
risk for impaired Gas Exchange: risk factors may include altered blood flow, blood/fat emboli, alveolar/capillary membrane changes (interstitial/pulmonary edema, congestion).
deficient Knowledge [Learning Need] regarding healing process, therapy requirements, potential complications, and self-care needs may be related to lack of exposure, misinterpretation of information, possibly evidenced by statements of concern, questions, and misconceptions.

frostbite
impaired Tissue Integrity may be related to altered circulation and thermal injury, possibly evidenced by damaged/destroyed tissue.
acute Pain may be related to diminished circulation with tissue ischemia/necrosis and edema formation, possibly evidenced by reports, guarding/distraction behaviors, narrowed focus, and autonomic responses (changes in vital signs).
risk for Infection: risk factors may include traumatized tissue/tissue destruction, altered circulation, and compromised immune response in affected area.

gallstones
Refer to *cholelithiasis*.

gangrene, dry
ineffective peripheral Tissue Perfusion may be related to interruption in arterial flow, possibly evidenced by cool skin temperature, change in color (black), atrophy of affected part, and presence of pain.
acute Pain may be related to tissue hypoxia and necrotic process, possibly evidenced by reports, guarding/distraction behaviors, narrowed focus, and autonomic responses (changes in vital signs).

gas, lung irritant
ineffective Airway Clearance may be related to irritation/inflammation of airway, possibly evidenced by marked cough, abnormal breath sounds (wheezes), dyspnea, and tachypnea.
risk for impaired Gas Exchange: risk factors may include irritation/inflammation of alveolar membrane (dependent on type of agent and length of exposure).
Anxiety [specify level] may be related to change in health status and threat of death, possibly evidenced by verbalizations, increased tension, apprehension, and sympathetic stimulation.

gastritis, acute
acute Pain may be related to irritation/inflammation of gastric mucosa, possibly evidenced by verbal reports, guarding/distraction behaviors, and autonomic responses (changes in vital signs).
risk for deficient Fluid Volume [isotonic]: risk factors may include excessive losses through vomiting and diarrhea, continued bleeding, reluctance to ingest/restrictions of oral intake.

gastritis, chronic
risk for imbalanced Nutrition: less than body requirements: risk factors may include inability to ingest adequate nutrients (prolonged nausea/vomiting, anorexia, epigastric pain).
deficient Knowledge [Learning Need] regarding pathophysiology, psychological factors, therapy needs, and potential complications may be related to lack of information/misinterpretation, possibly evidenced by verbalization of concerns, questions, misconceptions, and continuation of problem.

gastroenteritis
Refer to *gastritis, chronic*.

gender identity disorder (For individuals experiencing persistent and marked distress regarding uncertainty about issues relating to personal identity, e.g., sexual orientation and behavior)
Anxiety [specify level] may be related to unconscious/conscious conflicts about essential values/beliefs (ego-dystonic gender identification), threat to self-concept, unmet needs, possibly evidenced by increased tension, helplessness, hopelessness, feelings of inadequacy, uncertainty, insomnia, focus on self, and impaired daily functioning.
ineffective Role Performance/disturbed personal Identity may be related to crisis in development in which person has difficulty knowing/accepting to which sex he or she

belongs or is attracted, sense of discomfort and inappropriateness about anatomic sex characteristics, possibly evidenced by confusion about sense of self, purpose or direction in life, sexual identification/preference, verbalization of desire to be/insistence that person is the opposite sex, change in self-perception of role, and conflict in roles.

ineffective Sexuality Pattern may be related to ineffective or absent role models and conflict with sexual orientation and/or preferences, lack of/impaired relationship with significant other, possibly evidenced by verbalizations of discomfort with sexual orientation/role and lack of information about human sexuality.

risk for compromised/disabled family Coping: risk factors may include inadequate/incorrect information or understanding, significant other unable to perceive or to act effectively in regard to patient's needs, temporary family disorganization and role changes, and patient providing little support in turn for primary person.

readiness for enhanced family Coping may be related to individual's basic needs being sufficiently gratified and adaptive tasks effectively addressed to enable goals of self-actualization to surface, possibly evidenced by family member(s)' attempts to describe growth/impact of crisis on own values, priorities, goals, or relationships; family member(s) is moving in direction of health-promoting and enriching lifestyle that supports patient's search for self; and choosing experiences that optimize wellness.

genetic disorder

Anxiety may be related to presence of specific risk factors (e.g., exposure to teratogens), situational crisis, threat to self-concept, conscious or unconscious conflict about essential values and life goals, possibly evidenced by increased tension, apprehension, uncertainty, feelings of inadequacy, expressed concerns.

deficient Knowledge [Learning Need] regarding purpose/process of genetic counseling may be related to lack of awareness of ramifications of diagnosis, process necessary for analyzing available options, and information misinterpretation, possibly evidenced by verbalization of concerns, statement of misconceptions, request for information.

risk for interrupted Family Processes: risk factors may include situational crisis, individual/family vulnerability, difficulty reaching agreement regarding options.

Spiritual Distress may be related to intense inner conflict about the outcome, normal grieving for the loss of the perfect child, anger that is often directed at God/greater power, religious beliefs/moral convictions, possibly evidenced by verbalization of inner conflict about beliefs, questioning of the moral and ethical implications of therapeutic choices, viewing situation as punishment, anger, hostility, and crying.

risk for complicated Grieving: risk factors may include preloss psychological symptoms, predisposition for anxiety and feelings of inadequacy, frequency of major life events.

glaucoma

disturbed visual Sensory/Perception, may be related to altered sensory reception and altered status of sense organ (increased intraocular pressure/atrophy of optic nerve head), possibly evidenced by progressive loss of visual field.

Anxiety [specify level] may be related to change in health status, presence of pain, possibility/reality of loss of vision, unmet needs, and negative self-talk, possibly evidenced by apprehension, uncertainty, and expressed concern regarding changes in life event.

glomerulonephritis

excess Fluid Volume may be related to failure of regulatory mechanism (inflammation of glomerular membrane inhibiting filtration), possibly evidenced by weight gain, edema/anasarca, intake greater than output, and blood pressure changes.

acute Pain may be related to effects of circulating toxins and edema/distention of renal capsule, possibly evidenced by verbal reports, guarding/distraction behaviors, and autonomic responses (changes in vital signs).

imbalanced Nutrition: less than body requirements may be related to anorexia and dietary restrictions, possibly evidenced by aversion to eating, reported altered taste, weight loss, and decreased intake.

deficient Diversional Activity may be related to treatment modality/restrictions, fatigue, and malaise, possibly evidenced by statements of boredom, restlessness, and irritability.

risk for disproportionate Growth: risk factors may include infection, malnutrition, chronic illness.

goiter

disturbed Body Image may be related to visible swelling in neck, possibly evidenced by verbalization of feelings, fear of reaction of others, actual change in structure, change in social involvement.

Anxiety may be related to change in health status/progressive growth of mass, perceived threat of death.
risk for imbalanced Nutrition: less than body requirements: risk factors may include decreased ability to ingest/difficulty swallowing.
risk for ineffective Airway Clearance: risk factors may include tracheal compression/obstruction.

gonorrhea
(also refer to *sexually transmitted disease [STD]*)
risk for Infection [dissemination/bacteremia]: risk factors may include presence of infectious process in highly vascular area and lack of recognition of disease process.
acute Pain may be related to irritation/inflammation of mucosa and effects of circulating toxins, possibly evidenced by verbal reports of genital or pharyngeal irritation, perineal/pelvic pain, guarding/distraction behaviors.
deficient Knowledge [Learning Need] regarding disease cause/transmission, therapy, and self-care needs may be related to lack of information/misinterpretation, denial of exposure, possibly evidenced by statements of concern, questions, misconceptions, and inaccurate follow-through of instructions/development of preventable complications.

gout
acute Pain may be related to inflammation of joint(s), possibly evidenced by verbal reports, guarding/distraction behaviors, and autonomic responses (changes in vital signs).
impaired physical Mobility may be related to joint pain/edema, possibly evidenced by reluctance to attempt movement, limited range of motion, and therapeutic restriction of movement.
deficient Knowledge [Learning Need] regarding cause, treatment, and prevention of condition may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, and inaccurate follow-through of instructions.

Guillain-Barré syndrome (acute polyneuritis)
risk for ineffective Breathing Pattern/Airway Clearance: risk factors may include weakness/paralysis of respiratory muscles, impaired gag/swallow reflexes, decreased energy/fatigue.
disturbed Sensory/Perception [specify] may be related to altered sensory reception/transmission/integration (altered status of sense organs, sleep deprivation), therapeutically restricted environment, endogenous chemical alterations (electrolyte imbalance, hypoxia), and psychological stress, possibly evidenced by reported or observed change in usual response to stimuli, altered communication patterns, and measured change in sensory acuity and motor coordination.
impaired physical Mobility may be related to neuromuscular impairment, pain/discomfort, possibly evidenced by impaired coordination, partial/complete paralysis, decreased muscle strength/control.
Anxiety [specify level]/Fear may be related to situational crisis, change in health status/threat of death, possibly evidenced by increased tension, restlessness, helplessness, apprehension, uncertainty, fearfulness, focus on self, and sympathetic stimulation.
risk for Disuse Syndrome: risk factors include paralysis and pain.

hay fever
Pain [Discomfort] may be related to irritation/inflammation of upper airway mucous membranes and conjunctiva, possibly evidenced by verbal reports, irritability, and restlessness.
deficient Knowledge [Learning Need] regarding underlying cause, appropriate therapy, and required lifestyle changes may be related to lack of information, possibly evidenced by statements of concern, questions, and misconceptions.

heart failure, chronic
decreased Cardiac Output may be related to altered myocardial contractility/inotropic changes; alterations in rate, rhythm, and electrical conduction; and structural changes (valvular defects, ventricular aneurysm), possibly evidenced by tachycardia/dysrhythmias, changes in blood pressure, extra heart sounds, decreased urine output, diminished peripheral pulses, cool/ashen skin, orthopnea, crackles; dependent/generalized edema and chest pain.
excess Fluid Volume may be related to reduced glomerular filtration rate/increased ADH production, and sodium/water retention, possibly evidenced by orthopnea and abnormal breath sounds, S_3 heart sound, jugular vein distention, positive hepatojugular reflex, weight gain, hypertension, oliguria, generalized edema.

risk for impaired Gas Exchange: risk factors may include alveolar capillary membrane changes (fluid collection/shifts into interstitial space/alveoli).
Activity Intolerance may be related to imbalance between oxygen supply/demand, generalized weakness, and prolonged bedrest/sedentary lifestyle, possibly evidenced by reported/observed weakness, fatigue; changes in vital signs, presence of dysrhythmias; dyspnea, pallor, and diaphoresis.
deficient Knowledge [Learning Need] regarding cardiac function/disease process, therapy and self-care needs may be related to lack of information/misinterpretation, possibly evidenced by questions, statements of concern/misconceptions; development of preventable complications or exacerbations of condition.

heatstroke
Hyperthermia may be related to prolonged exposure to hot environment/vigorous activity with failure of regulating mechanism of the body, possibly evidenced by high body temperature (greater than 105°F/40.6°C), flushed/hot skin, tachycardia, and seizure activity.
decreased Cardiac Output may be related to functional stress of hypermetabolic state, altered circulating volume/venous return, and direct myocardial damage secondary to hyperthermia, possibly evidenced by decreased peripheral pulses, dysrhythmias/tachycardia, and changes in mentation.

hemodialysis
(also refer to *dialysis, general*)
risk for Injury [loss of vascular access]: risk factors may include clotting/thrombosis, infection, disconnection/hemorrhage.
risk for deficient Fluid Volume: risk factors may include excessive fluid losses/shifts via ultrafiltration, hemorrhage (altered coagulation/disconnection of shunt), and fluid restrictions.
risk for excess Fluid volume: risk factors may include excessive fluid intake; rapid IV, blood/plasma expanders/saline given to support BP during procedure.
ineffective Protection may be related to chronic disease state, drug therapy, abnormal blood profile, inadequate nutrition, possibly evidenced by altered clotting, impaired healing, deficient immunity, fatigue, anorexia.

hemophilia
risk for deficient Fluid Volume [isotonic]: risk factors may include impaired coagulation/hemorrhagic losses.
risk for acute/chronic Pain: risk factors may include nerve compression from hematomas, nerve damage or hemorrhage into joint space.
risk for impaired physical Mobility: risk factors may include joint hemorrhage, swelling, degenerative changes, and muscle atrophy.
ineffective Protection may be related to abnormal blood profile, possibly evidenced by altered clotting.
compromised family Coping may be related to prolonged nature of condition that exhausts the supportive capacity of significant person(s), possibly evidenced by protective behaviors disproportionate to patient's abilities/need for autonomy.

hemorrhoidectomy
acute Pain may be related to edema/swelling and tissue trauma, possibly evidenced by verbal reports, guarding/distraction behaviors, focus on self, and autonomic responses (changes in vital signs).
risk for Urinary Retention: risk factors may include perineal trauma, edema/swelling, and pain.
deficient Knowledge [Learning Need] regarding therapeutic treatment and potential complications may be related to lack of information/misconceptions, possibly evidenced by statements of concern and questions.

hemorrhoids
acute Pain may be related to inflammation and edema of prolapsed varices, possibly evidenced by verbal reports, and guarding/distraction behaviors.
Constipation may be related to pain on defecation and reluctance to defecate, possibly evidenced by frequency, less than usual pattern and hard, formed stools.

hemothorax
(also refer to *pneumothorax*)
risk for Trauma/Suffocation: risk factors may include concurrent disease/injury process, dependence on external device (chest drainage system), and lack of safety education/precautions.

Anxiety [specify level] may be related to change in health status and threat of death, possibly evidenced by increased tension, restlessness, expressed concern, sympathetic stimulation, and focus on self.

hepatitis, acute viral
impaired Liver Function related to viral infection as evidenced by jaundice, hepatic enlargement, abdominal pain, marked elevations in serum liver function tests.
Fatigue may be related to decreased metabolic energy production and altered body chemistry, possibly evidenced by reports of lack of energy/inability to maintain usual routines, decreased performance, and increased physical complaints.
imbalanced Nutrition: less than body requirements may be related to inability to ingest adequate nutrients (nausea, vomiting, anorexia); hypermetabolic state, altered absorption and metabolism, possibly evidenced by aversion to eating/lack of interest in food, altered taste sensation, observed lack of intake, and weight loss.
acute Pain/[Discomfort] may be related to inflammation and swelling of the liver, arthralgias, urticarial eruptions, and pruritus, possibly evidenced by verbal reports, guarding/distraction behaviors, focus on self, and autonomic responses (changes in vital signs).
risk for Infection: risk factors may include inadequate secondary defenses and immunosuppression, malnutrition, insufficient knowledge to avoid exposure to pathogens/spread to others.
risk for impaired Tissue Integrity: risk factors may include bile salt accumulation in the tissues.
risk for impaired Home Management: risk factors may include debilitating effects of disease process and inadequate support systems (family, financial, role model).
deficient Knowledge [Learning Need] regarding disease process/transmission, treatment needs, and future expectations may be related to lack of information/recall, misinterpretation, unfamiliarity with resources, possibly evidenced by questions, statements of concerns/misconceptions, inaccurate follow-through of instructions, and development of preventable complications.

hernia, hiatal
chronic Pain may be related to regurgitation of acidic gastric contents, possibly evidenced by verbal reports, facial grimacing, and focus on self.
deficient Knowledge [Learning Need] regarding pathophysiology, prevention of complications and self-care needs may be related to lack of information/misconceptions, possibly evidenced by statements of concern, questions, and recurrence of condition.

herniation of nucleus pulposus (ruptured intervertebral disk)
acute/chronic Pain may be related to nerve compression/irritation and muscle spasms, possibly evidenced by verbal reports, guarding/distraction behaviors, preoccupation with pain, self/narrowed focus, and autonomic responses (changes in vital signs when pain is acute), altered muscle tone/function, changes in eating/sleeping patterns and libido, physical/social withdrawal.
impaired physical Mobility may be related to pain (muscle spasms), therapeutic restrictions (e.g., bedrest, traction/braces), muscular impairment, and depression, possibly evidenced by reports of pain on movement, reluctance to attempt/difficulty with purposeful movement, decreased muscle strength, impaired coordination, and limited range of motion.
deficient Diversional Activity may be related to length of recuperation period and therapy restrictions, physical limitations, pain and depression, possibly evidenced by statements of boredom, disinterest, "nothing to do," and restlessness, irritability, withdrawal.

herpes, herpes simplex
acute Pain may be related to presence of localized inflammation and open lesions, possibly evidenced by verbal reports, distraction behaviors, and restlessness.
risk for [secondary] Infection: risk factors may include broken/traumatized tissue, altered immune response, and untreated infection/treatment failure.
risk for ineffective Sexuality Patterns: risk factors may include lack of knowledge, values conflict, and/or fear of transmitting the disease.

herpes zoster (shingles)
acute Pain may be related to inflammation/local lesions along sensory nerve(s), possibly evidenced by verbal reports, guarding/distraction behaviors, narrowed focus, and autonomic responses (changes in vital signs).
deficient Knowledge [Learning Need] regarding pathophysiology, therapeutic needs, and potential complications may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.

high altitude pulmonary edema (HAPE)
(also refer to *mountain sickness, acute [AMS]*)
impaired Gas Exchange may be related to ventilation perfusion imbalance, alveolar-capillary membrane changes, altered oxygen supply possibly evidenced by dyspnea, confusion, cyanosis, tachycardia, abnormal ABGs.
excess Fluid Volume may be related to compromised regulatory mechanism, possibly evidenced by shortness of breath, anxiety, edema, abnormal breath sounds, pulmonary congestion.

HIV positive
(also refer to *AIDS [acquired immunodeficiency syndrome]*)
risk-prone health Behavior may be related to life-threatening, stigmatizing condition/disease; assault to self-esteem, altered locus of control, inadequate support systems, incomplete grieving, medication side effects (fatigue/depression), possibly evidenced by verbalization of nonacceptance/denial of diagnosis, nonexistent or unsuccessful involvement in problem solving/goal setting; extended period of shock and disbelief or anger; lack of future-oriented thinking.
deficient Knowledge [Learning Need] regarding disease, prognosis, and treatment needs may be related to lack of exposure/recall, information misinterpretation, unfamiliarity with information resources, or cognitive limitation, possibly evidenced by statements of misconception/request for information, inappropriate/exaggerated behaviors (hostile, agitated, hysterical, apathetic), inaccurate follow-through of instructions/development of preventable complications.
risk for complicated Grieving: risk factors may include preloss psychological symptoms, predisposition for anxiety and feelings of inadequacy, frequency of major life events.

Hodgkin's disease
(also refer to *cancer*; *chemotherapy*)
Anxiety [specify level]/Fear may be related to threat to self-concept and threat of death, possibly evidenced by apprehension, insomnia, focus on self, and increased tension.
deficient Knowledge [Learning Need] regarding diagnosis, pathophysiology, treatment, and prognosis may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.
acute Pain/[Discomfort] may be related to manifestations of inflammatory response (fever, chills, night sweats) and pruritus, possibly evidenced by verbal reports, distraction behaviors, and focus on self.
risk for ineffective Breathing Pattern/Airway Clearance: risk factors may include tracheobronchial obstruction (enlarged mediastinal nodes and/or airway edema).

hospice/end of life care
acute/chronic Pain may be related to biological, physical, psychological agent, possibly evidenced by verbal/coded report, changes in appetite/eating, sleep pattern; protective behavior, restlessness, irritability.
Activity Intolerance/Fatigue may be related to generalized weakness, bedrest/immobility, pain, imbalance between oxygen supply and demand, possibly evidenced by inability to maintain usual routine, verbalized lack of desire/interest in activity, decreased performance, lethargy.
Grieving/death Anxiety may be related to anticipated loss of physiological well-being, perceived threat of death.
compromised/disabled family Coping/Caregiver Role Strain may be related to prolonged disease/disability progression, temporary family disorganization and role changes, unrealistic expectations, inadequate or incorrect information or understanding by primary person.
risk for moral Distress: risk factors may include conflict among decision makers, cultural conflicts, end-of-life decisions, loss of autonomy, physical distance of decision makers.

hydrocephalus
ineffective cerebral Tissue Perfusion may be related to decreased arterial/venous blood flow (compression of brain tissue), possibly evidenced by changes in mentation, restlessness, irritability, reports of headache, pupillary changes, and changes in vital signs.
disturbed visual Sensory/Perception may be related to pressure on sensory/motor nerves, possibly evidenced by reports of double vision, development of strabismus, nystagmus, pupillary changes, and optic atrophy.
risk for impaired physical Mobility: risk factors may include neuromuscular impairment, decreased muscle strength, and impaired coordination.
risk for decreased Adaptive Intracranial Capacity: risk factors may include brain injury, changes in perfusion pressure/intracranial pressure.
risk for Infection: risk factors may include invasive procedure/presence of shunt.

deficient Knowledge [Learning Need] regarding condition, prognosis, and long-term therapy needs/medical follow-up may be related to lack of information/misperceptions, possibly evidenced by questions, statements of concern, request for information, and inaccurate follow-through of instruction/development of preventable complications.

hyperactivity disorder

defensive Coping may be related to mild neurological deficits, dysfunctional family system, abuse/neglect, possibly evidenced by denial of obvious problems, projection of blame/responsibility, grandiosity, difficulty in reality testing perceptions.

impaired Social Interaction may be related to retarded ego development, negative role models, neurological impairment, possibly evidenced by discomfort in social situations, interrupts/intrudes on others, difficulty waiting turn in games/group activities, difficulty maintaining attention to task.

disabled family Coping may be related to excessive guilt, anger, or blaming among family members, parental inconsistencies, disagreements regarding discipline/limit setting/approaches, exhaustion of parental expectations, possibly evidenced by unrealistic parental expectations, rejection or overprotection of child, exaggerated expression of feelings, despair regarding child's behavior.

hyperbilirubinemia

risk for Injury [CNS involvement]: risk factors may include prematurity, hemolytic disease, asphyxia, acidosis, hyponatremia, and hypoglycemia.

risk for Injury [effects of treatment]: risk factors may include physical properties of phototherapy and effects on body regulatory mechanisms, invasive procedure (exchange transfusion), abnormal blood profile, chemical imbalances.

deficient Knowledge [Learning Need] regarding condition, prognosis, treatment/safety needs may be related to lack of exposure/recall and information misinterpretation, possibly evidenced by questions, statement of concern, and inaccurate follow-through of instructions/development of preventable complications.

hyperemesis gravidarum

deficient Fluid Volume [isotonic] may be related to excessive gastric losses and reduced intake, possibly evidenced by dry mucous membranes, decreased/concentrated urine, decreased pulse volume and pressure, thirst, and hemoconcentration.

imbalanced Nutrition: less than body requirements may be related to inability to ingest/digest/absorb nutrients (prolonged vomiting), possibly evidenced by reported inadequate food intake, lack of interest in food/aversion to eating, and weight loss.

risk for ineffective Coping: risk factors may include situational/maturational crisis (pregnancy, change in health status, projected role changes, concern about outcome).

hypertension

deficient Knowledge [Learning Need] regarding condition, therapeutic regimen, and potential complications may be related to lack of information/recall, misinterpretation, cognitive limitations, and/or denial of diagnosis, possibly evidenced by statements of concern/questions, and misconceptions, inaccurate follow-through of instructions, and lack of BP control.

risk-prone health Behavior may be related to condition requiring change in lifestyle, altered locus of control, and absence of feelings/denial of illness, possibly evidenced by verbalization of nonacceptance of health status change and lack of movement toward independence.

risk for Sexual Dysfunction: risk factors may include side effects of medication.

risk for decreased Cardiac Output: risk factors may include increased afterload (vasoconstriction), fluid shifts/hypovolemia, myocardial ischemia, ventricular hypertrophy/rigidity.

acute Pain may be related to increased cerebrovascular pressure, possibly evidenced by verbal reports (throbbing pain located in suboccipital region, present on awakening and disappearing spontaneously after being up and about), reluctance to move head, avoidance of bright lights and noise, or increased muscle tension.

hypertension, pulmonary

Refer to *pulmonary hypertension*.

hyperthyroidism

(also refer to *thyrotoxicosis*)

Fatigue may be related to hypermetabolic imbalance with increased energy requirements, irritability of CNS, and altered body chemistry, possibly evidenced by verbalization of overwhelming lack of energy to maintain usual routine, decreased performance, emotional lability/irritability, and impaired ability to concentrate.

Anxiety [specify level] may be related to increased stimulation of the CNS (hypermetabolic state, pseudocatecholamine effect of thyroid hormones), possibly evidenced by increased feelings of apprehension, overexcited/distressed, irritability/emotional lability, shakiness, restless movements, or tremors.
risk for imbalanced Nutrition: less than body requirements: risk factors may include inability to ingest adequate nutrients for hypermetabolic rate/constant activity, impaired absorption of nutrients (vomiting/diarrhea), hyperglycemia/relative insulin insufficiency.
risk for impaired Tissue Integrity: risk factors may include altered protective mechanisms of eye related to periorbital edema, reduced ability to blink, eye discomfort/dryness, and development of corneal abrasion/ulceration.

hypoglycemia

disturbed Thought Processes may be related to inadequate glucose for cellular brain function and effects of endogenous hormone activity, possibly evidenced by irritability, changes in mentation, memory loss, altered attention span, and emotional lability.
risk for unstable blood Glucose: risk factors may include dietary intake, lack of adherence to diabetes management, inadequate blood glucose monitoring, medication management.
deficient Knowledge [Learning Need] regarding pathophysiology of condition and therapy/self-care needs may be related to lack of information/recall, misinterpretations, possibly evidenced by development of hypoglycemia and statements of questions/misconceptions.

hypoparathyroidism (acute)

risk for Injury: risk factors may include neuromuscular excitability/tetany and formation of renal stones.
acute Pain may be related to recurrent muscle spasms and alteration in reflexes, possibly evidenced by verbal reports, distraction behaviors, and narrowed focus.
risk for ineffective Airway Clearance: risk factors may include spasm of the laryngeal muscles.
Anxiety [specify level] may be related to threat to, or change in, health status, physiological responses.

hypothermia (systemic)

(also refer to *frostbite*)
Hypothermia may be related to exposure to cold environment, inadequate clothing, age extremes (very young/elderly), damage to hypothalamus, consumption of alcohol/medications causing vasodilation, possibly evidenced by reduction in body temperature below normal range, shivering, cool skin, pallor.
deficient Knowledge [Learning Need] regarding risk factors, treatment needs, and prognosis may be related to lack of information/recall, misinterpretation, possibly evidenced by statements of concerns/misconceptions, occurrence of problem, and development of complications.

hypothyroidism

(also refer to *myxedema*)
impaired physical Mobility may be related to weakness, fatigue, muscle aches, altered reflexes, and mucin deposits in joints and interstitial spaces, possibly evidenced by decreased muscle strength/control and impaired coordination.
Fatigue may be related to decreased metabolic energy production, possibly evidenced by verbalization of unremitting/overwhelming lack of energy, inability to maintain usual routines, impaired ability to concentrate, decreased libido, irritability, listlessness, decreased performance, increase in physical complaints.
disturbed Sensory/Perception (specify) may be related to mucin deposits and nerve compression, possibly evidenced by paresthesias of hands and feet or decreased hearing.
Constipation may be related to decreased peristalsis/physical activity, possibly evidenced by frequency less than usual pattern, decreased bowel sounds, hard dry stools, and development of fecal impaction.

hysterectomy

acute Pain may be related to tissue trauma/abdominal incision, edema/hematoma formation, possibly evidenced by verbal reports, guarding/distraction behaviors, and autonomic responses (changes in vital signs).
impaired Urinary Elimination /risk for [acute] Urinary Retention: risk factors may include mechanical trauma, surgical manipulation, presence of localized edema/hematoma, or nerve trauma with temporary bladder atony.

ineffective Sexuality Pattern/risk for Sexual Dysfunction: risk factors may include concerns regarding altered body function/structure, perceived changes in femininity, changes in hormone levels, loss of libido, and changes in sexual response pattern.
risk for complicated Grieving: risk factors may include preloss psychological symptoms, predisposition for anxiety and feelings of inadequacy, frequency of major life events.

ileocolitis
Refer to *Crohn's disease*.

ileostomy
Refer to *colostomy*.

ileus
acute Pain may be related to distention/edema and ischemia of intestinal tissue, possibly evidenced by verbal reports, guarding/distraction behaviors, narrowed focus, and autonomic responses (changes in vital signs).
Diarrhea/Constipation may be related to presence of obstruction/changes in peristalsis, possibly evidenced by changes in frequency and consistency or absence of stool, alterations in bowel sounds, presence of pain, and cramping.
risk for deficient Fluid Volume: risk factors may include increased intestinal losses (vomiting and diarrhea) and decreased intake.

impetigo
impaired Skin Integrity may be related to presence of infectious process and pruritus, possibly evidenced by open/crusted lesions.
acute Pain may be related to inflammation and pruritus, possibly evidenced by verbal reports, distraction behaviors, and self-focusing.
risk for [secondary] Infection: risk factors may include broken skin, traumatized tissue, altered immune response, and virulence/contagious nature of causative organism.
risk for Infection [transmission]: risk factors may include virulent nature of causative organism, insufficient knowledge to prevent infection of others.

infection, prenatal
(also refer to *AIDS [acquired immunodeficiency syndrome]*)
risk for maternal/fetal Infection: risk factors may include inadequate primary defenses (e.g., broken skin, stasis of body fluids), inadequate secondary defenses (e.g., decreased hemoglobin, immunosuppression), inadequate acquired immunity, environmental exposure, malnutrition, rupture of amniotic membranes.
deficient Knowledge regarding treatment/prevention, prognosis of condition may be related to lack of exposure to information and/or unfamiliarity with resources, misinterpretation, possibly evidenced by verbalization of problem, inaccurate follow-through of instructions, development of preventable complications/continuation of infectious process.
Discomfort may be related to body response to infective agent, properties of infection (e.g., skin/tissue irritation, development of lesions), possibly evidenced by verbal reports, restlessness, withdrawal from social contacts.

inflammatory bowel disease
Refer to *colitis, ulcerative*; *Crohn's disease*.

influenza
Pain [Discomfort] may be related to inflammation and effects of circulating toxins, possibly evidenced by verbal reports, distraction behaviors, and narrowed focus.
risk for deficient Fluid Volume: risk factors may include excessive gastric losses, hypermetabolic state, and altered intake.
Hyperthermia may be related to effects of circulating toxins and dehydration, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
risk for ineffective Breathing: risk factors may include response to infectious process, decreased energy/fatigue.

insulin shock
Refer to *hypoglycemia*.

intestinal obstruction
Refer to *ileus*.

irritable bowel syndrome
acute Pain may be related to abnormally strong intestinal contractions, increased sensitivity of intestine to distention, hypersensitivity to hormones gastrin and cholecys-

tokinin, skin/tissue irritation/perirectal excoriation possibly evidenced by verbal reports, guarding behavior, expressive behavior (restlessness, moaning, irritability).

Constipation may be related to motor abnormalities of longitudinal muscles/changes in frequency and amplitude of contractions, dietary restrictions, stress, possibly evidenced by change in bowel pattern/decreased frequency, sensation of incomplete evacuation, abdominal pain/distention.

Diarrhea may be related to motor abnormalities of longitudinal muscles/changes in frequency and amplitude of contractions, possibly evidenced by precipitous passing of liquid stool on rising or immediately after eating, rectal urgency/incontinence, bloating.

Kawasaki disease

Hyperthermia may be related to increased metabolic rate and dehydration, possibly evidenced by increased body temperature greater than normal range, flushed skin, increased respiratory rate, and tachycardia.

acute Pain may be related to inflammation and edema/swelling of tissues, possibly evidenced by verbal reports, restlessness, guarding behaviors, and narrowed focus.

impaired Skin Integrity may be related to inflammatory process, altered circulation, and edema formation, possibly evidenced by disruption of skin surface including macular rash and desquamation.

impaired Oral Mucous Membranes may be related to inflammatory process, dehydration, and mouth breathing, possibly evidenced by pain, hyperemia, and fissures of lips.

risk for decreased Cardiac Output: risk factors may include structural changes/inflammation of coronary arteries and alterations in rate/rhythm or conduction.

kidney stone(s)

Refer to *calculi, urinary*.

labor, induced/augmented

deficient Knowledge [Learning Need] regarding procedure, treatment needs, and possible outcomes may be related to lack of exposure/recall, information misinterpretation, and unfamiliarity with information resources, possibly evidenced by questions, statements of concern/misconception, and exaggerated behaviors.

risk for maternal Injury: risk factors may include adverse effects/response to therapeutic interventions.

risk for impaired fetal Gas Exchange: risk factors may include altered placental perfusion/cord prolapse.

acute Pain may be related to altered characteristics of chemically stimulated contractions, psychological concerns, possibly evidenced by verbal reports, increased muscle tone, distraction/guarding behaviors, and narrowed focus.

labor, precipitous

Anxiety [specify level] may be related to situational crisis, threat to self/fetus, interpersonal transmission possibly evidenced by increased tension; scared, fearful, restless/jittery; sympathetic stimulation.

risk for impaired Skin/Tissue Integrity: risk factors may include rapid progress of labor, lack of necessary equipment.

acute Pain may be related to occurrence of rapid, strong muscle contractions; psychological issues possibly evidenced by verbalizations of inability to use learned pain-management techniques, sympathetic stimulation, distraction behaviors (e.g., moaning, restlessness).

labor, preterm

Activity Intolerance may be related to muscle/cellular hypersensitivity, possibly evidenced by continued uterine contractions/irritability.

risk for Poisoning: risk factors may include dose-related toxic/side effects of tocolytics.

risk for fetal Injury: risk factors may include delivery of premature/immature infant.

Anxiety [specify level] may be related to situational crisis, perceived or actual threats to self/fetus and inadequate time to prepare for labor, possibly evidenced by increased tension, restlessness, expressions of concern, and autonomic responses (changes in vital signs).

deficient Knowledge [Learning Need] regarding preterm labor treatment needs and prognosis may be related to lack of information and misinterpretation, possibly evidenced by questions, statements of concern, misconceptions, inaccurate follow-through of instruction, and development of preventable complications.

labor, stage I (active phase)
acute Pain/[Discomfort] may be related to contraction-related hypoxia, dilation of tissues, and pressure on adjacent structures, combined with stimulation of both parasympathetic and sympathetic nerve endings, possibly evidenced by verbal reports, guarding/distraction behaviors (restlessness), muscle tension, and narrowed focus.
impaired Urinary Elimination may be related to altered intake/dehydration, fluid shifts, hormonal changes, hemorrhage, severe intrapartal hypertension, mechanical compression of bladder, and effects of regional anesthesia, possibly evidenced by changes in amount/frequency of voiding, urinary retention, slowed progression of labor, and reduced sensation.
risk for ineffective Coping [Individual/Couple]: risk factors may include situational crises, personal vulnerability, use of ineffective coping mechanisms, inadequate support systems, and pain.

labor, stage II (expulsion)
acute Pain may be related to strong uterine contractions, tissue stretching/dilation, and compression of nerves by presenting part of the fetus, and bladder distention, possibly evidenced by verbalizations, facial grimacing, guarding/distraction behaviors (restlessness), narrowed focus, and autonomic responses (diaphoresis).
Cardiac Output [fluctuation] may be related to changes in SVR, fluctuations in venous return (repeated/prolonged Valsalva's maneuvers, effects of anesthesia/medications, dorsal recumbent position occluding the inferior vena cava and partially obstructing the aorta), possibly evidenced by decreased venous return, changes in vital signs (BP, pulse), urinary output, or fetal bradycardia.
risk for impaired fetal Gas Exchange: risk factors may include mechanical compression of head/cord, maternal position/prolonged labor affecting placental perfusion, and effects of maternal anesthesia, hyperventilation.
risk for impaired Skin/Tissue Integrity: risk factors may include untoward stretching/lacerations of delicate tissues (precipitous labor, hypertonic contractile pattern, adolescence, large fetus) and application of forceps.
risk for Fatigue: risk factors may include pregnancy, stress, anxiety, sleep deprivation, increased physical exertion, anemia, humidity/temperature, lights.

laminectomy (lumbar)
ineffective Tissue Perfusion [specify]: may be related to diminished/interrupted blood flow (dressing, edema/hematoma formation), hypovolemia, possibly evidenced by paresthesia, numbness; decreased range of motion, muscle strength.
risk for [spinal] Trauma: risk factors may include temporary weakness of spinal column, balancing difficulties, changes in muscle tone/coordination.
acute Pain may be related to traumatized tissues, localized inflammation, and edema, possibly evidenced by altered muscle tone, verbal reports, and distraction/guarding behaviors, autonomic changes.
impaired physical Mobility may be related to imposed therapeutic restrictions, neuromuscular impairment, and pain, possibly evidenced by limited range of motion, decreased muscle strength/control, impaired coordination, and reluctance to attempt movement.
risk for [acute] Urinary Retention: risk factors may include pain and swelling in operative area and reduced mobility/restrictions of position.

laryngectomy
(also refer to *cancer*; *chemotherapy*)
ineffective Airway Clearance may be related to partial/total removal of the glottis, temporary or permanent change to neck breathing, edema formation, and copious/thick secretions, possibly evidenced by dyspnea/difficulty breathing, changes in rate/depth of respiration, use of accessory respiratory muscles, weak/ineffective cough, abnormal breath sounds, and cyanosis.
impaired Skin/Tissue Integrity may be related to surgical removal of tissues/grafting, effects of radiation or chemotherapeutic agents, altered circulation/reduced blood supply, compromised nutritional status, edema formation, and pooling/continuous drainage of secretions, possibly evidenced by disruption of skin/tissue surface and destruction of skin/tissue layers.
impaired Oral Mucous Membrane may be related to dehydration/absence of oral intake, poor/inadequate oral hygiene, pathological condition (oral cancer), mechanical trauma (oral surgery), decreased saliva production, difficulty swallowing and pooling/drooling of secretions, and nutritional deficits, possibly evidenced by xerostomia (dry mouth), oral discomfort, thick/mucoid saliva, decreased saliva production, dry and crusted/coated tongue, inflamed lips, absent teeth/gums, poor dental health, and halitosis.
impaired verbal Communication may be related to anatomic deficit (removal of vocal cords), physical barrier (tracheostomy tube), and required voice rest, possibly evi-

denced by inability to speak, change in vocal characteristics, and impaired articulation.
risk for Aspiration: risk factors include impaired swallowing, facial/neck surgery, presence of tracheostomy/feeding tube.

laryngitis
Refer to *croup*.

latex allergy
latex Allergy Response may be related to no immune mechanism response, possibly evidenced by contact dermatitis–erythema, blisters; delayed hypersensitivity: eczema, irritation; hypersensitivity: generalized edema, wheezing/bronchospasm, hypotension, cardiac arrest.
Anxiety [specify level]/Fear may be related to threat of death possibly evidenced by expressed concerns, hypervigilance, restlessness, focus on self.
risk for risk-prone health Behavior: risk factors may include health status requiring change in occupation.

lead poisoning, acute
(also refer to *lead poisoning, chronic*)
Contamination may be related to flaking/peeling paint (young children), improperly lead-glazed ceramic pottery, unprotected contact with lead (e.g., battery manufacture/recycling, bronzing, soldering/welding), imported herbal products/medicinals, possibly evidenced by abdominal cramping, headache, irritability, decreased attentiveness, constipation, tremors.
risk for Trauma: risk factors may include loss of coordination, altered level of consciousness, clonic or tonic muscle activity, neurologic damage.
risk for deficient Fluid Volume: risk factors may include excessive vomiting, diarrhea, or decreased intake.
deficient Knowledge [Learning Need] regarding sources of lead and prevention of poisoning may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.

lead poisoning, chronic
(also refer to *lead poisoning, acute*)
Contamination may be related to flaking/peeling paint (young children), improperly lead-glazed ceramic pottery, unprotected contact with lead (e.g., battery manufacture/recycling, bronzing, soldering/welding), imported herbal products/medicinals, possibly evidenced by chronic abdominal pain, headache, personality changes, cognitive deficits, seizures, neuropathy.
imbalanced Nutrition: less than body requirements may be related to decreased intake (chemically induced changes in the gastrointestinal tract), possibly evidenced by anorexia, abdominal discomfort, reported metallic taste, and weight loss.
disturbed Thought Processes may be related to deposition of lead in CNS and brain tissue, possibly evidenced by personality changes, learning disabilities, and impaired ability to conceptualize and reason.
chronic Pain may be related to deposition of lead in soft tissues and bone, possibly evidenced by verbal reports, distraction behaviors, and focus on self.

leukemia, acute
(also refer to *chemotherapy*)
risk for Infection: risk factors may include inadequate secondary defenses (alterations in mature white blood cells, increased number of immature lymphocytes, immunosuppression and bone marrow suppression), invasive procedures, and malnutrition.
Anxiety [specify level]/Fear may be related to change in health status, threat of death, and situational crisis, possibly evidenced by sympathetic stimulation, apprehension, feelings of helplessness, focus on self, and insomnia.
Activity Intolerance [specify level] may be related to reduced energy stores, increased metabolic rate, imbalance between oxygen supply and demand, or therapeutic restrictions (bedrest)/effect of drug therapy, possibly evidenced by generalized weakness, reports of fatigue and exertional dyspnea; abnormal heart rate or BP response.
acute Pain may be related to physical agents (infiltration of tissues/organs/CNS, expanding bone marrow) and chemical agents (antileukemic treatments), possibly evidenced by verbal reports (abdominal discomfort, arthralgia, bone pain, headache); distraction behaviors, narrowed focus, and autonomic responses (changes in vital signs).
risk for deficient Fluid Volume: risk factors may include excessive losses (vomiting, hemorrhage, diarrhea), decreased intake (nausea, anorexia), increased fluid need (hy-

permetabolic state/fever), predisposition for kidney stone formation/tumor lysis syndrome.

long-term care

(also refer to condition requiring/contributing to need to facility placement)

Anxiety [specify level]/Fear may be related to change in health status, role functioning, interaction patterns, socioeconomic status, environment; unmet needs, recent life changes, and loss of friends/significant other(s), possibly evidenced by apprehension, restlessness, insomnia, repetitive questioning, pacing, purposeless activity, expressed concern regarding changes in life events, and focus on self.

Grieving may be related to perceived/actual or potential loss of physiopsychosocial well-being, personal possessions, and significant other(s), as well as cultural beliefs about aging/debilitation, possibly evidenced by denial of feelings, depression, sorrow, guilt; alterations in activity level, sleep patterns, eating habits, and libido.

risk for Poisoning [drug toxicity]: risk factors may include effects of aging (reduced metabolism, impaired circulation, precarious physiological balance, presence of multiple diseases/organ involvement), and use of multiple prescribed/OTC drugs.

disturbed Thought Process may be related to physiological changes of aging (loss of cells and brain atrophy, decreased blood supply); altered sensory input, pain, effects of medications, and psychological conflicts (disrupted life pattern), possibly evidenced by slower reaction times, memory loss, altered attention span, disorientation, inability to follow, altered sleep patterns, and personality changes.

Insomnia may be related to internal factors (illness, psychological stress, inactivity) and external factors (environmental changes, facility routines), possibly evidenced by reports of difficulty in falling asleep/not feeling rested, interrupted sleep/awakening earlier than desired; change in behavior/performance, increasing irritability, and listlessness.

risk for ineffective Sexuality Pattern: risk factors may include biopsychosocial alteration of sexuality; interference in psychological/physical well-being, self-image, and lack of privacy/significant other.

risk for Relocation Stress Syndrome: risk factors may include multiple losses, feeling of powerlessness, lack of/inappropriate use of support system, changes in psychosocial/physical health status.

risk for impaired Religiosity: risk factors may include ineffective support/coping, lack of social interaction, depression.

lupus erythematosus, systemic (SLE)

Fatigue may be related to inadequate energy production/increased energy requirements (chronic inflammation), overwhelming psychological or emotional demands, states of discomfort, and altered body chemistry (including effects of drug therapy), possibly evidenced by reports of unremitting and overwhelming lack of energy/inability to maintain usual routines, decreased performance, lethargy, and decreased libido.

acute Pain may be related to widespread inflammatory process affecting connective tissues, blood vessels, serosal surfaces, and mucous membranes, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focusing, and autonomic responses (changes in vital signs).

impaired Skin/Tissue integrity may be related to chronic inflammation, edema formation, and altered circulation, possibly evidenced by presence of skin rash/lesions, ulcerations of mucous membranes, and photosensitivity.

disturbed Body Image may be related to presence of chronic condition with rash, lesions, ulcers, purpura, mottled erythema of hands, alopecia, loss of strength, and altered body function, possibly evidenced by hiding body parts, negative feelings about body, feelings of helplessness, and change in social involvement.

Lyme disease

acute/chronic Pain may be related to systemic effects of toxins, presence of rash, urticaria, and joint swelling/inflammation, possibly evidenced by verbal reports, guarding behavior, autonomic responses, and narrowed focus.

Fatigue may be related to increased energy requirements, altered body chemistry, and states of discomfort evidenced by reports of overwhelming lack of energy/inability to maintain usual routines, decreased performance, lethargy, and malaise.

risk for decreased Cardiac Output: risk factors may include alteration in rate/rhythm/conduction.

macular degeneration

disturbed visual Sensory Perception may be related to altered sensory reception, possibly evidenced by reported/measured change in sensory acuity, change in usual response to stimuli.

Anxiety [specify level]/Fear may be related to situational crisis, threat to or change in health status and role function, possibly evidenced by expressed concerns, apprehension, feelings of inadequacy, diminished productivity, impaired attention.
risk for impaired Home Maintenance: risk factors may include impaired cognitive functioning, inadequate support systems.
risk for impaired Social Interaction: risk factors may include limited physical mobility, environmental barriers.

Mallory-Weiss syndrome
risk for deficient Fluid Volume: risk factors may include excessive vascular losses, presence of vomiting, and reduced intake.
deficient Knowledge [Learning Need] regarding causes, treatment, and prevention of condition may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and recurrence of problem.

mastectomy
impaired Skin/Tissue Integrity may be related to surgical removal of skin/tissue, altered circulation, drainage, presence of edema, changes in skin elasticity/sensation, and tissue destruction (radiation), possibly evidenced by disruption of skin surface and destruction of skin layers/subcutaneous tissues.
impaired physical Mobility may be related to neuromuscular impairment, pain, and edema formation, possibly evidenced by reluctance to attempt movement, limited range of motion, and decreased muscle mass/strength.
bathing/dressing Self-Care deficit may be related to temporary loss/altered action of one or both arms, possibly evidenced by statements of inability to perform/complete self-care tasks.
disturbed Body Image may be related to loss of body part denoting femininity, possibly evidenced by not looking at/touching area, negative feelings about body, preoccupation with loss, and change in social involvement/relationship.
risk for complicated Grieving: risk factors may include preloss psychological symptoms, predisposition for anxiety and feelings of inadequacy, frequency of major life events.

mastitis
acute Pain may be related to erythema and edema of breast tissues, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focusing, autonomic responses (changes in vital signs).
risk for Infection [spread/abscess formation]: risk factors may include traumatized tissues, stasis of fluids, and insufficient knowledge to prevent complications.
deficient Knowledge [Learning Need] regarding pathophysiology, treatment, and prevention may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.
risk for ineffective Breastfeeding: risk factors may include inability to feed on affected side/interruption in breastfeeding.

mastoidectomy
risk for Infection [spread]: risk factors may include pre-existing infection, surgical trauma, and stasis of body fluids in close proximity to brain.
acute Pain may be related to inflammation, tissue trauma, and edema formation, possibly evidenced by verbal reports, distraction behaviors, restlessness, self-focusing, and autonomic responses (changes in vital signs).
disturbed auditory Sensory Perception may be related to presence of surgical packing, edema, and surgical disturbance of middle ear structures, possibly evidenced by reported/tested hearing loss in affected ear.

measles
acute Pain may be related to inflammation of mucous membranes, conjunctiva, and presence of extensive skin rash with pruritus, possibly evidenced by verbal reports, distraction behaviors, self-focusing, and autonomic responses (changes in vital signs).
Hyperthermia may be related to presence of viral toxins and inflammatory response, possibly evidenced by increased body temperature, flushed/warm skin, and tachycardia.
risk for [secondary] Infection: risk factors may include altered immune response and traumatized dermal tissues.
deficient Knowledge [Learning Need] regarding condition, transmission, and possible complications may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, and development of preventable complications.

melanoma, malignant
Refer to *cancer*; *chemotherapy*.

meningitis, acute meningococcal
risk for Infection [spread]: risk factors may include hematogenous dissemination of pathogen, stasis of body fluids, suppressed inflammatory response (medication-induced), and exposure of others to pathogens.
risk for ineffective cerebral Tissue Perfusion: risk factors may include cerebral edema altering/interrupting cerebral arterial/venous blood flow, hypovolemia, exchange problems at cellular level (acidosis).
Hyperthermia may be related to infectious process (increased metabolic rate) and dehydration, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
acute Pain may be related to inflammation/irritation of the meninges with spasm of extensor muscles (neck, shoulders, and back), possibly evidenced by verbal reports, guarding/distraction behaviors, narrowed focus, and autonomic responses (changes in vital signs).
risk for Trauma/Suffocation: risk factors may include alterations in level of consciousness, possible development of clonic/tonic muscle activity (seizures), and generalized weakness/prostration, ataxia, vertigo.

meniscectomy
impaired Walking may be related to pain, joint instability, and imposed medical restrictions of movement, possibly evidenced by impaired ability to move about environment as needed/desired.
deficient Knowledge [Learning Need] regarding postoperative expectations, prevention of complications, and self-care needs may be related to lack of information, possibly evidenced by statements of concern, questions, and misconceptions.

menopause
ineffective Thermoregulation may be related to fluctuation of hormonal levels, possibly evidenced by skin flushed/warm to touch, diaphoresis, night sweats; cold hands/feet.
Fatigue may be related to change in body chemistry, lack of sleep, depression, possibly evidenced by reports of lack of energy, tiredness, inability to maintain usual routines, decreased performance.
risk for ineffective Sexuality Pattern: risk factors may include perceived altered body function, changes in physical response, myths/inaccurate information, impaired relationship with significant other.
risk for stress Urinary Incontinence: risk factors may include degenerative changes in pelvic muscles and structural support.
Health-Seeking Behaviors: management of life cycle changes may be related to maturational change, possibly evidenced by expressed desire for increased control of health practice, demonstrated lack of knowledge in health promotion.

mental retardation
(also refer to *Down syndrome*)
impaired verbal Communication may be related to developmental delay/impairment of cognitive and motor abilities, possibly evidenced by impaired articulation, difficulty with phonation, and inability to modulate speech/find appropriate words (dependent on degree of retardation).
risk for Self-Care Deficit [specify]: risk factors may include impaired cognitive ability and motor skills.
risk for imbalanced Nutrition: more than body requirements: risk factors may include decreased metabolic rate coupled with impaired cognitive development, dysfunctional eating patterns, and sedentary activity level.
risk for sedentary Lifestyle: risk factors may include lack of interest/motivation, resources; lack of training or knowledge of specific exercise needs, safety concerns/fear of injury.
impaired Social Interaction may be related to impaired thought processes, communication barriers, and knowledge/skill deficit about ways to enhance mutuality, possibly evidenced by dysfunctional interactions with peers, family, and/or significant other(s), and verbalized/observed discomfort in social situation.
compromised family Coping may be related to chronic nature of condition and degree of disability that exhausts supportive capacity of significant other(s), other situational or developmental crises or situations the significant other(s) may be facing, unrealistic expectations of significant other(s), possibly evidenced by preoccupation of significant other with personal reaction, significant other withdraws or enters into limited interaction with individual, protective behavior disproportionate (too much or too little) to patient's abilities or need for autonomy.

impaired Home Maintenance may be related to impaired cognitive functioning, insufficient finances/family organization or planning, lack of knowledge, and inadequate support systems, possibly evidenced by requests for assistance, expression of difficulty in maintaining home, disorderly surroundings, and overtaxed family members.
risk for Sexual Dysfunction: risk factors may include biopsychosocial alteration of sexuality, ineffectual/absent role models, misinformation/lack of knowledge, lack of significant other(s), and lack of appropriate behavior control.

miscarriage
Refer to *abortion, spontaneous termination*.

mitral stenosis
Activity Intolerance may be related to imbalance between oxygen supply and demand, possibly evidenced by reports of fatigue, weakness, exertional dyspnea, and tachycardia.
impaired Gas Exchange may be related to altered blood flow, possibly evidenced by restlessness, hypoxia, and cyanosis (orthopnea/paroxysmal nocturnal dyspnea).
decreased Cardiac Output may be related to impeded blood flow as evidenced by jugular vein distention, peripheral/dependent edema, orthopnea/paroxysmal nocturnal dyspnea.
deficient Knowledge [Learning Need] regarding pathophysiology, therapeutic needs, and potential complications may be related to lack of information/recall, misinterpretation, possibly evidenced by statements of concern, questions, inaccurate follow-through of instructions, and development of preventable complications.

mononucleosis, infectious
Fatigue may be related to decreased energy production, states of discomfort, and increased energy requirements (inflammatory process), possibly evidenced by reports of overwhelming lack of energy, inability to maintain usual routines, lethargy, and malaise.
acute Pain/[Discomfort] may be related to inflammation of lymphoid and organ tissues, irritation of oropharyngeal mucous membranes, and effects of circulating toxins, possibly evidenced by verbal reports, distraction behaviors, and self-focusing.
Hyperthermia may be related to inflammatory process, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
deficient Knowledge [Learning Need] regarding disease transmission, self-care needs, medical therapy, and potential complications may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, misconceptions, and inaccurate follow-through of instructions.

mood disorders
Refer to *depressive disorders*.

mountain sickness, acute (AMS)
acute Pain may be related to reduced oxygen tension, possibly evidenced by reports of headache.
Fatigue may be related to stress, increased physical exertion, sleep deprivation, possibly evidenced by overwhelming lack of energy, inability to restore energy even after sleep, compromised concentration, decreased performance.
risk for deficient Fluid Volume: risk factors may include increased water loss (e.g., overbreathing dry air), exertion, altered fluid intake (nausea).

multiple personality
Refer to *dissociative disorders*.

multiple sclerosis
Fatigue may be related to decreased energy production/increased energy requirements to perform activities, psychological/emotional demands, pain/discomfort, medication side effects, possibly evidenced by verbalization of overwhelming lack of energy, inability to maintain usual routine, decreased performance, impaired ability to concentrate, increase in physical complaints.
disturbed visual, kinesthetic, tactile Sensory Perception may be related to delayed/interrupted neuronal transmission, possibly evidenced by impaired vision, diplopia, disturbance of vibratory or position sense, paresthesias, numbness, and blunting of sensation.
impaired physical Mobility may be related to neuromuscular impairment, discomfort/pain, sensoriperceptual impairments, decreased muscle strength, control, and/or mass, deconditioning, as evidenced by limited ability to perform motor skills, limited range of motion, gait changes/postural instability.

Powerlessness/Hopelessness may be related to illness-related regimen and lifestyle of helplessness, possibly evidenced by verbal expressions of having no control or influence over the situation, depression over physical deterioration that occurs despite patient compliance with regimen, nonparticipation in care or decision making when opportunities are provided, passivity, decreased verbalization/affect.

impaired Home Maintenance may be related to effects of debilitating disease, impaired cognitive and/or emotional functioning, insufficient finances, and inadequate support systems, possibly evidenced by reported difficulty, observed disorderly surroundings, and poor hygienic conditions.

compromised/disabled family Coping may be related to situational crises/temporary family disorganization and role changes, patient providing little support in turn for significant other(s), prolonged disease/disability progression that exhausts the supportive capacity of significant other(s), feelings of guilt, anxiety, hostility, despair, and highly ambivalent family relationships, possibly evidenced by client expressing/confirming concern or report about significant other(s)' response to client's illness, significant other(s) preoccupied with own personal reactions, intolerance, abandonment, neglectful care of the patient, and distortion of reality regarding client's illness.

mumps

acute Pain may be related to presence of inflammation, circulating toxins, and enlargement of salivary glands, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focusing, and autonomic responses (changes in vital signs).

Hyperthermia may be related to inflammatory process (increased metabolic rate), and dehydration, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.

risk for deficient Fluid Volume: risk factors may include hypermetabolic state and painful swallowing with decreased intake.

muscular dystrophy (Duchenne's)

impaired physical Mobility may be related to musculoskeletal impairment/weakness, possibly evidenced by decreased muscle strength, control, and mass; limited range of motion; and impaired coordination.

delayed Growth and Development may be related to effects of physical disability, possibly evidenced by altered physical growth and altered ability to perform self-care/self-control activities appropriate to age.

risk for imbalanced Nutrition: more than body requirements: risk factors may include sedentary lifestyle and dysfunctional eating patterns.

compromised family Coping may be related to situational crisis/emotional conflicts around issues about hereditary nature of condition and prolonged disease/disability that exhausts supportive capacity of family members, possibly evidenced by preoccupation with personal reactions regarding disability and displaying protective behavior disproportionate (too little/too much) to client's abilities/need for autonomy.

myasthenia gravis

ineffective Breathing Pattern/Airway Clearance may be related to neuromuscular weakness and decreased energy/fatigue, possibly evidenced by dyspnea, changes in rate/depth of respiration, ineffective cough, and adventitious breath sounds.

impaired verbal Communication may be related to neuromuscular weakness, fatigue, and physical barrier (intubation), possibly evidenced by facial weakness, impaired articulation, hoarseness, and inability to speak.

impaired Swallowing may be related to neuromuscular impairment of laryngeal/pharyngeal muscles and muscular fatigue, possibly evidenced by reported/observed difficulty swallowing, coughing/choking, and evidence of aspiration.

Anxiety [specify level]/Fear may be related to situational crisis, threat to self-concept, change in health/socioeconomic status or role function, separation from support systems, lack of knowledge, and inability to communicate, possibly evidenced by expressed concerns, increased tension, restlessness, apprehension, sympathetic stimulation, crying, focus on self, uncooperative behavior, withdrawal, anger, and noncommunication.

deficient Knowledge [Learning Need] regarding drug therapy, potential for crisis (myasthenic or cholinergic), and self-care management may be related to inadequate information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions; development of preventable complications.

impaired physical Mobility may be related to neuromuscular impairment, possibly evidenced by reports of progressive fatigability with repetitive/prolonged muscle use, impaired coordination, and decreased muscle strength/control.

disturbed visual Sensory Perception may be related to neuromuscular impairment, possibly evidenced by visual distortions (diplopia) and motor incoordination.

myeloma, multiple
(also refer to *cancer*)
acute/chronic Pain may be related to destruction of tissues/bone, side effects of therapy, possibly evidenced by verbal or coded reports, guarding/protective behaviors, changes in appetite/weight, sleep; reduced interaction with others.
impaired physical Mobility may be related to loss of integrity of bone structure, pain, deconditioning, depressed mood possibly evidenced by verbalizations, limited range of motion, slowed movement, gait changes.
risk for ineffective Protection: risk factors may include presence of cancer, drug therapies, radiation treatments, inadequate nutrition.

myocardial infarction
(also refer to *myocarditis*)
acute Pain may be related to ischemia of myocardial tissue, possibly evidenced by verbal reports, guarding/distraction behaviors (restlessness), facial mask of pain, self-focusing, and autonomic responses (diaphoresis, changes in vital signs).
Anxiety [specify level]/Fear may be related to threat of death, threat of change of health status/role functioning and lifestyle, interpersonal transmission/contagion, possibly evidenced by increased tension, fearful attitude, apprehension, expressed concerns/uncertainty, restlessness, sympathetic stimulation, and somatic complaints.
risk for decreased Cardiac Output: risk factors may include changes in rate and electrical conduction, reduced preload, increased systemic vascular resistance, and altered muscle contractility/depressant effects of some medications, infarcted/dyskinetic muscle, structural defects.
risk for sedentary Lifestyle: risk factors may include lack of resources; lack of training or knowledge of specific exercise needs, safety concerns/fear of injury.

myocarditis
(also refer to *myocardial infarction*)
Activity Intolerance may be related to imbalance in oxygen supply and demand (myocardial inflammation/damage), cardiac depressant effects of certain drugs, and enforced bedrest, possibly evidenced by reports of fatigue, exertional dyspnea, tachycardia/palpitations in response to activity, ECG changes/dysrhythmias, and generalized weakness.
risk for decreased Cardiac Output: risk factors may include degeneration of cardiac muscle.
deficient Knowledge [Learning Need] regarding pathophysiology of condition/outcomes, treatment, and self-care needs/lifestyle changes may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, misconceptions, inaccurate follow-through of instructions, and development of preventable complications.

myringotomy
Refer to *mastoidectomy*.

myxedema
(also refer to *hypothyroidism*)
disturbed Body Image may be related to change in structure/function (loss of hair/thickening of skin, masklike facial expression, enlarged tongue, menstrual and reproductive disturbances), possibly evidenced by negative feelings about body, feelings of helplessness, and change in social involvement.
imbalanced Nutrition: more than body requirements may be related to decreased metabolic rate and activity level, possibly evidenced by weight gain greater than ideal for height and frame.
risk for decreased Cardiac Output: risk factors may include altered electrical conduction and myocardial contractility.

neglect/abuse
Refer to *abuse*; *battered child syndrome*.

neonatal, normal newborn
risk for impaired Gas Exchange: risk factors may include prenatal or intrapartal stressors, excess production of mucus, or cold stress.
risk for imbalanced Body Temperature: risk factors may include large body surface in relation to mass, limited amounts of insulating subcutaneous fat, nonrenewable sources of brown fat and few white fat stores, thin epidermis with close proximity of blood vessels to the skin, inability to shiver, and movement from a warm uterine environment to a much cooler environment.

risk for impaired parent/infant Attachment: risk factors may include developmental transition (gain of a family member); anxiety associated with the parent role, or lack of privacy (intrusive family/visitors).
risk for imbalanced Nutrition: less than body requirements: risk factors may include rapid metabolic rate, high caloric requirement, increased insensible water losses through pulmonary and cutaneous routes, fatigue, and a potential for inadequate or depleted glucose stores.
risk for Infection: risk factors may include inadequate secondary defenses (inadequate acquired immunity, e.g., deficiency of neutrophils and specific immunoglobulins) and inadequate primary defenses (e.g., environmental exposure, broken skin, traumatized tissues, decreased ciliary action).

neonatal, premature newborn

impaired Gas Exchange may be related to alveolar-capillary membrane changes (inadequate surfactant levels), altered blood flow (immaturity of pulmonary arteriole musculature), altered oxygen supply (immaturity of central nervous system and neuromuscular system, tracheobronchial obstruction), altered oxygen-carrying capacity of blood (anemia), and cold stress, possibly evidenced by respiratory difficulties, inadequate oxygenation of tissues, and acidemia.
ineffective Breathing Pattern/Infant Feeding Pattern may be related to immaturity of the respiratory center, poor positioning, drug-related depression, metabolic imbalances, or decreased energy/fatigue, possibly evidenced by dyspnea, tachypnea, periods of apnea, nasal flaring/use of accessory muscles, cyanosis, abnormal ABGs, and tachycardia.
risk for ineffective Thermoregulation: risk factors may include immature CNS development (temperature regulation center), decreased ratio of body mass to surface area, decreased subcutaneous fat, limited brown fat stores, inability to shiver or sweat, poor metabolic reserves, muted response to hypothermia, and frequent medical/nursing manipulations and interventions.
risk for deficient Fluid Volume: risk factors may include extremes of age and weight, excessive fluid losses (thin skin, lack of insulating fat, increased environmental temperature, immature kidney/failure to concentrate urine).
risk for disorganized Infant Behavior: risk factors may include prematurity (immature central nervous system, hypoxia), lack of containment/boundaries, pain, or overstimulation, separation from parents.

nephrectomy

acute Pain may be related to surgical tissue trauma with mechanical closure (suture), possibly evidenced by verbal reports, guarding/distraction behaviors, self-focusing, and autonomic responses (changes in vital signs).
risk for deficient Fluid Volume: risk factors may include excessive vascular losses and restricted intake.
ineffective Breathing Pattern may be related to incisional pain with decreased lung expansion, possibly evidenced by tachypnea, fremitus, changes in respiratory depth/chest expansion, and changes in ABGs.
Constipation may be related to reduced dietary intake, decreased mobility, gastrointestinal obstruction (paralytic ileus), and incisional pain with defecation, possibly evidenced by decreased bowel sounds, reduced frequency/amount of stool, and hard/formed stool.

nephrolithiasis

Refer to *calculi, urinary*.

nephrotic syndrome

excess Fluid Volume may be related to compromised regulatory mechanism with changes in hydrostatic/oncotic vascular pressure and increased activation of the renin-angiotensin-aldosterone system, possibly evidenced by edema/anasarca, effusions/ascites, weight gain, intake greater than output, and blood pressure changes.
imbalanced Nutrition: less than body requirements may be related to excessive protein losses and inability to ingest adequate nutrients (anorexia), possibly evidenced by weight loss/muscle wasting (may be difficult to assess due to edema), lack of interest in food, and observed inadequate intake.
risk for Infection: risk factors may include chronic disease and steroidal suppression of inflammatory responses.
risk for impaired Skin Integrity: risk factors may include presence of edema and activity restrictions.

neuralgia, trigeminal
acute Pain may be related to neuromuscular impairment with sudden violent muscle spasm, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focusing, and autonomic responses (changes in vital signs).
deficient Knowledge [Learning Need] regarding control of recurrent episodes, medical therapies, and self-care needs may be related to lack of information/recall and misinterpretation, possibly evidenced by statements of concern, questions, and exacerbation of condition.

neuritis
acute/chronic Pain may be related to nerve damage usually associated with a degenerative process, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focusing, and autonomic responses (changes in vital signs).
deficient Knowledge [Learning Need] regarding underlying causative factors, treatment, and prevention may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.

obesity
imbalanced Nutrition: more than body requirements may be related to food intake that exceeds body needs, psychosocial factors, socioeconomic status, possibly evidenced by weight of 20% or more over optimum body weight, excess body fat by skinfold/other measurements, reported/observed dysfunctional eating patterns, intake more than body requirements.
sedentary Lifestyle may be related to lack of interest/motivation, resources; lack of training or knowledge of specific exercise needs, safety concerns/fear of injury, possibly evidenced by demonstration of physical deconditioning, choice of a daily routine lacking physical exercise.
disturbed Body Image/chronic low Self-Esteem may be related to view of self in contrast with societal values, family/subculture encouragement of overeating; control, sex, and love issues; possibly evidenced by negative feelings about body, fear of rejection/reaction of others, feelings of hopelessness/powerlessness, and lack of follow-through with treatment plan.
Activity Intolerance may be related to imbalance between oxygen supply and demand, and sedentary lifestyle, possibly evidenced by fatigue or weakness, exertional discomfort, and abnormal heart rate/blood pressure response.
impaired Social Interaction may be related to verbalized/observed discomfort in social situations, self-concept disturbance, possibly evidenced by reluctance to participate in social gatherings, verbalization of a sense of discomfort with others, feeling of rejection, absence of/ineffective supportive significant other(s).

opioid abuse
Refer to *depressant abuse*.

organic brain syndrome
Refer to *Alzheimer's disease*.

osteoarthritis (degenerative joint disease)
Refer to *arthritis, rheumatoid*. (Although this is a degenerative process versus the inflammatory process of rheumatoid arthritis, nursing concerns are the same.)

osteomyelitis
acute Pain may be related to inflammation and tissue necrosis, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
Hyperthermia may be related to increased metabolic rate and infectious process, possibly evidenced by increased body temperature and warm/flushed skin.
ineffective bone Tissue Perfusion may be related to inflammatory reaction with thrombosis of vessels, destruction of tissue, edema, and abscess formation, possibly evidenced by bone necrosis, continuation of infectious process, and delayed healing.
risk for impaired Walking: risk factors may include inflammation and tissue necrosis, pain, joint instability.
deficient Knowledge [Learning Need] regarding pathophysiology of condition, long-term therapy needs, activity restriction, and prevention of complications may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions and misconceptions, and inaccurate follow-through of instructions.

osteoporosis
risk for Trauma: risk factors may include loss of bone density/integrity, increasing risk of fracture with minimal or no stress.

acute/chronic Pain may be related to vertebral compression on spinal nerve/muscles/ligaments, spontaneous fractures, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and changes in sleep pattern.
impaired physical Mobility may be related to pain and musculoskeletal impairment, possibly evidenced by limited range of motion, reluctance to attempt movement/expressed fear of reinjury, and imposed restrictions/limitations.

palsy, cerebral (spastic hemiplegia)
impaired physical Mobility may be related to muscular weakness/hypertonicity, increased deep tendon reflexes, tendency to contractures, and underdevelopment of affected limbs, possibly evidenced by decreased muscle strength, control, mass, limited range of motion, and impaired coordination.
compromised family Coping may be related to permanent nature of condition, situational crisis, emotional conflicts/temporary family disorganization, and incomplete information/understanding of client's needs, possibly evidenced by verbalized anxiety/guilt regarding client's disability, inadequate understanding and knowledge base, and displaying protective behaviors disproportionate (too little/too much) to client's abilities or need for autonomy.
delayed Growth and Development may be related to effects of physical disability, possibly evidenced by altered physical growth, delay or difficulty in performing skills (motor, social, expressive), and altered ability to perform self-care/self-control activities appropriate to age.

pancreatitis
acute Pain may be related to obstruction of pancreatic/biliary ducts, chemical contamination of peritoneal surfaces by pancreatic exudate/autodigestion, extension of inflammation to the retroperitoneal nerve plexus, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focusing, grimacing, autonomic responses (changes in vital signs), and alteration in muscle tone.
risk for deficient Fluid Volume: risk factors may include excessive gastric losses (vomiting, nasogastric suctioning), increase in size of vascular bed (vasodilation, effects of kinins), third-space fluid transudation, ascites formation, alteration of clotting process, hemorrhage.
imbalanced Nutrition: less than body requirements may be related to vomiting, decreased oral intake as well as altered ability to digest nutrients (loss of digestive enzymes/insulin), possibly evidenced by reported inadequate food intake, aversion to eating, reported altered taste sensation, weight loss, and reduced muscle mass.
risk for Infection: risk factors may include inadequate primary defenses (stasis of body fluids, altered peristalsis, change in pH secretions), immunosuppression, nutritional deficiencies, tissue destruction, and chronic disease.

paranoid personality disorder
risk for other/self-directed Violence: risk factors may include perceived threats of danger, paranoid delusions, and increased feelings of anxiety.
[severe] Anxiety may be related to inability to trust (has not mastered tasks of trust versus mistrust), possibly evidenced by rigid delusional system (serves to provide relief from stress that justifies the delusion), frightened of other people and own hostility.
Powerlessness may be related to feelings of inadequacy, lifestyle of helplessness, maladaptive interpersonal interactions (e.g., misuse of power, force; abusive relationships), sense of severely impaired self-concept, and belief that individual has no control over situation(s), possibly evidenced by paranoid delusions, use of aggressive behavior to compensate, and expressions of recognition of damage paranoia has caused self and others.
disturbed Thought Processes may be related to psychological conflicts, increased anxiety and fear, possibly evidenced by difficulties in the process and character of thought, interference with the ability to think clearly and logically, delusions, fragmentation, and autistic thinking.
compromised family Coping may be related to temporary or sustained family disorganization/role changes, prolonged progression of condition that exhausts the supportive capacity of significant other(s), possibly evidenced by family system not meeting physical/emotional/spiritual needs of its members, inability to express or to accept wide range of feelings, inappropriate boundary maintenance; significant other(s) describes preoccupation with personal reactions.

paraplegia
(also refer to *quadriplegia*)
impaired Transfer Ability may be related to loss of muscle function/control, injury to upper extremity joints (overuse).

disturbed kinesthetic/tactile Sensory Perception may be related to neurological deficit with loss of sensory reception and transmission, psychological stress, possibly evidenced by reported/measured change in sensory acuity and loss of usual response to stimuli.
reflex Urinary Incontinence/impaired Urinary Elimination may be related to loss of nerve conduction above the level of the reflex arc, possibly evidenced by lack of awareness of bladder filling/fullness, absence of urge to void, and uninhibited bladder contraction, urinary tract infections, kidney stone formation.
disturbed Body Image/ineffective Role Performance may be related to loss of body functions, change in physical ability to resume role, perceived loss of self/identity, possibly evidenced by negative feelings about body/self, feelings of helplessness/powerlessness, delay in taking responsibility for self-care/participation in therapy, and change in social involvement.
Sexual Dysfunction may be related to loss of sensation, altered function, and vulnerability, possibly evidenced by seeking of confirmation of desirability, verbalization of concern, and alteration in relationship with significant other, and change in interest in self/others.

parathyroidectomy

acute Pain may be related to presence of surgical incision and effects of calcium imbalance (bone pain, tetany), possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
risk for excess Fluid Volume: risk factors may include preoperative renal involvement, stress-induced release of ADH, and changing calcium/electrolyte levels.
risk for ineffective Airway Clearance: risk factors may include edema formation and laryngeal nerve damage.
deficient Knowledge [Learning Need] regarding postoperative care/complications and long-term needs may be related to lack of information/recall, misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.

Parkinson's disease

impaired Walking may be related to neuromuscular impairment (muscle weakness, tremors, bradykinesia) and musculoskeletal impairment (joint rigidity), possibly evidenced by inability to move about the environment as desired, increased occurrence of falls.
impaired Swallowing may be related to neuromuscular impairment/muscle weakness, possibly evidenced by reported/observed difficulty in swallowing, drooling, evidence of aspiration (choking, coughing).
impaired verbal Communication may be related to muscle weakness and incoordination, possibly evidenced by impaired articulation, difficulty with phonation, and changes in rhythm and intonation.
Caregiver Role Strain may be related to illness, severity of care receiver, psychological/cognitive problems in care receiver, caregiver is spouse, duration of caregiving required, lack of respite/recreation for caregiver, possibly evidenced by feeling stressed, depressed, worried; lack of resources/support, family conflict.

pelvic inflammatory disease

risk for Infection [spread]: risk factors may include presence of infectious process in highly vascular pelvic structures, delay in seeking treatment.
acute Pain may be related to inflammation, edema, and congestion of reproductive/pelvic tissues, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
Hyperthermia may be related to inflammatory process/hypermetabolic state, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
risk for situational low Self-Esteem: risk factors may include perceived stigma of physical condition (infection of reproductive system).
deficient Knowledge [Learning Need] regarding cause/complications of condition, therapy needs, and transmission of disease to others may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, and development of preventable complications.

periarteritis nodosa

Refer to *polyarteritis (nodosa)*.

pericarditis

acute Pain may be related to inflammation and presence of effusion, possibly evidenced by verbal reports of pain affected by movement/position, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).

Activity Intolerance may be related to imbalance between oxygen supply and demand (restriction of cardiac filling/ventricular contraction, reduced cardiac output), possibly evidenced by reports of weakness/fatigue, exertional dyspnea, abnormal heart rate or blood pressure response, and signs of congestive heart failure.
risk for decreased Cardiac Output: risk factors may include accumulation of fluid (effusion), restricted cardiac filling/contractility.
Anxiety [specify level] may be related to change in health status and perceived threat of death, possibly evidenced by increased tension, apprehension, restlessness, and expressed concerns.

perinatal loss/death of child
Grieving may be related to death of fetus/infant, possibly evidenced by verbal expressions of distress, anger, loss, guilt; crying, change in eating habits/sleep.
situational low Self-Esteem may be related to perceived failure at a life event, inability to meet personal expectations, possibly evidenced by negative self-appraisal in response to situation/personal actions, expressions of helplessness/hopelessness, evaluation of self as unable to deal with situation.
risk for ineffective Role Performance: risk factors may include stress, family conflict, inadequate support system.
risk for interrupted Family Processes: risk factors may include situational crisis, developmental transition [loss of child], family roles shift.
risk for Spiritual Distress: risk factors may include blame for loss directed at self/God, intense suffering, alienation from other/support systems.

peripheral vascular disease (atherosclerosis)
ineffective peripheral Tissue Perfusion may be related to reduction or interruption of arterial/venous blood flow, possibly evidenced by changes in skin temperature/color, lack of hair growth, blood pressure/pulse changes in extremity, presence of bruits, and reports of claudication.
Activity Intolerance may be related to imbalance between oxygen supply and demand, possibly evidenced by reports of muscle fatigue/weakness and exertional discomfort (claudication).
risk for impaired Skin/Tissue Integrity: risk factors may include altered circulation with decreased sensation and impaired healing.

peritonitis
risk for Infection [spread/septicemia]: risk factors may include inadequate primary defenses (broken skin, traumatized tissue, altered peristalsis), inadequate secondary defenses (immunosuppression), and invasive procedures.
deficient Fluid Volume [mixed] may be related to fluid shifts from extracellular, intravascular, and interstitial compartments into intestines and/or peritoneal space, excessive gastric losses (vomiting, diarrhea, nasogastric suction), hypermetabolic state, and restricted intake, possibly evidenced by dry mucous membranes, poor skin turgor, delayed capillary refill, weak peripheral pulses, diminished urinary output, dark/concentrated urine, hypotension, and tachycardia.
acute Pain may be related to chemical irritation of parietal peritoneum, trauma to tissues, accumulation of fluid in abdominal/peritoneal cavity, possibly evidenced by verbal reports, muscle guarding/rebound tenderness, distraction behaviors, facial mask of pain, self-focus, autonomic responses (changes in vital signs).
risk for imbalanced Nutrition: less than body requirements: risk factors may include nausea/vomiting, intestinal dysfunction, metabolic abnormalities, or increased metabolic needs.

pheochromocytoma
Anxiety [specify level] may be related to excessive physiological (hormonal) stimulation of the sympathetic nervous system, situational crises, threat to/change in health status, possibly evidenced by apprehension, shakiness, restlessness, focus on self, fearfulness, diaphoresis, and sense of impending doom.
deficient Fluid Volume [mixed] may be related to excessive gastric losses (vomiting/diarrhea), hypermetabolic state, diaphoresis, and hyperosmolar diuresis, possibly evidenced by hemoconcentration, dry mucous membranes, poor skin turgor, thirst, and weight loss.
decreased Cardiac Output/ineffective Tissue Perfusion [specify] may be related to altered preload/decreased blood volume, altered systemic vascular resistance, and increased sympathetic activity (excessive secretion of catecholamines), possibly evidenced by cool/clammy skin, change in blood pressure (hypertension/postural hypotension), visual disturbances, severe headache, and angina.

deficient Knowledge [Learning Need] regarding pathophysiology of condition, outcome, preoperative and postoperative care needs may be related to lack of information/recall, possibly evidenced by statements of concern, questions, and misconceptions.

phlebitis
Refer to *thrombophlebitis*.

phobia
(also refer to *anxiety disorder, generalized*)
Fear may be related to learned irrational response to natural or innate origins (phobic stimulus), unfounded morbid dread of a seemingly harmless object/situation, possibly evidenced by sympathetic stimulation and reactions ranging from apprehension to panic, withdrawal from/total avoidance of situations that place individual in contact with feared object.
impaired Social Interaction may be related to intense fear of encountering feared object/activity or situation and anticipated loss of control, possibly evidenced by reported change of style/pattern of interaction, discomfort in social situations, and avoidance of phobic stimulus.

placenta previa
risk for deficient Fluid Volume: risk factors may include excessive vascular losses (vessel damage and inadequate vasoconstriction).
impaired fetal Gas Exchange may be related to altered blood flow, altered carrying capacity of blood (maternal anemia), and decreased surface area of gas exchange at site of placental attachment, possibly evidenced by changes in fetal heart rate/activity and release of meconium.
Fear may be related to threat of death (perceived or actual) to self or fetus, possibly evidenced by verbalization of specific concerns, increased tension, sympathetic stimulation.
risk for deficient Diversional Activity: risk factors may include imposed activity restrictions/bedrest.

pleurisy
acute Pain may be related to inflammation/irritation of the parietal pleura, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
ineffective Breathing Pattern may be related to pain on inspiration, possibly evidenced by decreased respiratory depth, tachypnea, and dyspnea.
risk for Infection [pneumonia]: risk factors may include stasis of pulmonary secretions, decreased lung expansion, and ineffective cough.

pneumonia
Refer to *bronchitis*; *bronchopneumonia*.

pneumothorax
(also refer to *hemothorax*)
ineffective Breathing Pattern may be related to decreased lung expansion (fluid/air accumulation), musculoskeletal impairment, pain, inflammatory process, possibly evidenced by dyspnea, tachypnea, altered chest excursion, respiratory depth changes, use of accessory muscles/nasal flaring, cough, cyanosis, and abnormal ABGs.
risk for decreased Cardiac Output: risk factors may include compression/displacement of cardiac structures.
acute Pain may be related to irritation of nerve endings within pleural space by foreign object (chest tube), possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).

polyarteritis (nodosa)
ineffective Tissue Perfusion [specify] may be related to reduction/interruption of blood flow, possibly evidenced by organ tissue infarctions, changes in organ function, and development of organic psychosis.
Hyperthermia may be related to widespread inflammatory process, possibly evidenced by increased body temperature and warm/flushed skin.
acute Pain may be related to inflammation, tissue ischemia, and necrosis of affected area, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
Grieving may be related to perceived loss of self, possibly evidenced by expressions of sorrow and anger, altered sleep and/or eating patterns, and changes in activity level or libido.

polycythemia vera

Activity Intolerance may be related to imbalance between oxygen supply and demand, possibly evidenced by reports of fatigue/weakness.

ineffective Tissue Perfusion [specify] may be related to reduction/interruption of arterial/venous blood flow (insufficiency, thrombosis, or hemorrhage), possibly evidenced by pain in affected area, impaired mental ability, visual disturbances, and color changes of skin/mucous membranes.

polyradiculitis

Refer to *Guillain-Barré syndrome*.

postoperative recovery period

ineffective Breathing Pattern may be related to neuromuscular and perceptual/cognitive impairment, decreased lung expansion/energy, and tracheobronchial obstruction, possibly evidenced by changes in respiratory rate and depth, reduced vital capacity, apnea, cyanosis, and noisy respirations.

risk for imbalanced Body Temperature: risk factors may include exposure to cool environment, effect of medications/anesthetic agents, extremes of age/weight, and dehydration.

disturbed Sensory Perception [specify]/disturbed Thought Processes may be related to chemical alteration (use of pharmaceutical agents, hypoxia), therapeutically restricted environment, excessive sensory stimuli and physiologic stress, possibly evidenced by changes in usual response to stimuli, motor incoordination, impaired ability to concentrate, reason, and make decisions; and disorientation to person, place, and time.

risk for deficient Fluid Volume: risk factors may include restriction of oral intake, loss of fluid through abnormal routes (indwelling tubes, drains), normal routes (vomiting, loss of vascular integrity, changes in clotting ability), and extremes of age and weight.

acute Pain may be related to disruption of skin, tissue, and muscle integrity, musculoskeletal/bone trauma, and presence of tubes and drains, possibly evidenced by verbal reports, alteration in muscle tone, facial mask of pain, distraction/guarding behaviors, narrowed focus, and autonomic responses.

impaired Skin/Tissue Integrity may be related to mechanical interruption of skin/tissues, altered circulation, effects of medication, accumulation of drainage, and altered metabolic state, possibly evidenced by disruption of skin surface/layers and tissues.

risk for Infection: risk factors may include broken skin, traumatized tissues, stasis of body fluids, presence of pathogens/contaminants, environmental exposure, and invasive procedures.

postpartal period

risk for impaired parent/infant Attachment/Parenting: risk factors may include lack of support between/from significant other(s), ineffective or no role model, anxiety associated with the parental role, unrealistic expectations, presence of stressors (e.g., financial, housing, employment).

risk for deficient Fluid Volume: risk factors may include excessive blood loss during delivery, reduced intake/inadequate replacement, nausea/vomiting, increased urine output, and insensible losses.

acute Pain/[Discomfort] may be related to tissue trauma/edema, muscle contractions, bladder fullness, and physical/psychological exhaustion, possibly evidenced by reports of cramping (afterpains), self-focusing, alteration in muscle tone, distraction behavior, and autonomic responses (changes in vital signs).

impaired Urinary Elimination may be related to hormonal effects (fluid shifts/continued elevation in renal plasma flow), mechanical trauma/tissue edema, and effects of medication/anesthesia, possibly evidenced by frequency, dysuria, urgency, incontinence, or retention.

Constipation may be related to decreased muscle tone associated with diastasis recti, prenatal effects of progesterone, dehydration, excess analgesia or anesthesia, pain (hemorrhoids, episiotomy, or perineal tenderness), prelabor diarrhea, and lack of intake, possibly evidenced by frequency less than usual pattern, hard-formed stool, straining at stool, decreased bowel sounds, and abdominal distention.

Insomnia may be related to pain/discomfort, intense exhilaration/excitement, anxiety, exhausting process of labor/delivery, and needs/demands of family members, possibly evidenced by verbal reports of difficulty in falling asleep or staying asleep/dissatisfaction with sleep, lack of energy, nonrestorative sleep.

post-traumatic stress disorder

Post-Trauma Syndrome related to having experienced a traumatic life event, possibly evidenced by re-experiencing the event, somatic reactions, psychic/emotional numbness, altered lifestyle, impaired sleep, self-destructive behaviors, difficulty with in-

terpersonal relationships, development of phobia, poor impulse control/irritability, and explosiveness.

risk for other-directed Violence: risk factors may include a startle reaction, an intrusive memory causing a sudden acting-out of a feeling as if the event were occurring; use of alcohol/other drugs to ward off painful effects and produce psychic numbing, breaking through the rage that has been walled off, response to intense anxiety or panic state, and loss of control.

ineffective Coping may be related to personal vulnerability, inadequate support systems, unrealistic perceptions, unmet expectations, overwhelming threat to self, and multiple stressors repeated over period of time, possibly evidenced by verbalization of inability to cope or difficulty asking for help, muscular tension/headaches, chronic worry, and emotional tension.

complicated Grieving may be related to actual/perceived object loss (loss of self as seen before the traumatic incident occurred as well as other losses incurred in/after the incident), loss of physiopsychosocial well-being, thwarted grieving response to a loss, and lack of resolution of previous grieving responses, possibly evidenced by verbal expression of distress at loss, anger, sadness, labile affect, alterations in eating habits, sleep/dream patterns, libido; reliving of past experiences, expression of guilt, and alterations in concentration.

interrupted Family Processes may be related to situational crisis, failure to master developmental transitions, possibly evidenced by expressions of confusion about what to do and that family is having difficulty coping, family system not meeting physical/emotional/spiritual needs of its members, not adapting to change or dealing with traumatic experience constructively, and ineffective family decision-making process.

pregnancy (prenatal period)

risk for imbalanced Nutrition: less than body requirements: risk factors may include changes in appetite, insufficient intake (nausea/vomiting, inadequate financial resources and nutritional knowledge); meeting increased metabolic demands (increased thyroid activity associated with the growth of fetal and maternal tissues).

[Discomfort]/acute Pain may be related to hormonal influences, physical changes, possibly evidenced by verbal reports (nausea, breast changes, leg cramps, hemorrhoids, nasal stuffiness), alteration in muscle tone, restlessness, and autonomic responses (changes in vital signs).

risk for fetal Injury: risk factors may include environmental/hereditary factors and problems of maternal well-being that directly affect the developing fetus (e.g., malnutrition, substance use).

[maximally compensated] Cardiac Output may be related to increased fluid volume/maximal cardiac effort and hormonal effects of progesterone and relaxin (that place the patient at risk for hypertension and/or circulatory failure), and changes in peripheral resistance (afterload), possibly evidenced by variations in blood pressure and pulse, syncopal episodes, or presence of pathological edema.

readiness for enhanced family Coping may be related to situational/maturational crisis with anticipated changes in family structure/roles, needs sufficiently met and adaptive tasks effectively addressed to enable goals of self-actualization to surface, as evidenced by movement toward health-promoting and enriching lifestyle, choosing experiences that optimize pregnancy experience/wellness.

risk for Constipation: risk factors may include changes in dietary/fluid intake, smooth muscle relaxation, decreased peristalsis, and effects of medications (e.g., iron).

Fatigue/Insomnia may be related to increased carbohydrate metabolism, altered body chemistry, increased energy requirements to perform activities of daily living, discomfort, anxiety, inactivity, possibly evidenced by reports of overwhelming lack of energy/inability to maintain usual routines, difficulty falling asleep/dissatisfaction with sleep, decreased quality of life.

risk for ineffective Role Performance: risk factors may include maturational crisis, developmental level, history of maladaptive coping, or absence of support systems.

deficient Knowledge [Learning Need] regarding normal physiological/psychological changes and self-care needs may be related to lack of information/recall and misinterpretation of normal physiological/psychological changes and their impact on the client/family, possibly evidenced by questions, statements of concern, misconceptions, and inaccurate follow-through of instructions/development of preventable complications.

pregnancy, adolescent

(also refer to *pregnancy [prenatal period]*)

interrupted Family Processes may be related to situational/developmental transition (economic, change in roles/gain of a family member), possibly evidenced by family expressing confusion about what to do, unable to meet physical/emotional/spiritual needs of the members, family inability to adapt to change or to deal with traumatic

experience constructively, does not demonstrate respect for individuality and autonomy of its members, ineffective family decision-making process, and inappropriate boundary maintenance.

Social Isolation may be related to alterations in physical appearance, perceived unacceptable social behavior, restricted social sphere, stage of adolescence, and interference with accomplishing developmental tasks, possibly evidenced by expressions of feelings of aloneness/rejection/difference from others, uncommunicative, withdrawn, no eye contact, seeking to be alone, unacceptable behavior, and absence of supportive significant other(s).

disturbed Body Image/situational/chronic low Self-Esteem may be related to situational/maturational crisis, biophysical changes, and fear of failure at life events, absence of support systems, possibly evidenced by self-negating verbalizations, expressions of shame/guilt, fear of rejection/reaction of others, hypersensitivity to criticism, and lack of follow-through/nonparticipation in prenatal care.

deficient Knowledge [Learning Need] regarding pregnancy, developmental/individual needs, future expectations may be related to lack of exposure, information misinterpretation, unfamiliarity with information resources, lack of interest in learning, possibly evidenced by questions, statements of concern/misconception, sense of vulnerability/denial of reality, inaccurate follow-through of instruction, and development of preventable complications.

risk for impaired Parenting may be related to chronological age/developmental stage, unmet social/emotional/maturational needs of parenting figures, unrealistic expectation of self/infant/partner, ineffective role model/social support, lack of role identity, and presence of stressors (e.g., financial, social).

pregnancy, high-risk

Anxiety [specify level] may be related to situational crisis, threat of maternal/fetal death (perceived or actual), interpersonal transmission/contagion, possibly evidenced by increased tension, apprehension, feelings of inadequacy, somatic complaints, difficulty sleeping.

deficient Knowledge [Learning Need] regarding high-risk situation/preterm labor may be related to lack of exposure to/misinterpretation of information, unfamiliarity with individual risks and own role in risk prevention/management, possibly evidenced by request for information, statement of concerns/misconceptions, inaccurate follow-through of instructions.

risk of maternal Injury: risk factors may include pre-existing medical conditions, complications of pregnancy.

risk for Activity Intolerance: risk factors may include presence of circulatory/respiratory problems, uterine irritability.

risk for Ineffective Therapeutic Regimen Management: risk factors may include client value system, health beliefs/cultural influences, issues of control, presence of anxiety, complexity of therapeutic regimen, economic difficulties, perceived susceptibility.

pregnancy-induced hypertension (pre-eclampsia)

deficient Fluid Volume [isotonic] may be related to a plasma protein loss, decreasing plasma colloid osmotic pressure allowing fluid shifts out of vascular compartment, possibly evidenced by edema formation, sudden weight gain, hemoconcentration, nausea/vomiting, epigastric pain, headaches, visual changes, decreased urine output.

decreased Cardiac Output may be related to hypovolemia/decreased venous return, increased SVR, possibly evidenced by variations in blood pressure/hemodynamic readings, edema, shortness of breath, change in mental status.

ineffective [uteroplacental] Tissue Perfusion may be related to vasospasm of spiral arteries and relative hypovolemia, possibly evidenced by changes in fetal heart rate/activity, reduced weight gain, and premature delivery/fetal demise.

deficient Knowledge [Learning Need] regarding pathophysiology of condition, therapy, self-care/nutritional needs, and potential complications may be related to lack of information/recall, misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, inaccurate follow-through of instructions/development of preventable complications.

premenstrual tension syndrome (PMS)

chronic/acute Pain may be related to cyclic changes in female hormones affecting other systems (e.g., vascular congestion/spasms), vitamin deficiency, fluid retention, possibly evidenced by increased tension, apprehension, jitteriness, verbal reports, distraction behaviors, somatic complaints, self-focusing, physical and social withdrawal.

excess Fluid Volume may be related to abnormal alterations of hormonal levels, possibly evidenced by edema formation, weight gain, and periodic changes in emotional status/irritability.

Anxiety [specify level] may be related to cyclic changes in female hormones affecting other systems, possibly evidenced by feelings of inability to cope/loss of control, depersonalization, increased tension, apprehension, jitteriness, somatic complaints, and impaired functioning.
deficient Knowledge [Learning Need] regarding pathophysiology of condition and self-care/treatment needs may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, and continuation of condition, exacerbating symptoms.

pressure ulcer or sore
(also refer to *ulcer, decubitus*)
ineffective peripheral Tissue Perfusion may be related to reduced/interrupted blood flow, possibly evidenced by presence of inflamed, necrotic lesion.
deficient Knowledge [Learning Need] regarding cause/prevention of condition and potential complications may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, and inaccurate follow-through of instructions.

preterm labor
Refer to *labor, preterm*.

prostatectomy
impaired Urinary Elimination may be related to mechanical obstruction (blood clots, edema, trauma, surgical procedure, pressure/irritation of catheter/balloon) and loss of bladder tone, possibly evidenced by dysuria, frequency, dribbling, incontinence, retention, bladder fullness, suprapubic discomfort.
risk for deficient Fluid Volume: risk factors may include trauma to highly vascular area with excessive vascular losses, restricted intake, postobstructive diuresis.
acute Pain may be related to irritation of bladder mucosa and tissue trauma/edema, possibly evidenced by verbal reports (bladder spasms), distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
disturbed Body Image may be related to perceived threat of altered body/sexual function, possibly evidenced by preoccupation with change/loss, negative feelings about body, and statements of concern regarding functioning.
risk for Sexual Dysfunction: risk factors may include situational crisis (incontinence, leakage of urine after catheter removal, involvement of genital area) and threat to self-concept/change in health status.

pruritus
acute Pain may be related to cutaneous hyperesthesia and inflammation, possibly evidenced by verbal reports, distraction behaviors, and self-focus.
risk for impaired Skin Integrity: risk factors may include mechanical trauma (scratching) and development of vesicles/bullae that may rupture.

psoriasis
impaired Skin Integrity may be related to increased epidermal cell proliferation and absence of normal protective skin layers, possibly evidenced by scaling papules and plaques.
disturbed Body Image may be related to cosmetically unsightly skin lesions, possibly evidenced by hiding affected body part, negative feelings about body, feelings of helplessness, and change in social involvement.

pulmonary embolus
ineffective Breathing Pattern may be related to tracheobronchial obstruction (inflammation, copious secretions, or active bleeding), decreased lung expansion, inflammatory process, possibly evidenced by changes in depth and/or rate of respiration, dyspnea/use of accessory muscles, altered chest excursion, abnormal breath sounds (crackles, wheezes), and cough (with or without sputum production).
impaired Gas Exchange may be related to altered blood flow to alveoli or to major portions of the lung, alveolar-capillary membrane changes (atelectasis, airway/alveolar collapse, pulmonary edema/effusion, excessive secretions/active bleeding), possibly evidenced by profound dyspnea, restlessness, apprehension, somnolence, cyanosis, and changes in ABGs/pulse oximetry (hypoxemia and hypercapnia).
ineffective cardiopulmonary Tissue Perfusion may be related to interruption of blood flow (arterial/venous), exchange problems at alveolar level or at tissue level (acidotic shifting of the oxyhemoglobin curve), possibly evidenced by radiology/laboratory evidence of ventilation/perfusion mismatch, dyspnea, and central cyanosis.
Fear/Anxiety [specify level] may be related to severe dyspnea/inability to breathe normally, perceived threat of death, threat to/change in health status, physiological re-

sponse to hypoxemia/acidosis, and concern regarding unknown outcome of situation, possibly evidenced by restlessness, irritability, withdrawal or attack behavior, sympathetic stimulation (cardiovascular excitation, pupil dilation, sweating, vomiting, diarrhea), crying, voice quivering, and impending sense of doom.

pulmonary hypertension

impaired Gas Exchange may be related to changes in alveolar membrane, increased pulmonary vascular resistance, possibly evidenced by dyspnea, irritability, decreased mental acuity, somnolence, abnormal ABGs.

decreased Cardiac Output may be related to increased pulmonary vascular resistance, decreased blood return to left side of heart, possibly evidenced by increased heart rate, dyspnea, fatigue.

Activity Intolerance may be related to imbalance between oxygen supply and demand, possibly evidenced by reports of weakness/fatigue, abnormal vital signs with activity.

Anxiety may be related to change in health status, stress, threat to self-concept, possibly evidenced by expressed concerns, uncertainty, anxiety, awareness of physiological symptoms, diminished productivity/ability to problem-solve.

purpura, idiopathic thrombocytopenic

ineffective Protection may be related to abnormal blood profile, drug therapy (corticosteroids or immunosuppressive agents), possibly evidenced by altered clotting, fatigue, deficient immunity.

Activity Intolerance may be related to decreased oxygen-carrying capacity/imbalance between oxygen supply and demand, possibly evidenced by reports of fatigue/weakness.

deficient Knowledge [Learning Need] regarding therapy choices, outcomes, and self-care needs may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.

pyelonephritis

acute Pain may be related to acute inflammation of renal tissues, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).

Hyperthermia may be related to inflammatory process/increased metabolic rate, possibly evidenced by increase in body temperature, warm/flushed skin, tachycardia, and chills.

impaired Urinary Elimination may be related to inflammation/irritation of bladder mucosa, possibly evidenced by dysuria, urgency, and frequency.

deficient Knowledge [Learning Need] regarding therapy needs and prevention may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, and recurrence of condition.

quadriplegia

(also refer to *paraplegia*)

ineffective Breathing Pattern may be related to neuromuscular impairment (diaphragm and intercostal muscle function), reflex abdominal spasms, gastric distention, possibly evidenced by decreased respiratory depth, dyspnea, cyanosis, and abnormal ABGs.

risk for Trauma [additional spinal injury]: risk factors may include temporary weakness/instability of spinal column.

Grieving may be related to perceived loss of self, anticipated alterations in lifestyle and expectations, and limitation of future options/choices, possibly evidenced by expressions of distress, anger, sorrow; choked feelings; and changes in eating habits, sleep, and communication patterns.

total Self-Care Deficit related to neuromuscular impairment, evidenced by inability to perform self-care tasks.

impaired bed/wheelchair Mobility may be related to loss of muscle function/control.

risk for Autonomic Dysreflexia: risk factors may include altered nerve function (spinal cord injury at T6 or above), bladder/bowel/skin stimulation (tactile, pain, thermal).

impaired Home Maintenance may be related to permanent effects of injury, inadequate/absent support systems and finances, and lack of familiarity with resources, possibly evidenced by expressions of difficulties, requests for information and assistance, outstanding debts/financial crisis, and lack of necessary aides and equipment.

rape

deficient Knowledge [Learning Need] regarding required medical/legal procedures, prophylactic treatment for individual concerns (STDs, pregnancy), community resources/supports may be related to lack of information, possibly evidenced by statements of concern, questions, misconceptions, and exacerbation of symptoms.

Rape-Trauma Syndrome (acute phase) related to actual or attempted sexual penetration without consent, possibly evidenced by wide range of emotional reactions, including anxiety, fear, anger, embarrassment, and multisystem physical complaints.
risk for impaired Tissue Integrity: risk factors may include forceful sexual penetration and trauma to fragile tissues.
ineffective Coping may be related to personal vulnerability, unmet expectations, unrealistic perceptions, inadequate support systems/coping methods, multiple stressors repeated over time, overwhelming threat to self, possibly evidenced by verbalizations of inability to cope or difficulty asking for help, muscular tension/headaches, emotional tension, chronic worry.
Sexual Dysfunction may be related to biopsychosocial alteration of sexuality (stress of post-trauma response), vulnerability, loss of sexual desire, impaired relationship with significant other, possibly evidenced by alteration in achieving sexual satisfaction, change in interest in self/others, preoccupation with self.

Raynaud's phenomenon

acute/chronic Pain may be related to vasospasm/altered perfusion of affected tissues and ischemia/destruction of tissues, possibly evidenced by verbal reports, guarding of affected parts, self-focusing, and restlessness.
ineffective peripheral Tissue Perfusion may be related to periodic reduction of arterial blood flow to affected areas, possibly evidenced by pallor, cyanosis, coolness, numbness, paresthesia, slow healing of lesions.
deficient Knowledge [Learning Need] regarding pathophysiology of the condition, potential for complications, therapy/self-care needs may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions; development of preventable complications.

reflex sympathetic dystrophy (RSD)

acute/chronic Pain may be related to continued nerve stimulation, possibly evidenced by verbal reports, distraction/guarding behaviors, narrowed focus, changes in sleep patterns, and altered ability to continue previous activities.
ineffective peripheral Tissue Perfusion may be related to reduction of arterial blood flow (arteriole vasoconstriction), possibly evidenced by reports of pain, decreased skin temperature and pallor, diminished arterial pulsations, and tissue swelling.
disturbed tactile Sensory Perception may be related to altered sensory reception (neurological deficit, pain), possibly evidenced by change in usual response to stimuli/abnormal sensitivity of touch, physiological anxiety, and irritability.
risk for ineffective Role Performance: risk factors may include situational crisis, chronic disability, debilitating pain.
risk for compromised family Coping: risk factors may include temporary family disorganization and role changes and prolonged disability that exhausts the supportive capacity of significant other(s).

regional enteritis

Refer to *Crohn's disease*.

renal failure, acute

excess Fluid Volume may be related to compromised regulatory mechanisms (decreased kidney function), possibly evidenced by weight gain, edema/anasarca, intake greater than output, venous congestion, changes in BP/CVP, and altered electrolyte levels.
imbalanced Nutrition: less than body requirements may be related to inability to ingest/digest adequate nutrients (anorexia, nausea/vomiting, ulcerations of oral mucosa, and increased metabolic needs) in addition to therapeutic dietary restrictions, possibly evidenced by lack of interest in food/aversion to eating, observed inadequate intake, weight loss, loss of muscle mass.
risk for Infection: risk factors may include depression of immunological defenses, invasive procedures/devices, and changes in dietary intake/malnutrition.
disturbed Thought Processes may be related to accumulation of toxic waste products and altered cerebral perfusion, possibly evidenced by disorientation, changes in recent memory, apathy, and episodic obtundation.

renal transplantation

risk for excess Fluid Volume: risk factors may include compromised regulatory mechanism (implantation of new kidney requiring adjustment period for optimal functioning).
disturbed Body Image may be related to failure and subsequent replacement of body part and medication-induced changes in appearance, possibly evidenced by preoccupation with loss/change, negative feelings about body, and focus on past strength/function.

Fear may be related to potential for transplant rejection/failure and threat of death, possibly evidenced by increased tension, apprehension, concentration on source, and verbalizations of concern.
risk for Infection: risk factors may include broken skin/traumatized tissue, stasis of body fluids, immunosuppression, invasive procedures, nutritional deficits, and chronic disease.
risk for ineffective Coping/compromised family Coping: risk factors may include situational crises, family disorganization and role changes, prolonged disease exhausting supportive capacity of significant others/family, therapeutic restrictions/long-term therapy needs.

respiratory distress syndrome (premature infant)
(also refer to *neonatal, premature newborn*)
impaired Gas Exchange may be related to alveolar/capillary membrane changes (inadequate surfactant levels), altered oxygen supply (tracheobronchial obstruction, atelectasis), altered blood flow (immaturity of pulmonary arteriole musculature), altered oxygen-carrying capacity of blood (anemia), and cold stress, possibly evidenced by tachypnea, use of accessory muscles/retractions, expiratory grunting, pallor or cyanosis, abnormal ABGs, and tachycardia.
impaired Spontaneous Ventilation may be related to respiratory muscle fatigue and metabolic factors, possibly evidenced by dyspnea, increased metabolic rate, restlessness, use of accessory muscles, and abnormal ABGs.
risk for Infection: risk factors may include inadequate primary defenses (decreased ciliary action, stasis of body fluids, traumatized tissues), inadequate secondary defenses (deficiency of neutrophils and specific immunoglobulins), invasive procedures, and malnutrition (absence of nutrient stores, increased metabolic demands).
risk for ineffective gastrointestinal Tissue Perfusion: risk factors may include persistent fetal circulation and exchange problems.
risk for impaired parent/infant Attachment: risk factors may include premature/ill infant who is unable to effectively initiate parental contact (altered behavioral organization), separation, physical barriers, anxiety associated with the parental role/demands of infant.

retinal detachment
disturbed visual Sensory Perception related to decreased sensory reception, possibly evidenced by visual distortions, decreased visual field, and changes in visual acuity.
deficient Knowledge [Learning Need] regarding therapy, prognosis, and self-care needs may be related to lack of information/misconceptions, possibly evidenced by statements of concern and questions.
risk for impaired Home Maintenance: risk factors may include visual limitations, activity restrictions.

Reye's syndrome
deficient Fluid Volume [isotonic] may be related to failure of regulatory mechanism (diabetes insipidus), excessive gastric losses (pernicious vomiting), and altered intake, possibly evidenced by increased/dilute urine output, sudden weight loss, decreased venous filling, dry mucous membranes, decreased skin turgor, hypotension, and tachycardia.
ineffective cerebral Tissue Perfusion may be related to diminished arterial/venous blood flow and hypovolemia, possibly evidenced by memory loss, altered consciousness, and restlessness/agitation.
risk for Trauma: risk factors may include generalized weakness, reduced coordination, and cognitive deficits.
ineffective Breathing Pattern may be related to decreased energy and fatigue, cognitive impairment, tracheobronchial obstruction, and inflammatory process (aspiration pneumonia), possibly evidenced by tachypnea, abnormal ABGs, cough, and use of accessory muscles.

rheumatic fever
acute Pain may be related to migratory inflammation of joints, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
Hyperthermia may be related to inflammatory process/hypermetabolic state, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
Activity Intolerance may be related to generalized weakness, joint pain, and medical restrictions/bedrest, possibly evidenced by reports of fatigue, exertional discomfort, and abnormal heart rate in response to activity.
risk for decreased Cardiac Output: risk factors may include cardiac inflammation/enlargement and altered contractility.

rickets (osteomalacia)
delayed Growth and Development may be related to dietary deficiencies/indiscretions, malabsorption syndrome, and lack of exposure to sunlight, possibly evidenced by altered physical growth and delay or difficulty in performing motor skills typical for age.
deficient Knowledge [Learning Need] regarding cause, pathophysiology, therapy needs, and prevention may be related to lack of information, possibly evidenced by statements of concern, questions, misconceptions, and inaccurate follow-through of instructions.

ringworm, tinea
(also refer to *athlete's foot*)
impaired Skin Integrity may be related to fungal infection of the dermis, possibly evidenced by disruption of skin surfaces/presence of lesions.
deficient Knowledge [Learning Need] regarding infectious nature, therapy, and self-care needs may be related to lack of information/misinformation, possibly evidenced by statements of concern, questions, and recurrence/spread.

rubella
acute Pain/[Discomfort] may be related to inflammatory effects of viral infection and presence of desquamating rash, possibly evidenced by verbal reports, distraction behaviors/restlessness.
deficient Knowledge [Learning Need] regarding contagious nature, possible complications, and self-care needs may be related to lack of information/misinterpretations, possibly evidenced by statements of concern, questions, and inaccurate follow-through of instructions.

scabies
impaired Skin Integrity may be related to presence of invasive parasite and development of pruritus, possibly evidenced by disruption of skin surface and inflammation.
deficient Knowledge [Learning Need] regarding communicable nature, possible complications, therapy, and self-care needs may be related to lack of information/misinterpretation, possibly evidenced by questions and statements of concern about spread to others.

scarlet fever
Hyperthermia may be related to effects of circulating toxins, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
acute Pain/[Discomfort] may be related to inflammation of mucous membranes and effects of circulating toxins (malaise, fever), possibly evidenced by verbal reports, distraction behaviors, guarding (decreased swallowing), and self-focus.
risk for deficient Fluid Volume: risk factors may include hypermetabolic state (hyperthermia) and reduced intake.

schizophrenia (schizophrenic disorders)
disturbed Thought Processes may be related to disintegration of thinking processes, impaired judgment, presence of psychological conflicts, disintegrated ego boundaries, sleep disturbance, ambivalence, and concomitant dependence, possibly evidenced by impaired ability to reason/problem solve, inappropriate affect, presence of delusional system, command hallucinations, obsessions, ideas of reference, cognitive dissonance.
Social Isolation may be related to alterations in mental status, mistrust of others/delusional thinking, unacceptable social behaviors, inadequate personal resources, and inability to engage in satisfying personal relationships, possibly evidenced by difficulty in establishing relationships with others; dull affect, uncommunicative/withdrawn behavior, seeking to be alone, inadequate/absent significant purpose in life, and expression of feelings of rejection.
ineffective Health Maintenance/impaired Home Maintenance may be related to impaired cognitive/emotional functioning, altered ability to make deliberate and thoughtful judgments, altered communication, and lack/inappropriate use of material resources, possibly evidenced by inability to take responsibility for meeting basic health practices in any or all functional areas and demonstrated lack of adaptive behaviors to internal or external environmental changes, disorderly surroundings, accumulation of dirt/unwashed clothes, repeated hygienic disorders.
risk for self/other-directed Violence: risk factors may include disturbances of thinking/feeling (depression, paranoia, suicidal ideation), lack of development of trust and appropriate interpersonal relationships, catatonic/manic excitement, toxic reactions to drugs (alcohol).
ineffective Coping may be related to personal vulnerability, inadequate support system(s), unrealistic perceptions, inadequate coping methods, and disintegration of

thought processes, possibly evidenced by impaired judgment/cognition and perception, diminished problem-solving/decision-making capacities, poor self-concept, chronic anxiety, depression, inability to perform role expectations, and alteration in social participation.

interrupted Family Processes/disabled family Coping may be related to ambivalent family system/relationships, changes of roles, and difficulty of family member in coping effectively with patient's maladaptive behaviors, possibly evidenced by deterioration in family functioning, ineffective family decision-making process, difficulty relating to each other, client's expression of despair at family's lack of reaction/involvement, neglectful relationships with patient, extreme distortion regarding patient's health problem, including denial about its existence/severity or prolonged overconcern.

Self-Care Deficit [specify] may be related to perceptual and cognitive impairment, immobility (withdrawal/isolation and decreased psychomotor activity), and side effects of psychotropic medications, possibly evidenced by inability or difficulty in areas of feeding self, keeping body clean, dressing appropriately, toileting self, and/or changes in bowel/bladder elimination.

sciatica

acute/chronic Pain may be related to peripheral nerve root compression, possibly evidenced by verbal reports, guarding/distraction behaviors, and self-focus.

impaired physical Mobility may be related to neurological pain and muscular involvement, possibly evidenced by reluctance to attempt movement and decreased muscle strength/mass.

scleroderma

(also refer to *lupus erythematosus, systemic [SLE]*)

impaired physical Mobility may be related to musculoskeletal impairment and associated pain, possibly evidenced by decreased strength, decreased range of motion, and reluctance to attempt movement.

ineffective Tissue Perfusion, (specify) may be related to reduced arterial blood flow (arteriolar vasoconstriction), possibly evidenced by changes in skin temperature/color, ulcer formation, and changes in organ function (cardiopulmonary, gastrointestinal, renal).

imbalanced Nutrition: less than body requirements may be related to inability to ingest/digest/absorb adequate nutrients (sclerosis of the tissues rendering mouth immobile, decreased peristalsis of esophagus/small intestines, atrophy of smooth muscle of colon), possibly evidenced by weight loss, decreased intake/food, and reported/observed difficulty swallowing.

risk-prone health Behavior may be related to disability requiring change in lifestyle, inadequate support systems, assault to self-concept, and altered locus of control, possibly evidenced by verbalization of nonacceptance of health status change and lack of movement toward independence/future-oriented thinking.

disturbed Body Image may be related to skin changes with induration, atrophy, and fibrosis, loss of hair, and skin and muscle contractures, possibly evidenced by verbalization of negative feelings about body, focus on past strength/function or appearance, fear of rejection/reaction by others, hiding body part, and change in social involvement.

scoliosis

disturbed Body Image may be related to altered body structure, use of therapeutic device(s), and activity restrictions, possibly evidenced by negative feelings about body, change in social involvement, and preoccupation with situation or refusal to acknowledge problem.

deficient Knowledge [Learning Need] regarding pathophysiology of condition, therapy needs, and possible outcomes may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, and inaccurate follow-through of instructions.

risk-prone health Behavior may be related to lack of comprehension of long-term consequences of behavior, possibly evidenced by failure to adhere to treatment regimen/keep appointments and failure to improve.

seizure disorder

deficient Knowledge [Learning Need] regarding condition and medication control may be related to lack of information/misinterpretations, scarce financial resources, possibly evidenced by questions, statements of concern/misconceptions, incorrect use of anticonvulsant medication, recurrent episodes/uncontrolled seizures.

chronic low Self-Esteem/disturbed personal Identity may be related to perceived neurological functional change/weakness, perception of being out of control, stigma associated with condition, possibly evidenced by negative feelings about "brain"/self,

change in social involvement, feelings of helplessness, and preoccupation with perceived change or loss.
impaired Social Interaction may be related to unpredictable nature of condition and self-concept disturbance, possibly evidenced by decreased self-assurance, verbalization of concern, discomfort in social situations, inability to receive/communicate a satisfying sense of belonging/caring, and withdrawal from social contacts/activities.
risk for Trauma/Suffocation: risk factors may include weakness, balancing difficulties, cognitive limitations/altered consciousness, loss of large- or small-muscle coordination (during seizure).

sepsis, puerperal

(also refer to *septicemia*)
risk for Infection [spread/septic shock]: risk factors may include presence of infection, broken skin, and/or traumatized tissues, rupture of amniotic membranes, high vascularity of involved area, stasis of body fluids, invasive procedures, and/or increased environmental exposure, chronic disease (e.g., diabetes, anemia, malnutrition), altered immune response, and untoward effect of medications (e.g., opportunistic/secondary infection).
Hyperthermia may be related to inflammatory process/hypermetabolic state, possibly evidenced by increase in body temperature, warm/flushed skin, and tachycardia.
risk for impaired parent/infant Attachment: risk factors may include interruption in bonding process, physical illness, perceived threat to own survival.
risk for ineffective peripheral Tissue Perfusion: risk factors may include interruption/reduction of blood flow (presence of infectious thrombi).

septicemia

(also refer to *sepsis, puerperal*)
ineffective Tissue Perfusion [specify] may be related to changes in arterial/venous blood flow (selective vasoconstriction, presence of microemboli) and hypovolemia, possibly evidenced by changes in skin temperature/color, changes in blood/pulse pressure; changes in sensorium, and decreased urinary output.
risk for deficient Fluid Volume: risk factors may include marked increase in vascular compartment/massive vasodilation, vascular shifts to interstitial space, and reduced intake.
risk for decreased Cardiac Output: risk factors may include decreased preload (venous return and circulating volume), altered afterload (increased SVR), negative inotropic effects of hypoxia, complement activation, and lysosomal hydrolase.

serum sickness

acute Pain may be related to inflammation of the joints and skin eruptions, possibly evidenced by verbal reports, guarding/distraction behaviors, and self-focus.
deficient Knowledge [Learning Need] regarding nature of condition, treatment needs, potential complications, and prevention of recurrence may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, and inaccurate follow-through of instructions.

sexually transmitted disease (STD)

risk for Infection [transmission]: risk factors may include contagious nature of infecting agent and insufficient knowledge to avoid exposure to/transmission of pathogens.
impaired Skin/Tissue Integrity may be related to invasion of/irritation by pathogenic organism(s), possibly evidenced by disruptions of skin/tissue and inflammation of mucous membranes.
deficient Knowledge [Learning Need] regarding condition, prognosis/complications, therapy needs, and transmission may be related to lack of information/misinterpretation, lack of interest in learning, possibly evidenced by statements of concern, questions, misconceptions, inaccurate follow-through of instructions, and development of preventable complications.

shock

(also refer to *shock, cardiogenic*; *shock, hemorrhagic/hypovolemic*)
ineffective Tissue Perfusion [specify] may be related to changes in circulating volume and/or vascular tone, possibly evidenced by changes in skin color/temperature and pulse pressure, reduced blood pressure, changes in mentation, and decreased urinary output.
Anxiety [specify level] may be related to change in health status and threat of death, possibly evidenced by increased tension, apprehension, sympathetic stimulation, restlessness, and expressions of concern.

shock, cardiogenic
(also refer to *shock*)
decreased Cardiac Output may be related to structural damage, decreased myocardial contractility, and presence of dysrhythmias, possibly evidenced by ECG changes, variations in hemodynamic readings, jugular vein distention, cold/clammy skin, diminished peripheral pulses, and decreased urinary output.
risk for impaired Gas Exchange: risk factors may include ventilation perfusion imbalance, alveolar-capillary membrane changes.

shock, hemorrhagic/hypovolemic
(also refer to *shock*)
deficient Fluid Volume [isotonic] may be related to excessive vascular loss, inadequate intake/replacement, possibly evidenced by hypotension, tachycardia, decreased pulse volume and pressure, change in mentation, and decreased/concentrated urine.

shock, septic
Refer to *septicemia*.

sick sinus syndrome
(also refer to *dysrhythmia, cardiac*)
decreased Cardiac Output may be related to alterations in rate, rhythm, and electrical conduction, possibly evidenced by ECG evidence of dysrhythmias, reports of palpitations/weakness, changes in mentation/consciousness, and syncope.
risk for Trauma: risk factors may include changes in cerebral perfusion with altered consciousness/loss of balance.

smallpox
risk of Infection [spread]: risk factors may include contagious nature of organism, inadequate acquired immunity, presence of chronic disease, immunosuppression.
deficient Fluid Volume may be related to hypermetabolic state, decreased intake (pharyngeal lesions, nausea), increased losses (vomiting), fluid shifts from vascular bed, possibly evidenced by reports of thirst, decreased blood pressure, venous filling, and urinary output; dry mucous membranes, decreased skin turgor, change in mental state, elevated Hct.
impaired Tissue Integrity may be related to immunological deficit, possibly evidenced by disruption of skin surface, cornea, mucous membranes.
Anxiety [specify level]/Fear may be related to threat of death, interpersonal transmission/contagion, separation from support system, possibly evidenced by expressed concerns, apprehension, restlessness, focus on self.
interrupted Family Processes may be related to temporary family disorganization, situational crisis, change in health status of family member, possibly evidenced by changes in satisfaction with family, stress-reduction behaviors, mutual support; expression of isolation from community resources.
ineffective community Coping may be related to human-made disaster (bioterrorism), inadequate resources for problem-solving, possibly evidenced by deficits of community participation, high illness rate, excessive community conflicts, expressed vulnerability/powerlessness.

snow blindness
disturbed visual Sensory Perception may be related to altered status of sense organ (irritation of the conjunctiva, hyperemia), possibly evidenced by intolerance to light (photophobia) and decreased/loss of visual acuity.
acute Pain may be related to irritation/vascular congestion of the conjunctiva, possibly evidenced by verbal reports, guarding/distraction behaviors, and self-focus.
Anxiety [specify level] may be related to situational crisis and threat to/change in health status, possibly evidenced by increased tension, apprehension, uncertainty, worry, restlessness, and focus on self.

somatoform disorders
ineffective Coping may be related to severe level of anxiety that is repressed, personal vulnerability, unmet dependency needs, fixation in earlier level of development, retarded ego development, and inadequate coping skills, possibly evidenced by verbalized inability to cope/problem-solve, high illness rate, multiple somatic complaints of several years' duration, decreased functioning in social/occupational settings, narcissistic tendencies with total focus on self/physical symptoms, demanding behaviors, history of "doctor shopping" and refusal to attend therapeutic activities.
chronic Pain may be related to severe level of repressed anxiety, low self-concept, unmet dependency needs, history of self or loved one having experienced a serious illness, possibly evidenced by verbal reports of severe/prolonged pain, guarded move-

ment/protective behaviors, facial mask of pain, fear of reinjury, altered ability to continue previous activities, social withdrawal, demands for therapy/medication.
disturbed Sensory Perception [specify] may be related to psychological stress (narrowed perceptual fields, expression of stress as physical problems/deficits), poor quality of sleep, presence of chronic pain, possibly evidenced by reported change in voluntary motor or sensory function (paralysis, anosmia, aphonia, deafness, blindness, loss of touch or pain sensation), *la belle indifférence* (lack of concern over functional loss).
impaired Social Interaction may be related to inability to engage in satisfying personal relationships, preoccupation with self and physical symptoms, altered state of wellness, chronic pain, and rejection by others, possibly evidenced by preoccupation with own thoughts, sad/dull affect, absence of supportive significant other(s), uncommunicative/withdrawn behavior, lack of eye contact, and seeking to be alone.

spinal cord injury (SCI)
Refer to *paraplegia*; *quadriplegia*.

sprain of ankle or foot
acute Pain may be related to trauma to/swelling in joint, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focusing, and autonomic responses (changes in vital signs).
impaired Walking may be related to musculoskeletal injury, pain, and therapeutic restrictions, possibly evidenced by reluctance to attempt movement, inability to move about environment easily.

stapedectomy
risk for Trauma: risk factors may include increased middle-ear pressure with displacement of prosthesis and balancing difficulties/dizziness.
risk for Infection: risk factors may include surgically traumatized tissue, invasive procedures, and environmental exposure to upper respiratory infections.
acute Pain may be related to surgical trauma, edema formation, and presence of packing, possibly evidenced by verbal reports, guarding/distraction behaviors, and self-focus.

substance dependence/abuse rehabilitation (following acute detoxification)
ineffective Denial/Coping may be related to personal vulnerability, difficulty handling new situations, learned response patterns, cultural factors, personal/family value systems, possibly evidenced by lack of acceptance that drug use is causing the present situation, use of manipulation to avoid responsibility for self, altered social patterns/participation, impaired adaptive behavior and problem-solving skills, employment difficulties, financial affairs in disarray, and decreased ability to handle stress of recent events.
Powerlessness may be related to substance addiction with/without periods of abstinence, episodic compulsive indulgence, attempts at recovery, and lifestyle of helplessness, possibly evidenced by ineffective recovery attempts, statements of inability to stop behavior/requests for help, continuous/constant thinking about drug and/or obtaining drug, alteration in personal/occupational and social life.
imbalanced Nutrition: less than body requirements may be related to insufficient dietary intake to meet metabolic needs for psychological/physiological/economic reasons, possibly evidenced by weight less than normal for height/body build, decreased subcutaneous fat/muscle mass, reported altered taste sensation, lack of interest in food, poor muscle tone, sore/inflamed buccal cavity, laboratory evidence of protein/vitamin deficiencies.
Sexual Dysfunction may be related to altered body function (neurological damage and debilitating effects of drug use), changes in appearance, possibly evidenced by progressive interference with sexual functioning, a significant degree of testicular atrophy, gynecomastia, impotence/decreased sperm counts in men; and loss of body hair, thin/soft skin, spider angiomas, and amenorrhea/increase in miscarriages in women.
dysfunctional Family Processes: alcoholism [substance abuse] may be related to abuse/history of alcoholism/drug use, inadequate coping skills/lack of problem-solving skills, genetic predisposition/biochemical influences, possibly evidenced by feelings of anger/frustration/responsibility for alcoholic's behavior, suppressed rage, shame/embarrassment, repressed emotions, guilt, vulnerability; disturbed family dynamics/deterioration in family relationships, family denial/rationalization, closed communication systems, triangulating family relationships, manipulation, blaming, enabling to maintain substance use, inability to accept/receive help.
risk for fetal Injury: risk factors may include drug/alcohol use, exposure to teratogens.
deficient Knowledge [Learning Need] regarding condition/pregnancy, prognosis, treatment needs may be related to lack/misinterpretation of information, lack of recall, cognitive limitations/interference with learning, possibly evidenced by statements of

concern, questions/misconceptions, inaccurate follow-through of instructions, development of preventable complications, continued use in spite of complications.

surgery, general
(also refer to *postoperative recovery period*)
deficient Knowledge [Learning Need] regarding surgical procedure/expectation, postoperative routines/therapy, and self-care needs may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.
Anxiety [specify level]/Fear may be related to situational crisis, unfamiliarity with environment, change in health status/ threat of death and separation from usual support systems, possibly evidenced by increased tension, apprehension, decreased self-assurance, fear of unspecific consequences, focus on self, sympathetic stimulation, and restlessness.
risk for perioperative-positioning Injury: risk factors may include disorientation, immobilization, muscle weakness, obesity/edema.
risk for ineffective Breathing Pattern: risk factors may include chemically induced muscular relaxation, perception/cognitive impairment, decreased energy.
risk for deficient Fluid Volume: risk factors may include preoperative fluid deprivation, blood loss, and excessive gastrointestinal losses (vomiting/gastric suction).

synovitis (knee)
acute Pain may be related to inflammation of synovial membrane of the joint with effusion, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
impaired Walking may be related to pain and decreased strength of joint, possibly evidenced by reluctance to attempt movement, inability to move about environment as desired.

syphilis, congenital
(also refer to *sexually transmitted disease [STD]*)
acute Pain may be related to inflammatory process, edema formation, and development of skin lesions, possibly evidenced by irritability/crying that may be increased with movement of extremities and autonomic responses (changes in vital signs).
impaired Skin/Tissue Integrity may be related to exposure to pathogens during vaginal delivery, possibly evidenced by disruption of skin surfaces and rhinitis.
delayed Growth and Development may be related to effect of infectious process, possibly evidenced by altered physical growth and delay or difficulty performing skills typical of age group.
deficient Knowledge [Learning Need] regarding pathophysiology of condition, transmissibility, therapy needs, expected outcomes, and potential complications may be related to caretaker/parental lack of information, misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.

syringomyelia
disturbed Sensory Perception [specify] may be related to altered sensory perception (neurological lesion), possibly evidenced by change in usual response to stimuli and motor incoordination.
Anxiety [specify level]/Fear may be related to change in health status, threat of change in role functioning and socioeconomic status, and threat to self-concept, possibly evidenced by increased tension, apprehension, uncertainty, focus on self, and expressed concerns.
impaired physical Mobility may be related to neuromuscular and sensory impairment, possibly evidenced by decreased muscle strength, control, and mass and impaired coordination.
Self-Care Deficit [specify] may be related to neuromuscular and sensory impairments, possibly evidenced by statement of inability to perform care tasks.

Tay-Sachs disease
delayed Growth and Development may be related to effects of physical condition, possibly evidenced by altered physical growth, loss of/failure to acquire skills typical of age, flat affect, and decreased responses.
disturbed visual Sensory Perception may be related to neurological deterioration of optic nerve, possibly evidenced by loss of visual acuity.
[family] Grieving may be related to expected eventual loss of infant/child, possibly evidenced by expressions of distress, denial, guilt, anger, and sorrow; choked feelings; changes in sleep/eating habits; and altered libido.

[family] Powerlessness may be related to absence of therapeutic interventions for progressive/fatal disease, possibly evidenced by verbal expressions of having no control over situation/outcome and depression over physical/mental deterioration.
risk for Spiritual Distress: risk factors may include challenged belief and value system by presence of fatal condition with racial/religious connotations and intense suffering.
compromised family Coping may be related to situational crisis, temporary preoccupation with managing emotional conflicts and personal suffering, family disorganization, and prolonged/progressive disease, possibly evidenced by preoccupation with personal reactions, expressed concern about reactions of other family members, inadequate support of one another, and altered communication patterns.

thrombophlebitis

ineffective peripheral Tissue Perfusion may be related to interruption of venous blood flow, venous stasis, possibly evidenced by changes in skin color/temperature over affected area, development of edema, pain, diminished peripheral pulses, slow capillary refill.
acute Pain/[discomfort] may be related to vascular inflammation/irritation and edema formation (accumulation of lactic acid), possibly evidenced by verbal reports, guarding/distraction behaviors, and self-focus.
risk for impaired physical Mobility: risk factors may include pain and discomfort and restrictive therapies/safety precautions.
deficient Knowledge [Learning Need] regarding pathophysiology of condition, therapy/self-care needs, and risk of embolization may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, inaccurate follow-through of instructions, and development of preventable complications.

thrombosis, venous

Refer to *thrombophlebitis*.

thrush

impaired Oral Mucous Membrane may be related to presence of infection as evidenced by white patches/plaques, oral discomfort, mucosal irritation, bleeding.

thyroidectomy

(also refer to *hyperthyroidism*; *hypoparathyroidism*; *hypothyroidism*)
risk for ineffective Airway Clearance: risk factors may include hematoma/edema formation with tracheal obstruction, laryngeal spasms.
impaired verbal Communication may be related to tissue edema, pain/discomfort, and vocal cord injury/laryngeal nerve damage, possibly evidenced by impaired articulation, does not/cannot speak, and use of nonverbal cues/gestures.
risk for Injury [tetany]: risk factors may include chemical imbalance/excessive CNS stimulation.
risk for head/neck Trauma: risk factors may include loss of muscle control/support and position of suture line.
acute Pain may be related to presence of surgical incision/manipulation of tissues/muscles, postoperative edema, possibly evidenced by verbal reports, guarding/distraction behaviors, narrowed focus, and autonomic responses (changes in vital signs).

thyrotoxicosis

(also refer to *hyperthyroidism*)
risk for decreased Cardiac Output: risk factors may include uncontrolled hypermetabolic state increasing cardiac workload, changes in venous return and SVR; and alterations in rate, rhythm, and electrical conduction.
Anxiety [specify level] may be related to physiological factors/CNS stimulation (hypermetabolic state and pseudocatecholamine effect of thyroid hormones), possibly evidenced by increased feelings of apprehension, shakiness, loss of control, panic, changes in cognition, distortion of environmental stimuli, extraneous movements, restlessness, and tremors.
risk for disturbed Thought Processes: risk factors may include physiological changes (increased CNS stimulation/accelerated mental activity), and altered sleep patterns.
deficient Knowledge [Learning Need] regarding condition, treatment needs, and potential for complications/crisis situation may be related to lack of information/recall, misinterpretation, possibly evidenced by statements of concern, questions, misconceptions; and inaccurate follow-through of instructions.

TIA (transient ischemic attack)

ineffective cerebral Tissue Perfusion may be related to interruption of blood flow (e.g., vasospasm), possibly evidenced by altered mental status, behavioral changes, language deficit, change in motor/sensory response.

Anxiety/Fear may be related to change in health status, threat to self-concept, situational crisis, interpersonal contagion, possibly evidenced by expressed concerns, apprehension, restlessness, irritability.
risk for ineffective Denial: risk factors may include change in health status requiring change in lifestyle, fear of consequences, lack of motivation.

tic douloureux
Refer to *neuralgia, trigeminal*.

tonsillectomy
Refer to *adenoidectomy*.

tonsillitis
acute Pain may be related to inflammation of tonsils and effects of circulating toxins, possibly evidenced by verbal reports, guarding/distraction behaviors, reluctance/refusal to swallow, self-focus, and autonomic responses (changes in vital signs).
Hyperthermia may be related to presence of inflammatory process/hypermetabolic state and dehydration, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
deficient Knowledge [Learning Need] regardless cause/transmission, treatment needs, and potential complications may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, inaccurate follow-through of instructions, and recurrence of condition.

total joint replacement
risk for Infection: risk factors may include inadequate primary defenses (broken skin, exposure of joint), inadequate secondary defenses/immunosuppression (long-term corticosteroid use), invasive procedures/surgical manipulation, implantation of foreign body, and decreased mobility.
impaired physical Mobility may be related to pain and discomfort, musculoskeletal impairment, and surgery/restrictive therapies, possibly evidenced by reluctance to attempt movement, difficulty purposefully moving within the physical environment, reports of pain/discomfort on movement, limited range of motion, and decreased muscle strength/control.
risk for ineffective peripheral Tissue Perfusion: risk factors may include reduced arterial/venous blood flow, direct trauma to blood vessels, tissue edema, improper location/dislocation of prosthesis, and hypovolemia.
acute Pain may be related to physical agents (traumatized tissues/surgical intervention, degeneration of joints, muscle spasms) and psychological factors (anxiety, advanced age), possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).

toxemia of pregnancy
Refer to *pregnancy-induced hypertension*.

toxic shock syndrome
(also refer to *septicemia*)
Hyperthermia may be related to inflammatory process/hypermetabolic state and dehydration, possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
deficient Fluid Volume [isotonic] may be related to increased gastric losses (diarrhea, vomiting), fever/hypermetabolic state, and decreased intake, possibly evidenced by dry mucous membranes, increased pulse, hypotension, delayed venous filling, decreased/concentrated urine, and hemoconcentration.
acute Pain may be related to inflammatory process, effects of circulating toxins, and skin disruptions, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
impaired Skin/Tissue Integrity may be related to effects of circulating toxins and dehydration, possibly evidenced by development of desquamating rash, hyperemia, and inflammation of mucous membranes.

traction
(also refer to *casts*; *fractures*)
acute Pain may be related to direct trauma to tissue/bone, muscle spasms, movement of bone fragments, edema, injury to soft tissue, traction/immobility device, anxiety, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, alteration in muscle tone, and autonomic responses (changes in vital signs).
impaired physical Mobility may be related to neuromuscular/skeletal impairment, pain, psychological immobility, and therapeutic restrictions of movement, possibly evi-

denced by limited range of motion, inability to move purposefully in environment, reluctance to attempt movement, and decreased muscle strength/control.
risk for Infection: risk factors may include invasive procedures (including insertion of foreign body through skin/bone), presence of traumatized tissue, and reduced activity with stasis of body fluids.
deficient Diversional Activity may be related to length of hospitalization/therapeutic intervention and environmental lack of usual activity, possibly evidenced by statements of boredom, restlessness, and irritability.

transfusion reaction, blood
(also refer to *anaphylaxis*)
risk for imbalanced Body Temperature: risk factors may include infusion of cold blood products, systemic response to toxins.
Anxiety [specify level] may be related to change in health status and threat of death, exposure to toxins possibly evidenced by increased tension, apprehension, sympathetic stimulation, restlessness, and expressions of concern.
risk for impaired Skin Integrity: risk factors may include immunological response.

trichinosis
acute Pain may be related to parasitic invasion of muscle tissues, edema of upper eyelids, small localized hemorrhages, and development of urticaria, possibly evidenced by verbal reports, guarding/distraction behaviors (restlessness), and autonomic responses (changes in vital signs).
deficient Fluid Volume [isotonic] may be related to hypermetabolic state (fever, diaphoresis); excessive gastric losses (vomiting, diarrhea); and decreased intake/difficulty swallowing, possibly evidenced by dry mucous membranes, decreased skin turgor, hypotension, decreased venous filling, decreased/concentrated urine, and hemoconcentration.
ineffective Breathing Pattern may be related to myositis of the diaphragm and intercostal muscles, possibly evidenced by resulting changes in respiratory depth, tachypnea, dyspnea, and abnormal ABGs.
deficient Knowledge [Learning Need] regarding cause/prevention of condition, therapy needs, and possible complications may be related to lack of information, misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.

tuberculosis (pulmonary)
risk for Infection [spread/reactivation]: risk factors may include inadequate primary defenses (decreased ciliary action/stasis of secretions, tissue destruction/extension of infection), lowered resistance/suppressed inflammatory response, malnutrition, environmental exposure, insufficient knowledge to avoid exposure to pathogens, or inadequate therapeutic intervention.
ineffective Airway Clearance may be related to thick, viscous, or bloody secretions; fatigue/poor cough effort, and tracheal/pharyngeal edema, possibly evidenced by abnormal respiratory rate, rhythm, and depth; adventitious breath sounds (rhonchi, wheezes), stridor, and dyspnea.
risk for impaired Gas Exchange: risk factors may include decrease in effective lung surface, atelectasis, destruction of alveolar-capillary membrane, bronchial edema; thick, viscous secretions.
Activity Intolerance may be related to imbalance between oxygen supply and demand, possibly evidenced by reports of fatigue, weakness, and exertional dyspnea.
imbalanced Nutrition: less than body requirements may be related to inability to ingest adequate nutrients (anorexia, effects of drug therapy, fatigue, insufficient financial resources), possibly evidenced by weight loss, reported lack of interest in food/altered taste sensation, and poor muscle tone.
risk for ineffective Therapeutic Regimen Management: risk factors may include complexity of therapeutic regimen, economic difficulties, family patterns of health care, perceived seriousness/benefits (especially during remission), side effects of therapy.

tympanoplasty
Refer to *stapedectomy*.

typhus (tick-borne/Rocky Mountain spotted fever)
Hyperthermia may be related to generalized inflammatory process (vasculitis), possibly evidenced by increased body temperature, warm/flushed skin, and tachycardia.
acute Pain may be related to generalized vasculitis and edema formation, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
Tissue Perfusion, ineffective [specify] may be related to reduction/interruption of blood flow (generalized vasculitis/thrombi formation), possibly evidenced by reports of head-

ache/abdominal pain, changes in mentation, and areas of peripheral ulceration/necrosis.

ulcer, decubitus
impaired Skin/Tissue Integrity may be related to altered circulation, nutritional deficit, fluid imbalance, impaired physical mobility, irritation of body excretions/secretions, and sensory impairments, evidenced by tissue damage/destruction.
acute Pain may be related to destruction of protective skin layers and exposure of nerves, possibly evidenced by verbal reports, distraction behaviors, and self-focus.
risk for Infection: risk factors may include broken/traumatized tissue, increased environmental exposure, and nutritional deficits.

ulcer, peptic (acute)
Fluid Volume, deficient [isotonic] may be related to vascular losses (hemorrhage), possibly evidenced by hypotension, tachycardia, delayed capillary refill, changes in mentation, restlessness, concentrated/decreased urine, pallor, diaphoresis, and hemoconcentration.
Tissue Perfusion, risk for altered [specify]: risk factors may include hypovolemia.
Fear/Anxiety [specify level] may be related to change in health status and threat of death, possibly evidenced by increased tension, restlessness, irritability, fearfulness, trembling, tachycardia, diaphoresis, lack of eye contact, focus on self, verbalization of concerns, withdrawal, and panic or attack behavior.
acute Pain may be related to caustic irritation/destruction of gastric tissues, possibly evidenced by verbal reports, distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
deficient Knowledge [Learning Need] regarding condition, therapy/self-care needs, and potential complications may be related to lack of information/recall, misinterpretation, possibly evidenced by statements of concern, questions, misconceptions, inaccurate follow-through of instructions, and development of preventable complications/recurrence of condition.

unconsciousness (coma)
risk for Suffocation: risk factors may include cognitive impairment/loss of protective reflexes and purposeful movement.
risk for deficient Fluid Volume/imbalanced Nutrition: less than body requirements: risk factors may include inability to ingest food/fluids, increased needs/hypermetabolic state.
total Self-Care Deficit may be related to cognitive impairment and absence of purposeful activity, evidenced by inability to perform ADLs.
risk for ineffective cerebral Tissue Perfusion: risk factors may include reduced or interrupted arterial/venous blood flow (direct injury, edema formation, space-occupying lesions), metabolic alterations, effects of drug/alcohol overdose, hypoxia/anoxia.
risk for Infection: risk factors may include stasis of body fluids (oral, pulmonary, urinary), invasive procedures, and nutritional deficits.

urinary diversion
risk for impaired Skin Integrity: risk factors may include absence of sphincter at stoma, character/flow of urine from stoma, reaction to product/chemicals, and improperly fitting appliance or removal of adhesive.
disturbed Body Image related factors may include biophysical factors (presence of stoma, loss of control of urine flow) and psychosocial factors (altered body structure, disease process/associated treatment regimen, such as cancer), possibly evidenced by verbalization of change in body image, fear of rejection/reaction of others, negative feelings about body, not touching/looking at stoma, refusal to participate in care.
acute Pain may be related to physical factors (disruption of skin/tissues, presence of incisions/drains), biological factors (activity of disease process, such as cancer, trauma), and psychological factors (fear, anxiety), possibly evidenced by verbal reports, self-focusing, guarding/distraction behaviors, restlessness, and autonomic responses (changes in vital signs).
impaired Urinary Elimination may be related to surgical diversion, tissue trauma, and postoperative edema, possibly evidenced by loss of continence, changes in amount and character of urine, and urinary retention.

urolithiasis
Refer to *calculi, urinary*.

uterine bleeding, abnormal
Anxiety [specify level] may be related to perceived change in health status and unknown etiology, possibly evidenced by apprehension, uncertainty, fear of unspecified consequences, expressed concerns, and focus on self.
Activity Intolerance may be related to imbalance between oxygen supply and demand/decreased oxygen-carrying capacity of blood (anemia), possibly evidenced by reports of fatigue/weakness.

uterus, rupture of, in pregnancy
deficient Fluid Volume [isotonic] may be related to excessive vascular losses, possibly evidenced by hypotension, increased pulse rate, decreased venous filling, and decreased urine output.
decreased Cardiac Output may be related to decreased preload (hypovolemia), possibly evidenced by cold/clammy skin, decreased peripheral pulses, variations in hemodynamic readings, tachycardia, and cyanosis.
acute Pain may be related to tissue trauma and irritation of accumulating blood, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
Anxiety [specify level] may be related to threat of death of self/fetus, interpersonal contagion, physiological response (release of catecholamines), possibly evidenced by fearful/scared affect, sympathetic stimulation, stated fear of unspecified consequences, and expressed concerns.

vaginismus
acute Pain may be related to muscle spasm and hyperesthesia of the nerve supply to vaginal mucous membrane, possibly evidenced by verbal reports, distraction behaviors, and self-focus.
Sexual Dysfunction may be related to physical and/or psychological alteration in function (severe spasms of vaginal muscles), possibly evidenced by verbalization of problem, inability to achieve desired satisfaction, and alteration in relationship with significant other.

vaginitis
impaired Tissue Integrity may be related to irritation/inflammation and mechanical trauma (scratching) of sensitive tissues, possibly evidenced by damaged/destroyed tissue, presence of lesions.
acute Pain may be related to localized inflammation and tissue trauma, possibly evidenced by verbal reports, distraction behaviors, and self-focus.
deficient Knowledge [Learning Need] regarding hygienic/therapy needs and sexual behaviors/transmission of organisms may be related to lack of information/misinterpretation, possibly evidenced by statements of concern, questions, and misconceptions.

varices, esophageal
(also refer to *ulcer, peptic [acute]*)
deficient Fluid Volume [isotonic] may be related to excessive vascular loss, reduced intake, and gastric losses (vomiting), possibly evidenced by hypotension, tachycardia, decreased venous filling, and decreased/concentrated urine.
Anxiety [specify level]/Fear may be related to change in health status and threat of death, possibly evidenced by increased tension/apprehension, sympathetic stimulation, restlessness, focus on self, and expressed concerns.

varicose veins
chronic Pain may be related to venous insufficiency and stasis, possibly evidenced by verbal reports.
disturbed Body Image may be related to change in structure (presence of enlarged, discolored, tortuous superficial leg veins), possibly evidenced by hiding affected parts and negative feelings about body.
risk for impaired Skin/Tissue Integrity: risk factors may include altered circulation/venous stasis and edema formation.

venereal disease
Refer to *sexually transmitted disease [STD]*.

West Nile fever
Hyperthermia may be related to infectious process, possibly evidenced by elevated body temperature, skin flushed/warm to touch, tachycardia, increased respiratory rate.
acute Pain may be related to infectious process/circulating toxins, possibly evidenced by reports of headache, myalgia, eye pain, abdominal discomfort.

risk for deficient Fluid Volume: risk factors may include hypermetabolic state, decreased intake, anorexia, nausea, losses from normal routes (vomiting, diarrhea).
risk for impaired Skin Integrity: risk factors may include hyperthermia, decreased fluid intake, alterations in skin turgor, bedrest, circulating toxins.

Wilms' tumor
(also refer to *cancer*; *chemotherapy*)
Anxiety [specify level]/Fear may be related to change in environment and interaction patterns with family members and threat of death with family transmission and contagion of concerns, possibly evidenced by fearful/scared affect, distress, crying, insomnia, and sympathetic stimulation.
risk for Injury: risk factors may include nature of tumor (vascular, mushy with very thin covering) with increased danger of metastasis when manipulated.
interrupted Family Processes may be related to situational crisis of life-threatening illness, possibly evidenced by a family system that has difficulty meeting physical, emotional, and spiritual needs of its members, and inability to deal with traumatic experience effectively.
deficient Diversional Activity may be related to environmental lack of age-appropriate activity (including activity restrictions) and length of hospitalization/treatment, possibly evidenced by restlessness, crying, lethargy, and acting-out behavior.

wound, gunshot (depends on site and speed/character of bullet)
risk for deficient Fluid Volume: risk factors may include excessive vascular losses, altered intake/restrictions.
acute Pain may be related to destruction of tissue (including organ and musculoskeletal), surgical repair, and therapeutic interventions, possibly evidenced by verbal reports, guarding/distraction behaviors, self-focus, and autonomic responses (changes in vital signs).
Tissue Integrity, impaired may be related to mechanical factors (yaw of projectile and muzzle blast), possibly evidenced by damaged or destroyed tissue.
risk for Infection: risk factors may include tissue destruction and increased environmental exposure, invasive procedures, and decreased hemoglobin.
Post-Trauma Syndrome, risk for: risk factors may include nature of incident (catastrophic accident, assault, suicide attempt) and possibly injury/death of other(s) involved.

Note: Information appearing in brackets has been added to clarify and facilitate the use of nursing diagnoses.

Appendix N4–5 Nursing Diagnoses Through 2007–2008 in Alphabetical Order

Information appearing in brackets has been added by the authors to clarify and facilitate the use of nursing diagnoses.

A "RISK FOR" diagnosis is *not* evidenced by signs and symptoms, because the problem has not yet occurred, and nursing interventions are directed at prevention. Therefore, *risk* factors that are present are noted instead.

New nursing diagnoses for 2007–2008 appear in Appendix N4–3.

ACTIVITY INTOLERANCE [SPECIFY LEVEL]

Diagnostic Division: Activity / Rest

Definition: Insufficient physiological or psychological energy to endure or complete required or desired daily activities.

RELATED FACTORS
Generalized weakness; Sedentary lifestyle; Bedrest; Immobility; Imbalance between oxygen supply and demand; [Anemia]; [Cognitive deficits, extreme stress; depression]; [Pain, dysrhythmias, vertigo]

DEFINING CHARACTERISTICS

Subjective
Report of fatigue or weakness; Exertional discomfort or dyspnea; [Verbalizes no desire and/or lack of interest in activity]

Objective
Abnormal heart rate or blood pressure response to activity; Electrocardiographic changes reflecting dysrhythmias or ischemia; [Pallor, cyanosis]

ACTIVITY INTOLERANCE, RISK FOR

Diagnostic Division: Activity/Rest

Definition: At risk of experiencing insufficient physiologic or psychologic energy to endure or complete required or desired daily activities.

RISK FACTORS
History of previous intolerance; Presence of circulatory/respiratory problems; [Dysrhythmias]; Deconditioned status; [Aging]; Inexperience with the activity; [Diagnosis of progressive disease state/debilitating condition, anemia, extensive surgical procedures]; [Verbalized reluctance/inability to perform expected activity]

AIRWAY CLEARANCE, INEFFECTIVE

Diagnostic Division: Respiration

Definition: Inability to clear secretions or obstructions from the respiratory tract to maintain a clear airway.

RELATED FACTORS
Environmental
Smoking; Secondhand smoke; Smoke inhalation

Obstructed Airway
Retained secretions; Secretions in the bronchi; Exudate in the alveoli; Excessive mucus; Airway spasm; Foreign body in airway; Presence of artificial airway

Physiological
Chronic obstructive pulmonary disease (COPD); Asthma; Allergic airways; Hyperplasia of the bronchial walls; Neuromuscular dysfunction; Infection

DEFINING CHARACTERISTICS

Subjective
Dyspnea

Objective
Diminished/adventitious breath sounds [rales, crackles, rhonchi, wheezes]; Cough, ineffective/absent; Excessive sputum; Changes in respiratory rate and rhythm; Difficulty vocalizing; Wide-eyed; Restlessness; Orthopnea; Cyanosis

ALLERGY RESPONSE, LATEX

Diagnostic Division: Safety

Definition: An allergic response to natural latex rubber products.

RELATED FACTORS
Hypersensitivity to natural latex rubber protein

DEFINING CHARACTERISTICS

Subjective
Life-threatening reactions occurring <1 hour after exposure to latex proteins
Tightness in chest; [Feeling breathless]

Gastrointestinal characteristics
Abdominal pain; Nausea

Orofacial characteristics
Itching of the eyes; Nasal/facial/oral itching; Nasal congestion

Generalized characteristics
Generalized discomfort; Increasing complaint of total body warmth

Type IV reactions occurring >1 hour after exposure to latex proteins
Discomfort reaction to additives such as thiurams and carbamates

Objective
Life-threatening reactions occurring <1 hour after exposure to latex proteins
Contact urticaria progressing to generalized symptoms; Edema of the lips/tongue/uvula/throat; Dyspnea; Wheezing; Bronchospasm; Respiratory arrest; Hypotension; Syncope; Cardiac arrest

Orofacial characteristics
Edema of sclera/eyelids; Erythema/tearing of the eyes; Nasal/facial erythema; Rhinorrhea

Generalized Characteristics
Flushing; Generalized edema; Restlessness

Type IV reactions occurring >1 hour after exposure to latex proteins
Eczema; Irritation; Redness

ALLERGY RESPONSE, RISK FOR LATEX

Diagnostic Division: Safety

Definition: Risk of hypersensitivity to natural latex rubber products.

RISK FACTORS
History of reactions to latex; Allergies to bananas, avocados, tropical fruits, kiwi, chestnuts, poinsettia plants; History of allergies and asthma; Professions with daily exposure to latex; Multiple surgical procedures, especially from infancy

ANXIETY [MILD, MODERATE, SEVERE, PANIC]

Diagnostic Division: Ego Integrity

Definition: Vague uneasy feeling of discomfort or dread accompanied by an autonomic response (the source often nonspecific or unknown to the individual); a feeling of apprehension caused by anticipation of danger. It is an altering signal that warns of impending danger and enables the individual to take measures to deal with threat.

RELATED FACTORS
Unconscious conflict about essential [beliefs]/goals/values of life; Situational/maturational crises; Stress; Familial association/heredity; Interpersonal transmission/contagion; Threat to self-concept [perceived or actual]; [Unconscious conflict]; Threat of death [perceived or actual]; Threat to or change in health status [progressive/debilitating disease, terminal illness], interaction patterns, role function/status, environment [safety], economic status; Unmet needs; Exposure to toxins; Substance abuse; [Positive or negative self-talk]; [Physiological factors, e.g., hyperthyroidism, pheochromocytoma, drug therapy including steroids]

DEFINING CHARACTERISTICS

Subjective
Behavioral
Expressed concerns due to change in life events; Insomnia

Affective
Regretful; Scared; Rattled; Distressed; Apprehensive; Uncertainty; Fearful; Feelings of inadequacy; Jittery; Worried; Painful/persistent increased helplessness; [Sense of impending doom]; [Hopelessness]

Cognitive
Fear of unspecific consequences; awareness of physiologic symptoms

Physiological
Shakiness
Sympathetic: Dry mouth; Heart pounding; Weakness; Respiratory difficulties; Anorexia; Diarrhea
Parasympathetic: Tingling in extremities; Nausea; Abdominal pain; Diarrhea; Urinary hesitancy/frequency; Faintness; Fatigue; Sleep disturbance; [Chest, back, neck pain]

Objective
Behavioral
Poor eye contact; Glancing about; Scanning; Vigilance; Extraneous movement [e.g., foot shuffling, hand/arm movements, rocking motion]; Fidgeting; Restlessness; Diminished productivity; [Crying/tearfulness]; [Pacing/purposeless activity]; [Immobility]

Affective
Increased wariness; Focus on self; Irritability; Overexcited; Anguish

Physiological
Voice quivering; Trembling/hand tremor; Increased tension; Facial tension; Increased perspiration
Sympathetic: Cardiovascular excitation; Facial flushing; Superficial vasoconstriction; Increased pulse/respiration; Increased blood pressure; Twitching; Pupil dilation; Increased reflexes
Parasympathetic: Urinary urgency; Decreased blood pressure/pulse

Cognitive
Preoccupation; Impaired attention; Difficulty concentrating; Forgetfulness; Diminished ability to problem-solve; Diminished learning ability; Rumination; Tendency to blame others; Blocking of thought; Confusion; Decreased perceptual field

ANXIETY, DEATH

Diagnostic Division: Ego Integrity

Definition: Vague uneasy feeling of discomfort or dread generated by perceptions of a real or imagined threat to one's existence.

RELATED FACTORS
Anticipating: pain/suffering/adverse consequences of general anesthesia/impact of death on others; Confronting reality of terminal disease; Experiencing dying process; Perceived proximity of death; Discussions on topic of death; Observations related to death; Near death experience; Uncertainty of prognosis; Nonacceptance of own mortality; Uncertainty about: the existence of a higher power/life after death/an encounter with a higher power

DEFINING CHARACTERISTICS

Subjective
Fear of: developing a terminal illness/the process of dying/prolonged dying/loss of mental [/physical] abilities when dying/pain or suffering relating to dying/premature death
Negative thoughts related to death and dying; Feeling powerlessness over dying; Worrying about: The impact of one's own death on significant others; [about meeting one's creator or feeling doubt about the existence of God or highr being]; Concerns of overworking the caregiver

ASPIRATION, RISK FOR

Diagnostic Division: Respiration

Definition: At risk for entry of gastrointestinal secretions, oropharyngeal sections, [or exogenous food] or solids or fluids into tracheobronchial passages [due to dysfunction or absence of normal protective mechanisms].

RISK FACTORS
Reduced level of consciousness [sedation/anesthesia]; Depressed cough/gag reflexes; Impaired swallowing [inability of the epiglottis and true vocal cords to close off traches]; Facial/oral/neck surgery or trauma; Wired jaws; [Congenital malformations]; Situation hindering elevation of upper body [weakness, paralysis]; Incomplete lower esophageal sphincter [hiatal hernia or other esophageal disease affecting stomach valve function]; Delayed gastric emptying; Decreased gastrointestinal motility; Increased intragastric pressure; Increased gastric residual; Presence of tracheostomy or endotracheal (ET) tube; [Inadequate or overinflation of tracheostomy/ET tube cuff]; [Presence of] gastrointestinal tubes; Tube feedings/medication administration

ATTACHMENT, RISK FOR IMPAIRED PARENT/INFANT/CHILD

Diagnostic Division: Social Interaction

Definition: Disruption of the interactive process between parent/significant other and child/infant that fosters the development of a protective and nurturing reciprocal relationship.

RISK FACTORS
Inability of parents to meet personal needs; Anxiety associated with the parent role; [Parents who themselves experienced altered attachment]; Premature infant/ill infant/child who is unable to effectively initiate parental contact due to altered behavioral organization; Separation; Physical barriers; Lack of privacy; Substance abuse; [Difficult pregnancy and/or birth (actual or perceived)]; [Uncertainty of paternity; conception as a result of rape/sexual abuse]

AUTONOMIC DYSREFLEXIA

Diagnostic Division: Circulation

Definition: Life-threatening, uninhibited sympathetic response of the nervous system to a noxious stimulus after a spinal cord injury (SCI) at T7 or above.

RELATED FACTORS
Bladder/bowel distention; [Catheter insertion, obstruction, irrigation]; Skin irritation; Deficient patient/caregiver knowledge; [Sexual excitation, menstruation, pregnancy, labor/delivery]; [Environmental temperature extremes]

DEFINING CHARACTERISTICS

Subjective
Headache (a diffuse pain in different portions of the head and not confined to any nerve distribution area); Paresthesia; Chilling; Blurred vision; Chest pain; Metallic taste in mouth; Nasal congestion

Objective
Paroxysmal hypertension (sudden periodic elevated blood pressure in which systolic pressure >140 mm Hg and diastolic >90 mm Hg); Bradycardia or tachycardia (heart rate <60 or >100 beats per minute, respectively); Diaphoresis (above the injury); Red splotches on skin (above the injury); Pallor (below the injury); Horner's syndrome [contraction of the pupil, partial ptosis of the eyelid, enophthalmos and sometimes loss of sweating over the affected side of the face]; Conjunctival congestion; Pilomotor reflex [gooseflesh formation when skin is cooled]

AUTONOMIC DYSREFLEXIA, RISK FOR

Diagnostic Division: Circulation

Definition: At risk for life-threatening, uninhibited response of the sympathetic nervous system postspinal shock, in an individual with a spinal cord injury [SCI] or lesion at T6 or above (has been demonstrated in clients with injuries at T7 and T8).

RISK FACTORS
Musculoskeletal—Integumentary Stimuli
Cutaneous stimulations (e.g., pressure ulcer, ingrown toenail, dressing, burns, rash); Sunburns; Wounds; Pressure over bony prominences/genitalia; Range of motion exercises; Spasms; Fractures; Heterotrophic bone

Gastrointestinal Stimuli
Constipation; Difficult passage of feces; Fecal impaction; Bowel distention; Hemorrhoids; Digital stimulation; Suppositories; Enemas; Gastrointestinal system pathology; Esophageal reflux; Gastric ulcers; Gallstones

Urologic Stimuli
Bladder distention/spasm; Detrusor sphincter dyssynergia; Instrumentation; Surgery; Urinary tract infection; Cystitis; Urethritis; Epididymitis; Calculi

Regulatory Stimuli
Temperature fluctuations; Extreme environmental temperatures

Situational Stimuli
Positioning; Surgical [/diagnostic] procedure; Constrictive clothing (e.g., straps, stockings, shoes); Drug reactions (e.g., decongestants, sympathomimetics, vasoconstrictors, narcotic withdrawal)

Neurological Stimuli
Painful/irritating stimuli below the level of injury; Cardiac/pulmonary Problems: Pulmonary emboli; Deep vein thrombosis

Reproductive [and Sexuality] Stimuli
Sexual intercourse; Ejaculation; [Vibrator overstimulation; Scrotal compression]; Menstruation; Pregnancy; Labor and delivery; Ovarian cyst

BEHAVIOR, RISK-PRONE HEALTH

Diagnostic Division: Ego Integrity

Definition: Inability to modify lifestyle/behaviors in a manner consistent with a change in health status.

RELATED FACTORS
Inadequate comprehension; Low self-efficacy; Multiple stressors; Inadequate social support; Low socioeconomic status; Negative attitudes toward health care

DEFINING CHARACTERISTICS

Subjective
Minimizes health status change; Failure to achieve optimal sense of control

Objective
Failure to take actions that prevents health problems; Demonstrates nonacceptance of health status change

BODY IMAGE, DISTURBED

Diagnostic Division: Ego Integrity

Definition: Confusion [and/or dissatisfaction] in mental picture of one's physical self.

RELATED FACTORS
Biophysical; Illness; Trauma; Injury; Surgery; [Mutilation, pregnancy]; Illness treatment [change caused by biochemical agents (drugs), dependence on machine]; Psychosocial; Cultural; Spiritual; Cognitive; Perceptual; Developmental changes; [Maturational changes]; [Significance of body part or functioning with regard to age, sex, developmental level, or basic human needs]

DEFINING CHARACTERISTICS

Subjective
Verbalization of feelings that reflect an altered view of one's body (e.g., appearance, structure, function); Verbalization of perceptions that reflect an altered view of one's body in appearance; Change in lifestyle; Fear of rejection/ reaction by others; Focus on past strength/function/appearance; Negative feelings about body (e.g., feelings of helplessness, hopelessness, or powerlessness); [Depersonalization/grandiosity]; Preoccupation with change/loss; Refusal to verify actual change; Emphasis on remaining strengths; Heightened achievement; Personalization of part/loss by name; Depersonalization of part or loss by impersonal pronouns

Objective
Behaviors of: acknowledgment/monitoring/avoidance of one's body; Nonverbal response to actual/perceived change in body (e.g., appearance, structure, function); Missing body part; Actual change in structure/function; Not looking at/not touching body part; Trauma to nonfunctioning part; Change in ability to estimate spatial relationship of body to environment; Extension of body boundary to incorporate environmental objects; Intentional/unintentional) hiding/ overexposing body part; Change in social involvement; [Aggression; low frustration tolerance level]

BODY TEMPERATURE, RISK FOR IMBALANCED

Diagnostic Division: Safety

Definition: At risk for failure to maintain body temperature within normal range.

RISK FACTORS
Extremes of age/weight; Exposure to cold/cool or warm/hot environments; Inappropriate clothing for environmental temperature; Dehydration; Inactivity; Vigorous activity; Medications causing vasoconstriction/vasodilation/sedation; [Use or overdose of certain drugs or exposure to anesthesia]; Illness/trauma affecting temperature regulation [e.g., infections, systemic or localized; neoplasms, tumors; collagen/vascular disease]; Altered metabolic rate

BOWEL INCONTINENCE

Diagnostic Division: Elimination

Definition: Change in normal bowel habits characterized by involuntary passage of stool.

RELATED FACTORS

Toileting self-care deficit; Environmental factors (e.g., inaccessible bathroom); Impaired cognition; Immobility; Dietary habits; Medications; Laxative abuse; Stress; Colorectal lesions; Impaired reservoir capacity; Incomplete emptying of bowel; Impaction; Chronic diarrhea; General decline in muscle tone; Abnormally high abdominal/intestinal pressure; Rectal sphincter abnormality; Loss of rectal sphincter control; Lower/upper motor nerve damage

DEFINING CHARACTERISTICS

Subjective

Recognizes rectal fullness but reports inability to expel formed stool; Urgency; Inability to delay defecation; Self-report of inability to feel rectal fullness

Objective

Constant dribbling of soft stool; Fecal staining of clothing/bedding; Fecal odor; Red perianal skin; Inability to recognize/inattention to urge to defecate

BREASTFEEDING, EFFECTIVE

Diagnostic Division: Food/Fluid

Definition: Mother-infant dyad/family exhibits adequate proficiency and satisfaction with breastfeeding process.

RELATED FACTORS

Basic breastfeeding knowledge; Normal [maternal] breast structure; Normal infant oral structure; Infant gestational age greater than 34 weeks; Support sources [available]; Maternal confidence

DEFINING CHARACTERISTICS

Subjective

Maternal verbalization of satisfaction with the breastfeeding process

Objective

Mother able to position infant at breast to promote a successful latch-on response; Infant is content after feedings; Regular and sustained sucking at the breast (8 to 10 times/24 hours); Appropriate infant weight patterns for age; Effective mother/infant communication pattern (infant cues, maternal interpretation and response); Signs and/or symptoms of oxytocin release (let-down or milk ejection reflex); Adequate infant elimination patterns for age; [soft stools; more than 6 wet diapers per day of unconcentrated urine]; Eagerness of infant to nurse [breastfeed]

BREASTFEEDING, INEFFECTIVE

Diagnostic Division: Food/Fluid

Definition: Dissatisfaction or difficulty a mother, infant, or child experiences with the breastfeeding process.

RELATED FACTORS

Prematurity; Infant anomaly; Poor infant sucking reflex; Infant receiving [numerous or repeated] supplemental feedings with artificial nipple; Maternal anxiety/ambivalence; Knowledge deficit; Previous history of breastfeeding failure; Interruption in breastfeeding; Nonsupportive partner/family; Maternal breast anomaly; Previous breast surgery; [Maternal physical discomfort during feeding]

DEFINING CHARACTERISTICS

Subjective

Unsatisfactory breastfeeding process; Persistence of sore nipples beyond the first week of breastfeeding; Insufficient emptying of each breast per feeding; Inadequate/perceived inadequate milk supply

Objective
Observable signs of inadequate infant intake [decrease in number of wet diapers, inappropriate weight loss/inadequate gain]; Nonsustained/insufficient opportunity for suckling at the breast; Infant inability [failure] to latch onto maternal breast correctly; Infant arching/crying at the breast; Resistant latching on; Infant exhibiting fussiness/crying within the first hour after breastfeeding; Unresponsive to other comfort measures; No observable signs of oxytocin release

BREASTFEEDING, INTERRUPTED

Diagnostic Division: Food / Fluid

Definition: Break in the continuity of the breastfeeding process as a result of inability or inadvisability to put a baby to breast for feeding.

RELATED FACTORS
Maternal/infant illness; Prematurity; Maternal employment; Contraindications to breastfeeding [e.g., drugs, true breast milk jaundice]; Need to abruptly wean infant

DEFINING CHARACTERISTICS

Subjective
Infant receives no nourishment at the breast for some or all of feedings; Maternal desire to maintain breastfeeding for infant/child's nutritional needs; Lack of knowledge regarding expression/storage of breast milk

Objective
Separation of mother and infant

BREATHING PATTERN, INEFFECTIVE

Diagnostic Division: Respiration

Definition: Inspiration and/or expiration that does not provide adequate ventilation.

RELATED FACTORS
Neuromuscular dysfunction; Spinal cord injury; Neurological immaturity; Musculoskeletal impairment; Bony/chest wall deformity; Anxiety [/panic attack]; Pain; Perception/cognitive impairment; Fatigue; [Deconditioning]; Respiratory muscle fatigue; Body position; Obesity; Hyperventilation; Hypoventilation syndrome; [alteration of patient's normal O_2 : CO_2 ratio (e.g., O_2 therapy in COPD)]

DEFINING CHARACTERISTICS

Subjective
[Feeling breathless]

Objective
Dyspnea; Orthopnea; Bradypnea; Tachypnea; Alterations in depth of breathing; Timing ratio; Prolonged expiration phases; Pursed-lip breathing; Decreased minute ventilation/vital capacity; Decreased inspiratory/expiratory pressure; Use of accessory muscles to breathe; Assumption of three-point position; Altered chest excursion, [paradoxical breathing patterns]; Nasal flaring; [Grunting]; Increased anterior-posterior diameter

CARDIAC OUTPUT, DECREASED

Diagnostic Division: Circulation

Definition: Inadequate blood pumped by the heart to meet the metabolic demands of the body.

NOTE: In a hypermetabolic state, although cardiac output may be within normal range, it may still be inadequate to meet the needs of the body's tissues. Cardiac output and tissue perfusion are interrelated, although there are differences. When cardiac output is decreased, tissue perfusion problems will develop; however, tissue perfusion problems can exist without decreased cardiac output.

RELATED FACTORS
Altered heart rate/rhythm [conduction]; Altered stroke volume: Altered preload [e.g., decreased venous return]; Altered afterload [e.g., altered systemic vascular resistance]; Altered contractility [e.g., ventricular-septal rupture, ventricular aneurysm, papillary muscle rupture, valvular disease]

DEFINING CHARACTERISTICS

Subjective
Altered Heart Rate/Rhythm
Palpitations

Altered Preload
Fatigue

Altered Afterload
[Feeling breathless]

Altered Contractility
Orthopnea/paroxysmal nocturnal dyspnea [PND]

Behavioral/Emotional
Anxiety

Objective
Altered Heart Rate/Rhythm
[Dys]arrhythmias (tachycardia, bradycardia); EKG [ECG] changes

Altered Preload
Jugular vein distention (JVD); Edema; Weight gain; Increased/decreased central venous pressure (CVP); Increased/decreased pulmonary artery wedge pressure (PAWP); Murmurs

Altered Afterload
Dyspnea; Clammy skin; Skin [and mucous membrane] color changes [cyanosis, pallor]; Prolonged capillary refill; Decreased peripheral pulses; Variations in blood pressure readings; Increased/decreased systemic vascular resistance (SVR); Increased/decreased pulmonary vascular resistance (PVR); Oliguria; [Anuria]

Altered Contractility
Crackles; Cough; Decreased cardiac output/cardiac index; Decreased ejection fraction; Decreased stroke volume index (SVI)/left ventricular stroke work index (LVSWI); S3 or S4 sounds [gallop rhythm]

Behavioral/Emotional
Restlessness

CAREGIVER ROLE STRAIN

Diagnostic Division: Social Interaction

Definition: Difficulty in performing the family caregiver role.

RELATED FACTORS
Care Receiver Health Status
Illness severity/chronicity; Unpredictability of illness course; Instability of care receiver's health; Increasing care needs; Dependency; Problem behaviors; Psychological or cognitive problems; Addiction; Codependency

Caregiving Activities
Discharge of family member to home with significant care needs [e.g., premature birth/congenital defect, frail elder poststroke]; Unpredictability of care situation; 24-hour care responsibilities; Amount/complexity of activities; Ongoing changes in activities; Years of caregiving

Caregiver Health Status
Physical problems; Psychological/cognitive problems; Inability to fulfill one's own/others' expectations; Unrealistic expectations of self; Marginal coping patterns; Addiction; Codependency

Socioeconomic
Competing role commitments; Alienation/isolation from others; Insufficient recreation

Caregiver–Care Receiver Relationship
Unrealistic expectations of caregiver by care receiver; History of poor relationship; Mental status of elder inhibits conversation; Presence of abuse/violence

Family Processes
History of marginal family coping/family dysfunction

Resources
Inadequate physical environment for providing care (e.g., housing, temperature, safety); Inadequate equipment for providing care; Inadequate transportation; Insufficient finances; Inexperience with caregiving; Insufficient time; Physical energy; Emotional strength; Lack of support; Lack of caregiver privacy; Deficient knowledge about community resources; Difficulty accessing community resources; Inadequate community services (e.g., respite services, recreational resources); Formal/informal assistance; Formal/informal support; Caregiver is not developmentally ready for caregiver role

DEFINING CHARACTERISTICS

Subjective
Caregiving Activities
Apprehension about: Possible institutionalization of care receiver; The future regarding care receiver's health/ caregiver's ability to provide care; Care receiver's care if caregiver unable to provide care

Caregiver Health Status—physical
GI upset; Weight change; Fatigue; Headaches; Rash; Hypertension; Cardiovascular disease; Diabetes

Caregiver Health Status—emotional
Feeling depressed; Anger; Stress; Frustration; Increased nervousness; Disturbed sleep; Lack of time to meet personal needs

Caregiver Health Status—socioeconomic
Changes in leisure activities; Refuses career advancement

Caregiver–Care Receiver Relationship
Difficulty watching care receiver go through the illness; Grief/uncertainty regarding changed relationship with care receiver

Family Processes
Concern about family members

Objective
Caregiving Activities
Difficulty performing/completing required tasks; Preoccupation with care routine; Dysfunctional change in caregiving activities

Caregiver Health Status—emotional
Impatience; Increased emotional lability; Somatization; Impaired individual coping

Caregiver Health status—socioeconomic
Low work productivity; Withdraws from social life

Family Processes
Family conflict

NOTE: [Authors' note: The presence of this problem may encompass other numerous problems/high-risk concerns such as deficient Diversional Activity, Insomnia, Fatigue, Anxiety, ineffective Coping, compromised/disabled family Coping, decisional Conflict, ineffective Denial, Grieving, Hopelessness, Powerlessness, Spiritual Distress, ineffective Health Maintenance, impaired Home Maintenance, ineffective Sexuality Pattern, readiness for enhanced family Coping, interrupted Family Processes, Social Isolation. Careful attention to data gathering will identify and clarify the client's specific needs, which can then be coordinated under this single diagnostic label]

CAREGIVER ROLE STRAIN, RISK FOR

Diagnostic Division: Social Interaction

Definition: Caregiver is vulnerable for felt difficulty in performing the family caregiver role.

RISK FACTORS
Illness severity of the care receiver; Psychological/cognitive problems in care receiver; Addiction; Codependency; Discharge of family member with significant home-care needs; Premature birth; Congenital defect; Unpredictable illness course; Instability in the care receiver's health; Duration of caregiving required; Inexperience with caregiving; Complexity/amount of caregiving tasks; Caregiver's competing role commitments; Caregiver health impairment; Caregiver is female/spouse; Caregiver not developmentally ready for caregiver role [e.g., a young adult needing to provide care for middle-aged parent]; Developmental delay/retardation of the care receiver/caregiver; Presence of situational stressors that normally affect families (e.g., significant loss,

disaster or crisis, economic vulnerability, major life events [such as birth, hospitalization, leaving home, returning home, marriage, divorce, change in employment, retirement, death]); Inadequate physical environment for providing care (e.g., housing, transportation, community services, equipment); Family/caregiver isolation; Lack of respite/recreation for caregiver; Marginal family adaptation; Family dysfunction prior to the caregiving situation; Marginal caregiver's coping patterns; Past history of poor relationship between caregiver and care receiver; Care receiver exhibits deviant/bizarre behavior; Presence of abuse/violence

COMFORT, READINESS FOR ENHANCED

Diagnostic Division: Pain / Discomfort

Definition: A pattern of ease, relief, and transcendence in physical, psychospiritual, environmental, and/or social dimensions that can be strengthened.

DEFINING CHARACTERISTICS

Subjective
Expresses desire to enhance: comfort/feeling of contentment; Relaxation; Resolution of complaints

Objective
[Appears relaxed/calm]; [Participates in comfort measures of choice]

COMMUNICATION, IMPAIRED VERBAL

Diagnostic Division: Social Interaction

Definition: Decreased, delayed, or absent ability to receive, process, transmit, and use a system of symbols.

RELATED FACTORS

Decrease in circulation to brain; Brain tumor; Anatomic deficit (e.g., cleft palate, alteration of the neurovascular visual system, auditory system, or phonatory apparatus); Difference related to developmental age; Physical barrier (tracheostomy, intubation); Physiological conditions [e.g., dyspnea]; Alteration of central nervous system (CNS); Weakening of the musculoskeletal system; Psychological barriers (e.g., psychosis, lack of stimuli); Emotional conditions [depression, panic, anger]; Stress; Environmental barriers; Cultural difference; Lack of information; Side effects of medication; Alteration of self-esteem/self-concept; Altered perceptions; Absence of Significant others

DEFINING CHARACTERISTICS

Subjective
[Reports of difficulty expressing self]

Objective
Inability to speak dominant language; Speaks/verbalizes with difficulty; Stuttering; Slurring; Does not/cannot speak; Willful refusal to speak; Difficulty forming words/sentences (e.g., phonia, dyslalia, dysarthria); Difficulty expressing thoughts verbally (e.g., aphasia, dysphasia, apraxia, dyslexia); Inappropriate verbalization, [incessant, loose association of ideas, flight of ideas]; Difficulty in comprehending/maintaining usual communicating pattern; Absence of eye contact; Difficulty in selective attending; Partial/total visual deficit; Inability/difficulty in use of facial/body expressions; Disorientation to person/space/time; Dyspnea; [Inability to modulate speech]; [Message inappropriate to content]; [Use of nonverbal cues (e.g., pleading eyes, gestures, turning away)]; [Frustration; Anger; Hostility]

COMMUNICATION, READINESS FOR ENHANCED

Diagnostic Division: Social Interaction

Definition: A pattern of exchanging information and ideas with others that is sufficient for meeting one's needs and life's goals and can be strengthened.

DEFINING CHARACTERISTICS

Subjective
Expresses willingness to enhance communication; Expresses thoughts/feelings; Expresses satisfaction with ability to share information/ideas with others

Objective
Able to speak or write a language; Forms words, phrases, and language; Uses and interprets nonverbal cues appropriately

CONFLICT, DECISIONAL (SPECIFY)

Diagnostic Division: Ego Integrity

Definition: Uncertainty about course of action to be taken when choice among competing actions involves risk, loss, or challenge to values and beliefs.

RELATED FACTORS
Unclear personal values/beliefs; Perceived threat to value system; Lack of experience/ interference with decision making; Lack of relevant information; Multiple/divergent sources of information; Moral obligations require performing/not performing actions; Moral principles/rules/values support mutually inconsistent courses of action; Support system deficit; [Age, developmental state]; [Family system; Sociocultural factors]; [Cognitive/ emotional/behavioral level of functioning]

DEFINING CHARACTERISTICS

Subjective
Verbalizes: Uncertainty about choices; Undesired consequences of alternative actions being considered; Feeling of distress while attempting a decision; Questioning moral principles/rules/values or personal values/beliefs while attempting a decision

Objective
Vacillation between alternative choices; Delayed decision making; Self-focusing; Physical signs of distress or tension (increased heart rate; increased muscle tension; restlessness; etc.)

CONFLICT, PARENTAL ROLE

Diagnostic Division: Social Interaction

Definition: Parent experience of role confusion and conflict in response to crisis.

RELATED FACTORS
Separation from child due to chronic illness [/disability]; Intimidation with invasive modalities (e.g., intubation)/restrictive modalities (e.g., isolation); Specialized care centers; Home care of a child with special needs [e.g., apnea monitoring, hyperalimentation]; Change in marital status; [Conflicts of the role of the single parent]; Interruptions of family life due to home care regimen (e.g., treatments, caregivers, lack of respite)

DEFINING CHARACTERISTICS

Subjective
Parent(s) express(es) concerns/feeling of inadequacy to provide for child's needs (e.g., physical and emotional); Parent(s) express(es) concerns about changes in parental role; Parent(s) express(es) concern about family (e.g., functioning, communication, health); Express(es) concern about perceived loss of control over decisions relating to their child; Verbalize(s) feelings of frustration/ guilt; Anxiety; Fear; [Verbalizes concern about role conflict of wanting to date while having responsibility of child care]

Objective
Demonstrates disruption in caretaking routines; Reluctant to participate in usual caretaking activities even with encouragement and support

CONFUSION, ACUTE

Diagnostic Division: Neurosensory

Definition: Abrupt onset of reversible disturbances of consciousness, attention, cognition, and perception that develop over a short period of time

RELATED FACTORS
Alcohol abuse; Drug abuse; [Medication reaction/interaction; Anesthesia/surgery; Metabolic imbalances]; Fluctuation in sleep-wake cycle; Over 60 years of age; Delirium [including febrile epilepticum—following or instead of an epileptic attack; toxic and traumatic]; Dementia; [Exacerbation of a chronic illness, hypoxemia]; [Severe pain]

NOTE: Although no time frame is presented to aid in differentiating acute from chronic confusion, the definition of chronic confusion identifies an irreversible state. Therefore, our belief is that acute confusion is potentially reversible.

DEFINING CHARACTERISTICS

Subjective
Hallucinations [Visual/auditory]; [Exaggerated emotional responses]

Objective
Fluctuation in cognition/level of consciousness; Fluctuation in psychomotor activity [tremors, body movement]; Increased agitation/restlessness; Misperceptions; [Inappropriate responses]; Lack of motivation to initiate/follow through with goal-directed/purposeful behavior

CONFUSION, CHRONIC

Diagnostic Division: Neurosensory

Definition: Irreversible, long-standing, and/or progressive deterioration of intellect and personality characterized by decreased ability to interpret environmental stimuli; decreased capacity for intellectual thought processes; and manifested by disturbances of memory, orientation, and behavior.

RELATED FACTORS
Alzheimer's disease [dementia of Alzheimer's type]; Korsakoff's psychosis; Multi-infarct dementia; Cerebrovascular attack; Head injury

DEFINING CHARACTERISTICS
Objective
Clinical evidence of organic impairment; Altered interpretation/response to stimuli; Progressive/long-standing cognitive impairment; No change in level of consciousness; Impaired socialization; Impaired short-term/long-term memory; Altered personality

CONFUSION, RISK FOR ACUTE

Diagnostic Division: Neurosensory

Definition: At risk for reversible disturbances of consciousness, attention, cognition, and perception that develop over a short period of time.

RISK FACTORS
Alcohol abuse; Substance abuse; Medication/Drugs: anesthesia; Anticholinergics, diphenhydramine, opioids, psychoactive drugs, multiple medications; Metabolic abnormalities: decreased hemoglobin, electrolyte imbalances, dehydration, increased BUN/creatinine, azotemia, malnutrition; Infection; Urinary retention; Pain; Fluctuation in sleep-wake cycle; Decreased mobility; Decreased restraints; History of stroke; Impaired cognition; Dementia; Sensory deprivation; Over 60 years of age; Male gender

CONSTIPATION

Diagnostic Division: Elimination

Definition: Decrease in normal frequency of defecation accompanied by difficult or incomplete passage of stool and/or passage of excessively hard, dry stool.

RELATED FACTORS
Functional
Irregular defecation habits; Inadequate toileting (e.g., timeliness, positioning for defecation, privacy); Insufficient physical activity; Abdominal muscle weakness; Recent environmental changes; Habitual denial/ignoring of urge to defecate

Psychological
Emotional stress; Depression; Mental confusion

Pharmacological
Antilipemic agents; Laxative overdose; Calcium carbonate; Aluminum-containing antacids; Nonsteroidal anti-inflammatory agents; Opiates; Anticholinergics; Diuretics; Iron salts; Phenothiazides; Sedatives; Bismuth salts; Sympathomimetics; Anticonvulsants; Antidepressants; Calcium channel blockers

Mechanical
Hemorrhoids; Pregnancy; Obesity; Rectal abscess/ulcer/prolapse; Rectal anal fissures/strictures; Rectocele; Prostate enlargement; Postsurgical obstruction; Neurological impairment; Hirschsprung's disease; Tumors; Electrolyte imbalance

Physiological
Poor eating habits; Change in usual foods/eating patterns; Insufficient fiber/fluid intake; Dehydration; Inadequate dentition/oral hygiene; Decreased motility of gastrointestinal tract

DEFINING CHARACTERISTICS

Subjective
Change in bowel pattern; Unable to pass stool; Decreased volume/frequency of stool; Increased abdominal pressure; Feeling of rectal fullness/pressure; Abdominal pain; Pain with defecation; Nausea; Vomiting; Headache; Indigestion; Generalized fatigue

Objective
Hard, formed stool; Straining with defecation; Hypoactive/ hyperactive bowel sounds; Borborygmi; Distended abdomen; Abdominal tenderness with/without palpable muscle resistance; Palpable abdominal/rectal mass; Percussed abdominal dullness; Presence of soft pastelike stool in rectum; Oozing liquid stool; Bright red blood with stool; Severe flatus; Anorexia; Atypical presentations in older adults (e.g., change in mental status, urinary incontinence, unexplained falls, elevated body temperature)

CONSTIPATION, PERCEIVED

Diagnostic Division: Elimination

Definition: Self-diagnosis of constipation and abuse of laxatives, enemas, and suppositories to ensure a daily bowel movement.

RELATED FACTORS
Cultural/family health beliefs; Faulty appraisal [long-term expectations/habits]; Impaired thought processes

DEFINING CHARACTERISTICS

Subjective
Expectation of a daily bowel movement; Expected passage of stool at same time every day; Overuse of laxatives/enemas/suppositories

CONSTIPATION, RISK FOR

Diagnostic Division: Elimination

Definition: At risk for a decrease in normal frequency of defecation accompanied by difficult or incomplete passage of stool and/or passage of excessively hard, dry stool.

RISK FACTORS
Functional
Irregular defecation habits; Inadequate toileting (e.g., timeliness, positioning for defecation, privacy); Insufficient physical activity; Abdominal muscle weakness; Recent environmental changes; Habitual denial/ignoring of urge to defecate

Psychological
Emotional stress; Depression; Mental confusion

Physiological
Change in usual foods/eating patterns; Insufficient fiber/fluid intake; Dehydration; Poor eating habits; Inadequate dentition or oral hygiene; Decreased motility of gastrointestinal tract

Pharmacological
Phenothiazides; Nonsteroidal anti-inflammatory agents; Sedatives; Aluminum-containing antacids; Laxative overuse; Bismuth salts; Iron salts; Anticholinergics; Antidepressants; Anticonvulsants; Antilipemic agents; Calcium channel blockers; Calcium carbonate; Diuretics; Sympathomimetics; Opiates

Mechanical
Hemorrhoids; Pregnancy; Obesity; Rectal abscess/ulcer; Rectal anal stricture/fissures; Rectal prolapse; Rectocele; Prostate enlargement; Postsurgical obstruction; Neurological impairment; Hirschsprung's disease; Tumors; Electrolyte imbalance

CONTAMINATION

Diagnostic Division: Safety

Definition: Exposure to environmental contaminants in doses sufficient to cause adverse health effects.

RELATED FACTORS

External

Chemical contamination of food/water; Presence of atmospheric pollutants; Inadequate municipal services (trash removal, sewage treatment facilities); Geographic area (living in area where high level of contaminants exist); Playing in outdoor areas where environmental contaminants are used; Personal/household hygiene practices; Living in poverty (increases potential for multiple exposures, lack of access to health care, and poor diet); Use of environmental contaminants in the home (e.g., pesticides, chemicals, environmental tobacco smoke); Lack of breakdown of contaminants once indoors (breakdown is inhibited without sun and rain exposure); Flooring surface (carpeted surfaces hold contaminant residue more than hard floor surfaces); Flaking, peeling paint/plaster in presence of young children; Paint, lacquer, etc. in poorly ventilated areas/without effective protection; Inappropriate use/lack of protective clothing; Unprotected contact with heavy metals or chemicals (e.g., arsenic, chromium, lead); Exposure to radiation (occupation in radiography, employment in nuclear industries and electrical generating plants, living near nuclear industries and electrical generation plants); Exposure to disaster (natural or man-made); exposure to bioterrorism

Internal

Age (children less than 5 years, older adults); Gestational age during exposure; Developmental characteristics of children; Female gender; Pregnancy; Nutritional factors (e.g., obesity, vitamin and mineral deficiencies); Pre-existing disease states; Smoking; Concomitant exposure; Previous exposures

DEFINING CHARACTERISTICS

(Defining characteristics are dependent on the causative agent. Agents cause a variety of individual organ responses as well as systemic responses.)

Pesticides

Major categories of pesticides: Insecticides, herbicides, fungicides, antimicrobials, rodenticides (Major pesticides: organophosphates, carbamates, organochlorines, pyrethrum, arsenic, glycophosphates, bipyridyis, chlorophenoxy) Dermatological/gastrointestinal/neurological/pulmonary/renal effects of pesticide exposure

Chemicals

(Major chemical agents: petroleum-based agents, anticholinesterases; Type I agents act on proximal tracheobronchial portion of the respiratory tract, Type II agents act on alveoli, Type III agents produce systemic effects) Dermatological/ gastrointestinal/ immunologic/neurological/pulmonary/renal effects of chemical exposure

Biologics

Dermatological/gastrintestinal/neurological/pulmonary/renal effects of exposure to biologicals (toxins from living organisms (bacteria, viruses, fungi)

Pollution

(Major locations: Air, water, soil); (Major agents: Asbestos, radon, tobacco [smoke], heavy metals, lead, noise, exhaust); Neurological/pulmonary effects of pollution exposure

Waste

(Categories of waste: trash, raw sewage, industrial waste) Dermatological/gastrointestinal/hepatic/pulmonary effects of waste exposure

Radiation

(Categories: Internal—ingestion of radioactive material [e.g., food/water contamination], External—exposure through direct contact with radioactive material); Immunologic/genetic/neurological/oncologic effects of radiation exposure

CONTAMINATION, RISK FOR

Diagnostic Division: Safety

Definition: Accentuated risk of exposure to environmental contaminants in doses sufficient to cause adverse health effects.

RISK FACTORS

External

Chemical contamination of food/water; Presence of atmospheric pollutants; Inadequate municipal services (trash removal, sewage treatment facilities); Geographic area (living in area where high levels of contaminants exist); Playing in outdoor areas where environmental contaminants are used; Personal/household hygiene practices; Living in poverty (increases potential for multiple exposure, lack of access to health care, and poor diet); Use of environmental contaminants in the home (e.g., pesticides, chemicals, environmental tobacco smoke); Lack of breakdown of contaminants once indoors (breakdown is inhibited without sun and rain exposure); Flooring surface (carpeted surfaces hold contaminant residue more than hard floor surfaces); Flaking, peeling paint/plaster in presence of young children; Paint, lacquer, etc. in poorly ventilated areas/without effective protection; Inappropriate use/lack of protective clothing; Unprotected contact with heavy metals or chemicals (e.g., arsenic, chromium, lead); Exposure to radiation (occupation in radiography, employment in nuclear industries and electrical generating plants, living near nuclear industries and electrical generation plants); Exposure to disaster (natural or man-made); exposure to bioterrorism

Internal

Age (children less than 5 years, older adults); Gestational age during exposure; Developmental characteristics of children; Female gender; Pregnancy; Nutritional factors (e.g., obesity, vitamin and mineral deficiencies); Pre-existing disease states; Smoking; Concomitant exposure; Previous exposures

COPING, COMPROMISED FAMILY

Diagnostic Division: Social Interaction

Definition: Usually supportive primary person (family member or close friend [significant other]) provides insufficient, ineffective, or compromised support, comfort, assistance, or encouragement that may be needed by the client to manage or master adaptive tasks related to his/her health challenge.

RELATED FACTORS

Coexisting situations affecting the significant person; Situational/developmental crises the significant person may be facing; Prolonged disease [/disability progression] that exhausts the supportive capacity of significant other(s); Exhaustion of supportive capacity of significant people; Inadequate/incorrect information or understanding by a primary person; Temporary preoccupation by a significant person; Temporary family disorganization/role changes; [Lack of mutual decision-making skills]; [Diverse coalitions of family members]

DEFINING CHARACTERISTICS

Subjective

Client expresses a complaint/concern about significant other's response to health problem; Significant other expresses an inadequate understanding/knowledge base, which interferes with effective supportive behaviors; Significant other describes preoccupation with personal reaction (e.g., fear, anticipatory grief, guilt, anxiety) to client's need

Objective

Significant person attempts assistive/supportive behaviors with unsatisfactory results; Significant other displays protective behavior disproportionate to the client's abilities/need for autonomy; Significant other enters into limited personal communication with client; Significant other withdraws from client; [Significant other displays sudden outbursts of emotions/emotional lability or interferes with necessary nursing/medical interventions]

COPING, DEFENSIVE

Diagnostic Division: Ego Integrity

Definition: Repeated projection of falsely positive self-evaluation based on a self-protective pattern that defends against underlying perceived threats to positive self-regard.

RELATED FACTORS

To be developed [Refer to ND Coping, ineffective]

DEFINING CHARACTERISTICS

Subjective

Denial of obvious problems/weaknesses; Projection of blame/responsibility; Hypersensitive to slight/criticism; Grandiosity; Rationalizes failures; [Refuses/rejects assistance]

Objective

Superior attitude toward others; Difficulty establishing/maintaining relationships; [Avoidance of intimacy]; Hostile laughter; Ridicule of others; [Aggressive behavior]; Difficulty in perception of reality/reality testing; Lack of follow-through or participation in treatment/therapy; [Attention-seeking behavior]

COPING, DISABLED FAMILY

Diagnostic Division: Social Interaction

Definition: The behavior of a significant person (family member or other primary person) that disables his or her own capacities and the client's capacity to effectively address tasks essential to either person's adaptation to the health challenge.

RELATED FACTORS

Significant person with chronically unexpressed feelings (e.g., guilt, anxiety, hostility, despair); Dissonant coping styles for dealing with adaptive tasks by the significant person and client or among significant people; Highly ambivalent family relationships; Arbitrary handling of a family's resistance to treatment [that tends to solidify defensiveness as it fails to deal adequately with underlying anxiety]; [High-risk family situations, such as single or adolescent parent, abusive relationship, substance abuse, acute/chronic disabilities, member with terminal illness]

DEFINING CHARACTERISTICS

Subjective

[Expresses despair regarding family reactions/lack of involvement]

Objective

Psychosomaticism; Intolerance; Rejection; Abandonment; Desertion; Agitation; Aggression; Hostility; Depression; Carrying on usual routines without regard for client's needs; Disregarding client's needs; Neglectful care of the client in regard to basic human needs/illness treatment; Neglectful relationships with other family members; Family behaviors that are detrimental to well-being; Distortion of reality regarding the client's health problem; Impaired restructuring of a meaningful life for self; Impaired individualization; Prolonged overconcern for client; Taking on illness signs of client; Client's development of dependence

COPING, INEFFECTIVE

Diagnostic Division: Ego Integrity

Definition: Inability to form a valid appraisal of the stressors, inadequate choices of practiced responses, and/or inability to use available resources.

RELATED FACTORS

Situational/maturational crises; High degree of threat; Inadequate opportunity to prepare for stressor; Disturbance in pattern of appraisal of threat; Inadequate level of confidence in ability to cope; Inadequate level of perception of control; Uncertainty; Inadequate resources available; Inadequate social support created by characteristics of relationships; Disturbance in pattern of tension release; Inability to conserve adaptive energies; Gender differences in coping strategies; [Work overload; No vacations; Too many deadlines]; [Impairment of nervous system; Cognitive/sensory/perceptual impairment; Memory loss]; [Severe/chronic pain]

DEFINING CHARACTERISTICS

Subjective

Verbalization of inability to cope or inability to ask for help; Sleep disturbance; Fatigue; Abuse of chemical agents; [Reports of muscular/emotional tension]; [Lack of appetite]

Objective

Lack of goal-directed behavior/resolution of problem, including inability to attend to and difficulty with organizing information; [Lack of assertive behavior]; Use of forms of coping that impede adaptive behavior [including inappropriate use of defense mechanisms, verbal manipulation]; Inadequate problem solving; Inability to meet role ex-

pectations/basic needs [e.g., skipping meals, little/no exercise]; Decreased use of social support; Poor concentration; Change in usual communication patterns; High illness rate [e.g., high blood pressure, ulcers, irritable bowel, frequent headaches/neckaches]; Risk taking; Destructive behavior toward self [including overeating, excessive smoking/drinking, overuse of prescribed/OTC medications, illicit drug use]; [Behavioral changes, e.g., impatience, frustration, irritability, discouragement]

COPING, INEFFECTIVE COMMUNITY

Diagnostic Division: Social Interaction

Definition: A pattern of community activities for adaption and problem solving that is unsatisfactory for meeting the demands or needs of the community. [Community is defined as "a group of people with a common identity or perspective, occupying space during a given period of time, and functioning through a social system to meet its needs within a larger social environment."]

RELATED FACTORS

Deficits in social support services and resources; Inadequate resources for problem solving; Ineffective or nonexistent community systems (e.g., lack of emergency medical system, transportation system, or disaster planning systems); Natural or man-made disasters

DEFINING CHARACTERISTICS

Subjective

Community does not meet its own expectations; Expressed vulnerability; Community powerlessness; Stressors perceived as excessive

Objective

Deficits of community participation; Excessive community conflicts; High illness rates; Increased social problems (e.g., homicides, vandalism, arson, terrorism, robbery, infanticide, abuse, divorce, unemployment, poverty, militancy, mental illness)

COPING, READINESS FOR ENHANCED

Diagnostic Division: Ego Integrity

Definition: A pattern of cognitive and behavioral efforts to manage demands that is sufficient for well-being and can be strengthened.

RELATED FACTORS

To be developed

DEFINING CHARACTERISTICS

Subjective

Defines stressors as manageable; Seeks social support/knowledge of new strategies; Acknowledges power

Objective

Uses a broad range of problem-oriented/emotion-oriented strategies; Uses spiritual resources

COPING, READINESS FOR ENHANCED COMMUNITY

Diagnostic Division: Social Interaction

Definition: Pattern of community activities for adaptation and problem solving that is satisfactory for meeting the demands or needs of the community but can be improved for management of current and future problems/stressors.

RELATED FACTORS

Social supports available; Resources available for problem solving; Community has a sense of power to manage stressors

DEFINING CHARACTERISTICS

Subjective

Agreement that community is responsible for stress management

Objective

Active planning by community for predicted stressors; Active problem solving by community when faced with issues; Positive communication among community members;

Positive communication between community/aggregates and larger community; Programs available for recreation/ relaxation; Resources sufficient for managing stressors

COPING, READINESS FOR ENHANCED FAMILY

Diagnostic Division: Social Interaction

Definition: Effective managing of adaptive tasks by family member involved with the client's health challenge, who now exhibits desire and readiness for enhanced health and growth in regard to self and in relation to the client.

RELATED FACTORS

Needs sufficiently gratified to enable goals of self-actualization to surface; Adaptive tasks effectively addressed to enable goals of self-actualization to surface; [Developmental stage, situational crises/supports]

DEFINING CHARACTERISTICS

Subjective

Family member attempts to describe growth impact of crisis [on his or her own values, priorities, goals, or relationships]; Individual expresses interest in making contact with others who have experienced a similar situation

Objective

Family member moves in direction of health promoting/enriching; Chooses experiences that optimize wellness

DEATH SYNDROME, RISK FOR SUDDEN INFANT

Diagnostic Division: Safety

Definition: Presence of risk factors for sudden death of an infant under 1 year of age [Sudden Infant Death Syndrome (SIDS) is the sudden death of an infant under 1 year of age, which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and review of the clinical history. SIDS is a subset of Sudden Unexpected Death in Infancy (SUDI) that is the sudden and unexpected death of an infant due to natural or unnatural causes.].

RISK FACTORS

Modifiable

Delayed/lack of prenatal care; Infants placed to sleep in the prone/side-lying position; Soft underlayment (loose articles in the sleep environment); Infant overheating/ overwrapping; Prenatal/postnatal smoke exposure

Potentially Modifiable

Young maternal age; Low birth weight; Prematurity

Nonmodifiable

Male gender; Ethnicity (e.g., African American, Native American); Seasonality of SIDS deaths (higher in winter and fall months); Infant age of 2 to 4 months

RELATED FACTORS

To be developed

DECISION MAKING, READINESS FOR ENHANCED

Diagnostic Division: Cognitive–Perceptual Pattern

Definition: A pattern of choosing courses of action that is sufficient for meeting short- and long-term health-related goals and can be strengthened.

RELATED FACTORS

To be developed

DEFINING CHARACTERISTICS

Subjective

Expresses desire to enhance: Decision making; Congruency of decisions with personal values and goals; Congruency of decisions with sociocultural values and goals; Risk benefit analysis of decisions; Understanding of choices for decision making; Understanding of the meaning of choices; Use of reliable evidence for decisions

DENIAL, INEFFECTIVE

Diagnostic Division: Ego Integrity

Definition: Conscious or unconscious attempt to disavow the knowledge or meaning of an event to reduce anxiety/fear to the detriment of health.

RELATED FACTORS

Anxiety; Threat of inadequacy in dealing with strong emotions; Lack of control of life situation; Fear of loss of autonomy; Overwhelming stress; Lack of competency in using effective coping mechanisms; Threat of unpleasant reality; Fear of separation/death; Lack of emotional support from others

DEFINING CHARACTERISTICS

Subjective

Minimizes symptoms; Displaces source of symptoms to other organs; Unable to admit impact of disease on life pattern; Displaces fear of impact of the condition; Does not admit fear of death or invalidism

Objective

Delays seeking health care attention to the detriment of health; Does not perceive personal relevance of symptoms or danger; Unable to admit impact of disease on life pattern; Does not perceive personal relevance of danger; Makes dismissive gestures/comments when speaking of distressing events; Displays inappropriate affect; Uses self-treatment

DENTITION, IMPAIRED

Diagnostic Division: Food / Fluid

Definition: Disruption in tooth development/eruption patterns or structural integrity of individual teeth.

RELATED FACTORS

Dietary habits; Nutritional deficits; Selected prescription medications; Chronic use of tobacco/coffee/tea/red wine; Ineffective oral hygiene; Sensitivity to heat or cold; Chronic vomiting; Deficient knowledge regarding dental health; Excessive use of abrasive cleaning agents/intake of fluorides; Barriers to self-care; Lack of access/economic barriers to professional care; Genetic predisposition; Bruxism; [Traumatic injury/surgical intervention]

DEFINING CHARACTERISTICS

Subjective

Toothache

Objective

Halitosis; Tooth enamel discoloration; Erosion of enamel; Excessive plaque; Worn down/abraded teeth; Crown/root caries; Tooth fracture(s); Loose teeth; Missing teeth; Absence of teeth; Premature loss of primary teeth; Incomplete eruption for age (may be primary or permanent teeth); Excessive calculus; Malocclusion/tooth misalignment; Asymmetrical facial expression

DEVELOPMENT, RISK FOR DELAYED

Diagnostic Division: Teaching / Learning

Definition: At risk for delay of 25% or more in one or more of the areas of social or self-regulatory behavior, or cognitive, language, gross or fine motor skills.

RISK FACTORS

Prenatal

Maternal age <15 or >35 years; Unplanned/unwanted pregnancy; Lack of/late/poor prenatal care; Inadequate nutrition; Poverty; Illiteracy; Genetic/ endocrine disorders; Infections; Substance abuse

Individual

Prematurity; Congenital/genetic disorders; Vision/hearing impairment; Frequent otitis media; Inadequate nutrition; Failure to thrive; Chronic illness; Chemotherapy; Radiation therapy; Brain damage (e.g., hemorrhage in postnatal period, shaken baby, abuse, accident); Seizures; Positive drug screening(s); Substance abuse; Lead poisoning; Foster/adopted child; Behavior disorders; Technology-dependent; Natural disaster

Environmental
Poverty; Violence

Caregiver
Mental retardation; Severe learning disability; Abuse; Mental illness

DIARRHEA

Diagnostic Division: Elimination

Definition: Passage of loose, unformed stools.

RELATED FACTORS
Psychological
High stress levels and anxiety

Situational
Laxative/alcohol abuse; toxins; contaminants; Adverse effects of medications; radiation; Tube feedings; Travel

Physiological
Inflammation; Irritation; Infectious processes; Parasites; Malabsorption

DEFINING CHARACTERISTICS

Subjective
Abdominal pain; Urgency; Cramping

Objective
Hyperactive bowel sounds; At least three loose or liquid stools per day

DIGNITY, RISK FOR COMPROMISED HUMAN

Diagnostic Division: Ego Integrity

Definition: At risk for perceived loss of respect and honor.

RISK FACTORS
Loss of control of body functions; Exposure of the body; Perceived humiliation/invasion of privacy; Disclosure of confidential information; Stigmatizing label; Use of undefined medical terms; Perceived dehumanizing treatment/intrusion by clinicians; Inadequate participation in decision making; Cultural incongruity

DISTRESS, MORAL

Diagnostic Division: Ego Integrity

Definition: Response to the inability to carry out one's chosen ethical/moral decision/action.

RELATED FACTORS
Conflict among decision makers [e.g., patient/family, health care providers, insurance payers, regulatory agencies]; Conflicting information guiding moral/ethical decision making; Cultural conflicts; Treatment decisions; End of life decisions; Loss of autonomy; Time constraints for decision making; Physical distance of decision maker

DEFINING CHARACTERISTICS

Subjective
Expresses anguish (e.g., powerlessness, guilt, frustration, anxiety, self-doubt, fear) over difficulty acting on one's moral choice

DISUSE SYNDROME, RISK FOR

Diagnostic Division: Activity / Rest

Definition: At risk for deterioration of body systems as the result of prescribed or unavoidable musculoskeletal inactivity.

NOTE: NANDA identifies complications from immobility that can include pressure ulcer, constipation, stasis of pulmonary secretions, thrombosis, urinary tract infection/retention, decreased strength/endurance, orthostatic hypotension, decreased range of joint motion, disorientation, body image disturbance, and powerlessness.

RISK FACTORS
Severe pain [chronic pain]; Paralysis [other neuromuscular impairment]; Mechanical or prescribed immobilization; Altered level of consciousness [chronic physical or mental illness]

DIVERSIONAL ACTIVITY, DEFICIENT

Diagnostic Division: Activity / Rest

Definition: Decreased stimulation from (or interest or engagement in) recreational or leisure activities.

NOTE: Internal/external factors that may or may not be beyond the individual's control.

RELATED FACTORS
Environmental lack of diversional activity [e.g., long-term hospitalization; frequent, lengthy treatments, homebound]; [Physical/ developmental limitations]; [Bedridden]; [Fatigue]; [Pain]; [Situational crisis]; [Lack of resources]; [Psychological condition/depression]

DEFINING CHARACTERISTICS

Subjective
Patient's statement regarding boredom (e.g., wish there were something to do, to read, etc.); Usual hobbies cannot be undertaken in hospital [home or other care setting]; [Changes in abilities/physical limitations]

Objective
[Flat affect; disinterest, inattentiveness]; [Lethargy]; [Withdrawal]; [Restlessness]; [Crying]; [Hostility]; [Overeating or lack of interest in eating]; [Weight loss or gain]

ENERGY FIELD, DISTURBED

Diagnostic Division: Ego Integrity

Definition: Disruption of the flow of energy [aura] surrounding a person's being that results in a disharmony of the body, mind, and/or spirit.

RELATED FACTORS
Slowing or blocking of energy flow secondary to:

Pathological factors
Illness; Pregnancy; Injury

Treatment related factors
Immobolility; Labor and delivery; Perioperative experience; Chemotherapy

Situational factors
Pain; Fear; Anxiety; Grieving

Maturational factors
Age-related developmental difficulties/crisis

DEFINING CHARACTERISTICS
Objective
Perception of changes in patterns of energy flow, such as: Movement wave/spike/tingling/dense/flowing); Sounds (tone/words); Temperature change (warmth/coolness); Visual changes (image/color); Disruption of the field (deficient, hole, spike, bulge, obstruction, congestion, diminished flow in energy field)

ENVIRONMENTAL INTERPRETATION SYNDROME, IMPAIRED

Diagnostic Division: Safety

Definition: Consistent lack of orientation to person, place, time, or circumstances over more than 3 to 6 months, necessitating a protective environment.

RELATED FACTORS
Dementia [e.g., Alzheimer's disease, multi-infarct, Pick's disease, AIDS dementia]; Huntington's disease; Depression

DEFINING CHARACTERISTICS

Subjective
[Loss of occupation or social function from memory decline]

Objective
Consistent disorientation; Chronic confusional states; Inability to follow simple directions; Inability to reason/concentrate; Slow in responding to questions; Loss of occupation/social functioning

FAILURE TO THRIVE, ADULT

Diagnostic Division: Food/Fluid

Definition: A progressive functional deterioration of a physical and cognitive nature; the individual's ability to live with multisystem diseases, cope with ensuing problems, and manage his/her care is remarkably diminished.

RELATED FACTORS
Depression; [Major disease/degenerative condition]; [Aging process]

DEFINING CHARACTERISTICS

Subjective
Expresses loss of interest in pleasurable outlets; Altered mood state; Verbalizes desire for death

Objective
Inadequate nutritional intake; Consumption of minimal to no food at most meals (i.e., consumes less than 75% of normal requirements); Anorexia; Unintentional weight loss (e.g., 5% in 1 month, 10% in 6 months); Physical decline (e.g., fatigue, dehydration, incontinence of bowel and bladder); Cognitive decline: problems with responding to environmental stimuli; demonstrated difficulty in reasoning, decision making, judgment, memory, concentration, decreased perception; Apathy; Decreased participation in activities of daily living [ADLs]; Self-care deficit; Neglect of home environment/financial responsibilities; Decreased social skills/social withdrawal; Frequent exacerbations of chronic health problems

FALLS, RISK FOR

Diagnostic Division: Safety

Definition: Increased susceptibility to falling that may cause physical harm.

RISK FACTORS
Adults
History of falls; Wheelchair use; Use of assistive devices (e.g., walker, cane); Age 65 or over; Lives alone; Lower limb prosthesis

Physiological
Presence of acute illness; Postoperative conditions; Visual/hearing difficulties; Arthritis; Orthostatic hypotension; Faintness when turning/extending neck; Sleeplessness; Anemias; Vascular disease; Neoplasms (i.e., fatigue/limited mobility); Urgency; Incontinence; Diarrhea; Postprandial blood sugar changes; [Hypoglycemia]; Impaired physical mobility; Foot problems; Decreased lower extremity strength; Impaired balance; Difficulty with gait; Proprioceptive deficits [e.g., unilateral neglect]; Neuropathy

Cognitive
Diminished mental status [e.g., confusion, delirium, dementia, impaired reality testing]

Medications
Antihypertensive agents; ACE inhibitors; Diuretics; Tricyclic antidepressants; Antianxiety agents; Hypnotics; Tranquilizers; Narcotics; Alcohol use

Environment
Restraints; Weather conditions (e.g., wet floors/ice); Cluttered environment; Throw/scatter rugs; No antislip material in bath/shower; Unfamiliar, dimly lit room

Children
<2 years of age; Male gender when <1 year of age; Lack of: gate on stairs; window guards; auto restraints; Unattended infant on elevated surface; Bed located near window; Lack of parental supervision

FAMILY PROCESSES, DYSFUNCTIONAL: ALCOHOLISM

Diagnostic Division: Social Interaction

Definition: Psychosocial, spiritual, and physiological functions of the family unit are chronically disorganized, which leads to conflict, denial of problems, resistance to change, ineffective problem solving, and a series of self-perpetuating crises.

RELATED FACTORS
Abuse of alcohol [/addictive substances]; Family history of alcoholism/resistance to treatment; Inadequate coping skills; Addictive personality; Lack of problem-solving skills; Biochemical influences; Genetic predisposition

DEFINING CHARACTERISTICS

Subjective
Feelings
Anxiety; Tension; Distress; Decreased self-esteem; Worthlessness; Lingering resentment; Anger; Suppressed rage; Frustration; Shame; Embarrassment; Hurt; Unhappiness; Guilt; Emotional isolation; Loneliness; Powerlessness; Insecurity; Hopelessness; Rejection; Responsibility for alcoholic's behavior; Vulnerability; Mistrust; Depression; Hostility; Fear; Confusion; Dissatisfaction; Loss; Being different from other people; Misunderstood; Emotional control by others; Being unloved; Lack of identity; Abandonment; Confused love and pity; Moodiness; Failure

Roles and Relationships
Family denial; Deterioration in family relationships; Disturbed family dynamics; Ineffective spouse communication; Marital problems; Intimacy dysfunction; Altered role function; Disrupted family roles/rituals; Inconsistent parenting; Low perception of parental support; Chronic family problems; Lack of skills necessary for relationships; Lack of cohesiveness; Pattern of rejection; Economic problems; Neglected obligations

Objective
Feelings
Repressed emotions

Roles and Relationships
Closed communication systems; Triangulating family relationships; Reduced ability of family members to relate to each other for mutual growth and maturation; Family does not demonstrate respect for individuality/autonomy of its members

Behaviors
Alcohol abuse; Substance abuse other than alcohol; Nicotine addiction; Enabling to maintain drinking [/substance use]; Inadequate understanding/deficient knowledge about alcoholism [/substance abuse]; Family special occasions are alcohol-centered; Rationalization/denial of problems; Refusal to get help; Inability to accept/receive help appropriately; Inappropriate expression of anger; Blaming; Criticizing; Verbal abuse of children/spouse/parent; Lying; Broken promises; Lack of reliability; Manipulation; Dependency; Inability to express/accept wide range of feelings; Difficulty with intimate relationships; Diminished physical contact; Harsh self-judgment; Difficulty having fun; Self-blaming; Isolation; Unresolved grief; Seeking approval/affirmation; Impaired/contradictory/paradoxical/controlling communication; Power struggles; Ineffective problem-solving skills; Lack of dealing with conflict; Orientation toward tension relief rather than achievement of goals; Agitation; Escalating conflict; Chaos; Disturbances in concentration; Disturbances in academic performance in children; Failure to accomplish developmental tasks; Difficulty with life-cycle transitions; Inability to meet emotional/security/spiritual needs of its members; Inability to adapt to change; Immaturity; Stress-related physical illnesses; Inability to accept health; Inability to deal with traumatic experiences constructively

FAMILY PROCESSES, INTERRUPTED

Diagnostic Division: Social Interaction

Definition: A change in family relationships and/or functioning.

RELATED FACTORS
Situational transition/crises; Developmental transition/crises [e.g., loss or gain of a family member, adolescence, leaving home for college]; Shift in health status of a family member; Family roles shift; Power shift of family members; Modification in family finances/social status; Interaction with community

DEFINING CHARACTERISTICS

Subjective
Changes in: Power alliances; Satisfaction with family; Expressions of conflict within family; Effectiveness in completing assigned tasks; Stress-reduction behaviors; Expressions of conflict with/isolation from community resources; Somatic complaints; [Family expresses confusion about what to do; verbalizes they are having difficulty responding to change]

Objective
Changes in: Assigned tasks; Participation in problem solving/decision making; Communication patterns; Mutual support; Availability for emotional support/affective responsiveness; Intimacy; Patterns; Rituals

FAMILY PROCESSES, READINESS FOR ENHANCED

Diagnostic Division: Social Interaction

Definition: A pattern of family functioning that is sufficient to support the well-being of family members and can be strengthened.

RELATED FACTORS
To be developed

DEFINING CHARACTERISTICS

Subjective
Expresses willingness to enhance family dynamics; Communication is adequate; Relationships are generally positive; Interdependent with community; Family tasks are accomplished; Energy level of family supports activities of daily living; Family adapts to change

Objective
Family functioning meets needs of family members; Activities support the safety/growth of family members; Family roles are appropriate/flexible for developmental stages; Respect for family members is evident; Boundaries of family members are maintained; Family resilience is evident; Balance exists between autonomy and cohesiveness

FATIGUE

Diagnostic Division: Activity / Rest

Definition: An overwhelming sustained sense of exhaustion and decreased capacity for physical and mental work at usual level.

RELATED FACTORS
Psychological
Stress; Anxiety; Boring lifestyle; Depression

Environmental
Noise; Lights; Humidity; Temperature

Situational
Occupation; Negative life events

Physiological
Increased physical exertion; Sleep deprivation; Pregnancy; Disease states; Malnutrition; Anemia; Poor physical condition; [Altered body chemistry (e.g., medications, drug withdrawal, chemotherapy)]

DEFINING CHARACTERISTICS

Subjective
Verbalization of an unremitting/overwhelming lack of energy; Inability to maintain usual routines/level of physical activity; Perceived need for additional energy to accomplish routine tasks; Increase in rest requirements; Tired; Inability to restore energy even after sleep; Feelings of guilt for not keeping up with responsibilities; Compromised libido; Increase in physical complaints

Objective
Lethargic; Listless; Drowsy; Lack of energy; Compromised concentration; Disinterest in surroundings; Introspection; Decreased performance; [Accident-prone]

FEAR

Diagnostic Division: Ego Integrity

Definition: Response to perceived threat [real or imagined] that is consciously recognized as a danger.

RELATED FACTORS
Innate origin (e.g., sudden noise, height, pain, loss of physical support); Innate releasers (neurotransmitters); Phobic stimulus; Learned response (e.g., conditioning, modeling

from or identification with others); Unfamiliarity with environmental experience(s); Separation from support system in potentially stressful situation (e.g., hospitalization, hospital procedures [/treatments]); Language barrier; Sensory impairment

DEFINING CHARACTERISTICS

Subjective
Report of: Apprehension; Excitement; Being scared; Alarm; Panic; Terror; Dread; Decreased self-assurance; Increased tension; Jitteriness

Cognitive
Identifies object of fear; Stimulus believed to be a threat

Physiological
Anorexia; Nausea; Fatigue; Dry mouth; [Palpitations]

Objective
Cognitive
Diminished productivity/learning ability/problem solving

Behaviors
Increased alertness; Avoidance [/flight]; Attack behaviors; Impulsiveness; Narrowed focus on the source of the fear

Physiological
Increased pulse; Vomiting; Diarrhea; Muscle tightness; Increased respiratory rate; Dyspnea; Increased systolic blood pressure; Pallor; Increased perspiration; Pupil dilation

FLUID BALANCE, READINESS FOR ENHANCED

Diagnostic Division: Food / Fluid

Definition: A pattern of equilibrium between fluid volume and chemical composition of body fluids that is sufficient for meeting physical needs and can be strengthened.

RELATED FACTORS
To be developed

DEFINING CHARACTERISTICS

Subjective
Expresses willingness to enhance fluid balance; No excessive thirst

Objective
Stable weight; No evidence of edema; Moist mucous membranes; Intake adequate for daily needs; Straw-colored urine; Specific gravity within normal limits; Urine output appropriate for intake; Good tissue turgor; [No signs of] dehydration

[FLUID VOLUME, DEFICIENT (HYPER/HYPOTONIC)]

Diagnostic Division: Food / Fluid

Definition: Decreased intravascular, interstitial, and/or intracellular fluid. This refers to dehydration with changes in sodium.

NOTE: NANDA has restricted Fluid Volume deficit to address only isotonic dehydration. For patient needs related to dehydration associated with alterations in sodium, the authors have provided this second diagnostic category

RELATED FACTORS
Hypertonic dehydration: uncontrolled diabetes mellitus/insipidus, HHNC, increased intake of hypertonic fluids/IV therapy, inability to respond to thirst reflex/inadequate free water supplementation (high-osmolarity enteral feeding formulas), renal insufficiency/failure]; [Hypotonic dehydration: chronic illness/malnutrition, excessive use of hypotonic IV solutions (e.g., D5W), renal insufficiency]

DEFINING CHARACTERISTICS

Subjective
[Fatigue]; [Nervousness]; [Exhaustion]; [Thirst]

Objective
[Increased urine output, dilute urine (initially)]; [Decreased output/oliguria]; [Weight loss]; [Decreased venous filling]; [Hypotension (postural)]; [Increased pulse rate]; [Decreased pulse volume/pressure]; [Decreased skin turgor]; [Dry skin/mucous mem-

branes]; [Increased body temperature]; [Change in mental status (e.g., confusion)]; [Hemoconcentration]; [Altered serum sodium]

FLUID VOLUME, DEFICIENT [ISOTONIC]

Diagnostic Division: Food/Fluid

Definition: Decreased intravascular, interstitial, and/or intracellular fluid. This refers to dehydration, water loss alone without change in sodium.

NOTE: This diagnosis has been structured to address isotonic dehydration (hypovolemia) when fluids and electrolytes are lost in even amounts and excluding states in which changes in sodium occur. For client needs related to dehydration associated with alterations in sodium, refer to [deficient Fluid Volume: hyper/hypotonic]

RELATED FACTORS

Active fluid volume loss [e.g., hemorrhage, gastric intubation, diarrhea, wounds; abdominal cancer; burns, fistulas, ascites (third spacing); use of hyperosmotic radiopaque contrast agents]; Failure of regulatory mechanisms [e.g., fever/thermoregulatory response, renal tubule damage]; [Impaired access/intake/absorption of fluids]

DEFINING CHARACTERISTICS

Subjective

Thirst; Weakness

Objective

Decreased urine output; Increased urine concentration; Decreased venous filling; Decreased pulse volume/pressure; Sudden weight loss (except in third spacing); Decreased BP; Increased pulse rate; Increased body temperature; Decreased skin/tongue turgor; Dry skin/mucous membranes; Change in mental state; Elevated hematocrit

FLUID VOLUME EXCESS

Diagnostic Division: Food/Fluid

Definition: Increased isotonic fluid retention.

RELATED FACTORS

Compromised regulatory mechanism [e.g., syndrome of inappropriate antidiuretic hormone (SIADH), or decreased plasma proteins as found in conditions such as malnutrition, draining fistulas, burns, organ failure]; Excess fluid intake; Excess sodium intake; [Drug therapies such as chlorpropamide, tolbutamide, vincristine, triptylines, carbamazepine]

DEFINING CHARACTERISTICS

Subjective

Anxiety; [Difficulty breathing]

Objective

Edema; Anasarca; Weight gain over short period of time; Intake exceeds output; Oliguria; Specific gravity changes; Adventitious breath sounds [rales or crackles]; Changes in respiratory pattern; Dyspnea; Orthopnea; Pulmonary congestion; Pleural effusion; Pulmonary artery pressure changes; BP changes; Increased central venous pressure; Jugular vein distention; Positive hepatojugular reflex; S_3 heart sound; Change in mental status; Restlessness; Decreased Hb/Hct; Altered electrolytes; Azotemia

FLUID VOLUME, RISK FOR DEFICIENT

Diagnostic Division: Foood/Fluid

Definition: At risk for experiencing vascular, cellular, or intracellular dehydration.

RISK FACTORS

Extremes of age/weight; Loss of fluid through abnormal routes (e.g., indwelling tubes); Knowledge deficiency; Factors influencing fluid needs (e.g., hypermetabolic states); Medications (e.g., diuretics); Excessive losses through normal routes (e.g., diarrhea); Deviations affecting access/intake/absorption of fluids

FLUID VOLUME, RISK FOR IMBALANCED

Diagnostic Division: Food/Fluid

Definition: A risk of a decrease, an increase, or a rapid shift from one to the other of intravascular, interstitial, and/or intracellular fluid. This refers to body fluid loss, gain, or both.

RISK FACTORS

Scheduled for major invasive procedures [Rapid/sustained loss, e.g., hemorrhage, burns, fistulas]; [Rapid fluid replacement]

GAS EXCHANGE, IMPAIRED

Diagnostic Division: Respiration

Definition: Excess or deficit in oxygenation and/or carbon dioxide elimination at the alveoli-capillary membrane. [This may be an entity of its own but also may be an end result of other pathology with an interrelatedness between airway clearance and/or breathing pattern problems.]

RELATED FACTORS

Ventilation-perfusion imbalance [as in altered blood flow (e.g., pulmonary embolus, increased vascular resistance), vasospasm, heart failure, hypovolemic shock]; Alveolar-capillary membrane changes [e.g., acute adult respiratory distress syndrome); chronic conditions such as restrictive/obstructive lung disease, pneumoconiosis, respiratory depressant drugs, brain injury, asbestosis/silicosis]; [Altered oxygen supply (e.g., altitude sickness)]; [Altered oxygen-carrying capacity of blood (e.g., sickle cell/other anemia, carbon monoxide poisoning)]

DEFINING CHARACTERISTICS

Subjective

Dyspnea; Visual disturbances; Headache upon awakening; [Sense of impending doom]

Objective

Confusion; [Decreased mental acuity]; Restlessness; Irritability; [Agitation]; Somnolence; [Lethargy]; Abnormal ABGs/arterial pH; Hypoxia; Hypoxemia; Hypercapnia; Hypercarbia; Decreased carbon dioxide; Cyanosis (in neonates only); Abnormal skin color (e.g., pale, dusky); Abnormal breathing (e.g., rate, rhythm, depth); Nasal flaring; Tachycardia; [Dysrhythmias]; Diaphoresis; [Polycythemia]

GLUCOSE, RISK FOR UNSTABLE BLOOD

Diagnostic Division: Food/Fluid

Definition: Risk for variation of blood glucose/sugar levels from the normal range.

RISK FACTORS

Lack of acceptance of diagnosis; Deficient knowledge of diabetes management (e.g., action plan); Lack of diabetes management/adherence to diabetes management (e.g., action plan); Inadequate blood glucose monitoring; Medication management; Dietary intake; Weight gain/loss; Rapid growth periods; Pregnancy; Physical health status/activity level; Stress; Mental health status; Developmental level

GRIEVING

Diagnostic Division: Ego Integrity

Definition: A normal complex process that includes emotional, physical, spiritual, social, and intellectual responses and behaviors by which individuals, families, and communities incorporate an actual, anticipated, or perceived loss into their daily lives.

RELATED FACTORS

Anticipatory loss of significant other/significant object (e.g., possessions, job, status, home, parts and processes of body); Death of significant other; Loss of significant object

DEFINING CHARACTERISTICS

Subjective

Anger; Pain; Suffering; Despair; Blame; Alteration in: activity level, sleep/dream patterns; Making meaning of the loss; Personal growth; Experiencing relief

Objective
Detachment; Disorganization; Psychological distress; Panic behavior; Maintaining the connection to the deceased; Alterations in immune/neuroendocrine function

GRIEVING, COMPLICATED

Diagnostic Division: Ego Integrity

Definition: A disorder that occurs after the death of a significant other [/object], in which the experience of distress accompanying bereavement fails to follow normative expectations and manifests in functional impairment.

RELATED FACTORS
Death/sudden death of a significant other; Emotional instability; Lack of social support; [Loss of significant object (e.g., possessions, job, status, home, ideals, parts and processes of the body—amputation, paralysis, chronic/terminal illness]

DEFINING CHARACTERISTICS

Subjective
Verbalizes: Anxiety; Lack of acceptance of the death; Persistent painful memories; Destressful feelings about the deceased; Self-blame; Verbalizes feelings of: Anger; Disbelief; Detachment from others; Verbalizes feeling: Dazed; Empty; Stunned; In shock; Decreased sense of well-being; Fatigue; Low levels of intimacy; Depression; Yearning

Objective
Decreased functioning in life roles; Persistent emotional distress; Separation/traumatic distress; Preoccupation with thoughts of the deceased; Longing/searching for the deceased; Self-blame; Experiencing somatic symptoms of the deceased; Rumination; Grief avoidance

GRIEVING, RISK FOR COMPLICATED

Diagnostic Division: Ego Integrity

Definition: At risk for a disorder that occurs after the death of a significant other, in which the experience of distress accompanying bereavement fails to follow normative expectations and manifests in functional impairment.

RISK FACTORS
Death of a significant other; Emotional instability; Lack of social support; [Loss of significant object (e.g., possessions, job, status, home, parts and processes of body)]

GROWTH, RISK FOR DISPROPORTIONATE

Diagnostic Division: Teaching/Learning

Definition: At risk for growth above the 97th percentile or below the 3rd percentile for age, crossing two percentile channels; disproportionate growth.

RISK FACTORS
Prenatal
Maternal nutrition; Maternal infection; Multiple gestation; Substance use/abuse; Teratogen exposure; Congenital/genetic disorders [e.g., dysfunction of endocrine gland, tumors]

Individual
Prematurity; Malnutrition; Caregiver/individual maladaptive feeding behaviors; Insatiable appetite; Anorexia; [Impaired metabolism, greater-than-normal energy requirements]; Infection; Chronic illness [e.g., chronic inflammatory diseases]; Substance [use]/abuse [including anabolic steroids]

Environmental
Deprivation; Poverty; Violence; Natural disasters; Teratogen; Lead poisoning

Caregiver
Abuse; Mental illness/retardation; Severe learning disability

GROWTH AND DEVELOPMENT, DELAYED

Diagnostic Division: Teaching/Learning

Definition: Deviations from age growth norms.

RELATED FACTORS
Inadequate caretaking; [Physical/emotional neglect or abuse]; Indifference; Inconsistent responsiveness; Multiple caretakers; Separation from significant others; Environmental/stimulation deficiences; Effects of physical disability [handicapping condition]; Prescribed dependence [insufficient expectations for self-care]; [Physical/emotional illness (chronic, traumatic), e.g., chronic inflammatory disease, pituitary tumors, impaired nutrition/metabolism, greater-than-normal energy requirements; prolonged/painful treatments; prolonged/repeated hospitalizations]; [Sexual abuse]; [Substance use/abuse]

DEFINING CHARACTERISTICS

Subjective
Inability to perform self-care or self-control activities appropriate for age

Objective
Delay/difficulty in performing skills typical of age group; [Loss of previously acquired skills, precocious/accelerated skill attainment]; Altered physical growth; Flat affect, listlessness, decreased responses; [Sleep disturbances, negative mood/response]

HEALTH MAINTENANCE, INEFFECTIVE

Diagnostic Division: Safety

Definition: Inability to identify, manage, and/or seek out help to maintain health.

NOTE: This diagnosis contains components of other nursing diagnoses. We recommend subsuming health maintenance interventions under the "basic" nursing diagnosis when a single causative factor is identified (e.g., deficient Knowledge; Communication, impaired verbal; Thought Processes, disturbed; Individual/Family Coping, ineffective; Growth and Development, delayed).

RELATED FACTORS
Deficient communication skills [written, verbal, gestural]; Unachieved developmental tasks; Inability to make appropriate judgments; Perceptual/cognitive impairment; Diminished/lack of gross motor skills; Diminished/lack of fine motor skills; Ineffective individual/family coping; Complicated grieving; Spiritual distress; Insufficient resource (e.g., equipment, finances); [Lack of psychosocial supports]

DEFINING CHARACTERISTICS

Subjective
Lack of expressed interest in improving health behaviors; [Reported compulsive behaviors]

Objective
Demonstrated lack of knowledge regarding basic health practices; Inability to take the responsibility for meeting basic health practices; History of lack of health-seeking behavior; Demonstrated lack of adaptive behaviors to environmental changes; Impairment of personal support system; [Observed compulsive behaviors]

HEALTH-SEEKING BEHAVIORS (SPECIFY)

Diagnostic Division: Teaching/Learning

Definition: Active seeking (by a person in stable health) of ways to alter personal health habits and/or the environment in order to move toward higher level of health.

NOTE: Stable health is defined as achievement of age-appropriate illness-prevention measures; client reports good or excellent health, and signs and symptoms of disease, if present, are controlled.

RELATED FACTORS
To be developed; [Situational/maturational occurrence precipitating concern about current health status]

DEFINING CHARACTERISTICS

Subjective
Expressed desire to seek a higher level of wellness; Expressed desire for increased control of health practice; Expression of concern about current environmental conditions on health status; Stated unfamiliarity with wellness community resources; [Expressed desire to modify codependent behaviors]

Objective
Demonstrated lack of knowledge in health promotion behaviors; Observed unfamiliarity with wellness community resources

HOME MAINTENANCE, IMPAIRED

Diagnostic Division: Safety

Definition: Inability to independently maintain a safe, growth-promoting immediate environment.

RELATED FACTORS

Disease; Injury; Insufficient family organization/planning; Insufficient finances; Impaired functioning; Lack of role modeling; Unfamiliarity with neighborhood resources; Deficient knowledge; Inadequate support systems

DEFINING CHARACTERISTICS

Subjective

Household members express difficulty in maintaining their home in a comfortable [safe] fashion; Household members request assistance with home maintenance; Household members describe outstanding debts/financial crises

Objective

Disorderly/unclean surroundings; Offensive odors; Inappropriate household temperature; Presence of vermin; Repeated hygienic disorders/infections; Lack of necessary equipment; Unavailable cooking equipment; Insufficient/lack of clothes/linen; Overtaxed family members

HOPE, READINESS FOR ENHANCED

Diagnostic Division: Ego Integrity

Definition: A pattern of expectations and desires that is sufficient for mobilizing energy on one's own behalf and can be strengthened.

DEFINING CHARACTERISTICS

Subjective

Expresses desire to enhance: Hope; Belief in possibilities; Congruency of expectations with desires; Ability to set achievable goals; Problem-solving to meet goals; Expresses desire to enhance: Sense of meaning to life; Interconnectedness with others; Spirituality

HOPELESSNESS

Diagnostic Division: Ego Integrity

Definition: A subjective state in which an individual sees limited or no alternatives or personal choices available and is unable to mobilize energy on own behalf.

RELATED FACTORS

Prolonged activity restriction, creating isolation; Failing or deteriorating physiologic condition; Long-term stress; abandonment; Lost belief in transcendent values [/God]

DEFINING CHARACTERISTICS

Subjective

Verbal cues (despondent content, "I can't," sighing); [Believes things will not change/problems will always be there]

Objective

Passivity; Decreased verbalization; Decreased affect; Decreased appetite; Decreased response to stimuli; [Depressed cognitive functions, problems with decisions, thought processes; regression]; Lack of initiative/involvement in care; Sleep pattern disturbance; Turning away from speaker; Shrugging in response to speaker; [Withdrawal from environs]; [Closing eyes]; [Lack of involvement/interest in significant others]; [Angry outbursts]; [Substance abuse]

HYPERTHERMIA

Diagnostic Division: Safety

Definition: Body temperature is elevated above normal range.

RELATED FACTORS

Exposure to hot environment; Inappropriate clothing; Vigorous activity; Dehydration; Decreased perspiration; Medications; Anesthesia; Increased metabolic rate; Illness; Trauma

DEFINING CHARACTERISTICS

Subjective
[Headache]

Objective
Increase in body temperature above normal range; Flushed skin; Warm to touch; Increased respiratory rate; Tachycardia; [Unstable BP]; Seizures; [Muscle rigidity/fasciculations]; [Confusion]

HYPOTHERMIA

Diagnostic Division: Safety

Definition: Body temperature is below normal range.

RELATED FACTORS
Exposure to cool or cold environment [prolonged exposure, e.g., homeless, immersion in cold water/near-drowning; induced hypothermia/cardiopulmonary bypass]; Inadequate clothing; Evaporation from skin in cool environment; Decreased ability to shiver; Aging [or very young]; [Debilitating] illness; Trauma; Damage to hypothalamus; Malnutrition; Decreased metabolic rate; Inactivity; Consumption of alcohol; Medications; [Drug overdose]

DEFINING CHARACTERISTICS
Objective
Body temperature below normal range; Shivering; Piloerection; Cool skin; Pallor; Slow capillary refill; Cyanotic nail beds; Hypertension; Tachycardia; [Core temperature 95°F/35°C: increased respirations, poor judgment, shivering]; [Core temperature 95° to 93.2°F/35° to 34°C: bradycardia or tachycardia, myocardial irritability/dysrhythmias, muscle rigidity, shivering, lethargic/confused, decreased coordination]; [Core temperature 93.2° to 86°F/34° to 30°C: hypoventilation, bradycardia, generalized rigidity, metabolic acidosis, coma]; [Core temperature below 86°F/30°C: no apparent vital signs, heart rate unresponsive to drug therapy, comatose, cyanotic, dilated pupils, apneic, areflexic, no shivering (appears dead)]

IDENTITY, DISTURBED PERSONAL

Diagnostic Division: Ego Integrity

Definition: Inability to distinguish between self and nonself.

RELATED FACTORS
To be developed; [Organic brain syndrome]; [Poor ego differentiation, as in schizophrenia]; [Panic/dissociative states]; [Biochemical body change]

DEFINING CHARACTERISTICS
To be developed

Subjective
[Confusion about sense of self, purpose or direction in life, sexual identification/preference]

Objective
[Difficulty in making decisions]; [Poorly differentiated ego boundaries]; [See ND Anxiety, panic, for additional characteristics]

IMMUNIZATION STATUS, READINESS FOR ENHANCED

Diagnostic Division: Safety

Definition: A pattern of conforming to local, national, and/or international standards of immunization to prevent infectious disease(s) that is sufficient to protect a person, family, or community and can be strengthened.

DEFINING CHARACTERISTICS

Subjective
Expresses desire to enhance: Knowledge of immunization standards; Immunization status; Identification of providers of immunizations; Record-keeping of immunizations; Identification of possible problems associated with immunizations; Behavior to prevent infectious diseases

INFANT BEHAVIOR, DISORGANIZED

Diagnostic Division: Neurosensory

Definition: Disintegrated physiological and neurobehavioral responses to the environment.

RELATED FACTORS
Prenatal
Congenital/genetic disorders; Teratogenic exposure; [Exposure to drugs/substances]

Postnatal
Prematurity; Oral/motor problems; Feeding intolerance; Malnutrition; Invasive procedures; Pain

Individual
Gestational/postconceptual age; Immature neurological system; Illness; [Infection]; [Hypoxia/birth asphyxia]

Environmental
Physical environment inappropriateness; Sensory inappropriateness/overstimulation/deprivation; Lack of containment within environment

Caregiver
Cue misreading; Cue knowledge deficit; Environmental stimulation contribution

DEFINING CHARACTERISTICS
Objective
Regulatory Problems
Inability to inhibit startle; Irritability

State-Organization System
Active-awake (fussy, worried gaze); Quiet-awake (staring, gaze aversion); Diffuse sleep; State oscillation; Irritable crying

Attention-Interaction System
Abnormal response to sensory stimuli (e.g., difficult to soothe, inability to sustain alert status)

Motor System
Finger splay; Fisting; Hands to face; Hyperextension of extremities; Tremors; Startles; Twitches; Jittery; Uncoordinated movement; Changes to motor tone; Altered primitive reflexes

Physiological
Bradycardia; Tachycardia; Arrhythmias; Skin color changes; "Time-out signals" (e.g., gaze, grasp, hiccough, cough, sneeze, sigh, slack jaw, open mouth, tongue thrust); Feeding intolerances

INFANT BEHAVIOR, READINESS FOR ENHANCED ORGANIZED

Diagnostic Division: Neurosensory

Definition: A pattern of modulation of the physiologic and behavioral systems of functioning of an infant (i.e., autonomic, motor, state, organizational, self-regulatory, and attentional-interactional systems) that is satisfactory but that can be improved.

RELATED FACTORS
Prematurity; Pain

DEFINING CHARACTERISTICS
Objective
Stable physiological measures; Definite sleep-wake states; Use of some self-regulatory behaviors; Response to stimuli (e.g., visual, auditory)

INFANT BEHAVIOR, RISK FOR DISORGANIZED

Diagnostic Division: Neurosensory

Definition: Risk for alteration in integration and modulation of the physiologic and behavioral systems of functioning (i.e., autonomic, motor, state, organizational, self-regulatory, and attentional-interactional systems).

RISK FACTORS
Pain; Oral/motor problems; Environmental overstimulation; Lack of containment/boundaries; Invasive/painful procedures; Prematurity; [Immaturity of the central nervous system; generic problems that alter neurologic and/or physiologic functioning conditions resulting in hypoxia and/or birth asphyxia]; [Malnutrition; infection; drug addiction]; [Environmental events or conditions such as separation from parent, exposure to loud noise, excessive handling, bright lights]

INFANT FEEDING PATTERN, INEFFECTIVE

Diagnostic Division: Food / Fluid

Definition: Impaired ability to suck or coordinate the suck-swallow response, resulting in inadequate oral nutrition for metabolic needs.

RELATED FACTORS
Prematurity; Neurological impairment/delay; Oral hypersensitivity; Prolonged NPO; Anatomic abnormality

DEFINING CHARACTERISTICS

Subjective
[Caregiver reports infant is unable to initiate or sustain an effective suck]

Objective
Inability to initiate/sustain an effective suck; Inability to coordinate sucking, swallowing, and breathing

INFECTION, RISK FOR

Diagnostic Division: Safety

Definition: At increased risk for being invaded by pathogenic organisms.

RISK FACTORS
Inadequate primary defenses (broken skin, traumatized tissue, decrease in ciliary action, stasis of body fluids, change in pH secretions, altered peristalsis); Inadequate secondary defenses (e.g., decreased hemoglobin, leukopenia, suppressed inflammatory response); Inadequate acquired immunity; Immunosuppression; Tissue destruction; Increased environmental exposure; Invasive procedures; Chronic disease; Malnutrition; Trauma; Pharmaceutical agents (e.g., immunosuppressants, [antibiotic therapy]); Rupture of amniotic membranes; Insufficient knowledge to avoid exposure to pathogens

INJURY, RISK FOR

Diagnostic Division: Safety

Definition: At risk of injury as a result of environmental conditions interacting with the individual's adaptive and defensive resources.

NOTE: The potential for injury differs from individual to individual, and situation to situation. It is our belief that the environment is not safe, and there is no way to list everything that might present a danger to someone. Rather, we believe nurses have the responsibility to educate people throughout their life cycles to live safely in their environment.

RISK FACTORS
Internal
Physical (e.g., broken skin, altered mobility); Tissue hypoxia; Malnutrition; Abnormal blood profile (e.g., leukocytosis/leukopenia, altered clotting factors, thrombocytopenia, sickle cell, thalassemia, decreased hemoglobin); Biochemical dysfunction; Sensory dysfunction; Integrative/effector dysfunction; Immune/autoimmune dysfunction; Developmental age (physiological, psychosocial); Psychological (affective, orientation)

External
Biological (e.g., immunization level of community, microorganism); Chemical (e.g., pollutants, poisons, drugs, pharmaceutical agents, alcohol, nicotine, preservatives, cosmetics, dyes); Nutritional (e.g., vitamins, food types); Physical (e.g., design, structure, and arrangement of community, building, and/or equipment), mode of transport or transportation; Human (e.g., nosocomial agents, staffing patterns; cognitive, affective, and psychomotor factors)

INJURY, RISK FOR PERIOPERATIVE POSITIONING

Diagnostic Division: Safety

Definition: At risk for injury as a result of the environmental conditions found in the perioperative setting.

RISK FACTORS

Disorientation; sensory/perceptual disturbances due to anesthesia; Immobilization; Muscle weakness; [Pre-existing musculoskeletal conditions]; Obesity; Emaciation; Edema; [Elderly]

INSOMNIA

Diagnostic Division: Activity / Rest

Definition: A sustained disruption in amount and quality of sleep that impairs functioning.

RELATED FACTORS

Intake of stimulants/alcohol; Medications; Gender-related hormonal shifts; Stress (e.g., ruminative presleep pattern); Depression; Fear; Anxiety; Grief; Impairment of normal sleep pattern (e.g., travel, shift work, parental responsibilities, interruptions for interventions); Inadequate sleep hygiene (current); Activity pattern (e.g., timing, amount); Physical discomfort (e.g., body temperature, pain, shortness of breath, cough, gastroesophageal reflux, nausea, incontinence/urgency); Environmental factors (e.g., ambient noise, daylight/darkness exposure, ambient temperature/humidity, unfamiliar setting)

DEFINING CHARACTERISTICS

Subjective

Patient reports: Difficulty falling/staying asleep; Waking up too early; Dissatisfaction with sleep (current); Nonrestorative sleep; Sleep disturbances that produce next-day consequences; Lack of energy; Difficulty concentrating; Changes in mood; Decreased health status/quality of life; Increased accidents

Objective

Observed lack of energy; Observed changes in affect; Increased work/school absenteeism

INTRACRANIAL ADAPTIVE CAPACITY, DECREASED

Diagnostic Division: Circulation

Definition: Intracranial fluid dynamic mechanisms that normally compensate for increases in intracranial volumes are compromised, resulting in repeated disproportionate increases in intracranial pressure (ICP) in response to a variety of noxious and nonnoxious stimuli.

RELATED FACTORS

Brain injuries; Sustained increase in ICP equal to 10 to 15 mm Hg; Decreased cerebral perfusion pressure ≤50 to 60 mm Hg; Systemic hypotension with intracranial hypertension

DEFINING CHARACTERISTICS

Objective

Repeated increases in ICP of >10 mm Hg for more than 5 min following a variety of external stimuli; Disproportionate increase in ICP following stimulus; Elevated P2 ICP waveform; Volume pressure response test variation (volume-pressure ratio 2, pressure-volume index <10); Baseline ICP ≤10 mm Hg; Wide-amplitude ICP waveform; [Altered level of consciousness—coma]; [Changes in vital signs, cardiac rhythm]

KNOWLEDGE, DEFICIENT [LEARNING NEED] (SPECIFY)

Diagnostic Division: Teaching / Learning

Definition: Absence or deficiency of cognitive information related to specific topic. [Lack of specific information necessary for patient/significant other(s) to make informed choices regarding condition/lifestyle changes.]

RELATED FACTORS
Lack of exposure; Information misinterpretation; Unfamiliarity with information resources; Lack of recall; Cognitive limitation; Lack of interest in learning; [Request for no information]; [Inaccurate/incomplete information presented]

DEFINING CHARACTERISTICS

Subjective
Verbalization of the problem; [Request for information]; [Statements reflecting misconceptions]

Objective
Inaccurate follow-through of instruction; Inadequate performance of test; Exaggerated/inappropriate behaviors (e.g., hysterical, hostile, agitated, apathetic); [Development of preventable complication]

KNOWLEDGE (SPECIFY), READINESS FOR ENHANCED

Diagnostic Division: Teaching/Learning

Definition: The presence or acquisition of cognitive information related to a specific topic is sufficient for meeting health-related goals and can be strengthened.

RELATED FACTORS
To be developed

DEFINING CHARACTERISTICS

Subjective
Expresses an interest in learning; Explains knowledge of the topic; Describes previous experiences pertaining to the topic

Objective
Behaviors congruent with expressed knowledge

LIFESTYLE, SEDENTARY

Diagnostic Division: Activity/Rest

Definition: Reports a habit of life that is characterized by a low physical activity level.

RELATED FACTORS
Lack of interest/motivation/resources (time, money, companionship, facilities); Lack of training for accomplishment of physical exercise; Deficient knowledge of health benefits of physical exercise

DEFINING CHARACTERISTICS

Subjective
Verbalizes preference for activities low in physical activity

Objective
Chooses a daily routine lacking physical exercise; Demonstrates physical deconditioning

LIVER FUNCTION, RISK FOR IMPAIRED

Diagnostic Division: Food/Fluid

Definition: At risk for liver dysfunction.

RISK FACTORS
Viral infection (e.g., hepatitis A, hepatitis B, hepatitis C, Epstein-Barr); HIV co-infection; Hepatotoxic medications (e.g., acetaminophen, statins); Substance abuse (e.g., alcohol, cocaine)

LONELINESS, RISK FOR

Diagnostic Division: Social Interaction

Definition: At risk for experiencing discomfort associated with a desire or need for more contact with others.

RISK FACTORS
Affectional deprivation; Physical isolation; Cathectic deprivation; Social isolation; [Problems of attachment for children]; [Chaotic family relationships]

MEMORY, IMPAIRED

Diagnostic Division: Neurosensory

Definition: Inability to remember or recall bits of information or behavioral skills [Impaired memory may be attributed to physiopathological or situational causes that are either temporary or permanent.]

RELATED FACTORS
Hypoxia; Anemia; Fluid and electrolyte imbalance; Decreased cardiac output; Neurological disturbances [e.g., brain injury/concussion]; Excessive environmental disturbances; [Manic state, fugue, traumatic event]; [Substance use/abuse]; [Effects of medications]; [Age]

DEFINING CHARACTERISTICS

Subjective
[Reported] experiences of forgetting; Inability to recall recent or past events/factual information [/familiar persons, places, items]

Objective
[Observed] experiences of forgetting; Inability to determine if a behavior was performed; Inability to learn/retain new skills/information; Inability to perform a previously learned skill; Forgetting to perform a behavior at a scheduled time

MOBILITY, IMPAIRED BED

Diagnostic Division: Safety

Definition: Limitation of independent movement from one bed position to another.

RELATED FACTORS
Neuromuscular/musculosketal impairment; Insufficient muscle strength; Deconditioning; Obesity; Environmental constraints (i.e., bed size/type, treatment equipment, restraints); Pain; Sedating medications; Deficient knowledge; Cognitive impairment

DEFINING CHARACTERISTICS

Subjective
[Reported difficulty performing activities]

Objective
Impaired ability to: Turn from side to side; Move from supine to sitting or sitting to supine; "Scoot" or reposition self in bed; Move from supine to prone or prone to supine; Move from supine to long-sitting or long-sitting to supine

MOBILITY, IMPAIRED PHYSICAL

Diagnostic Division: Safety

Definition: A limitation in independent, purposeful physical movement of the body or of one or more extremities.

RELATED FACTORS
Sedentary lifestyle; Activity intolerance; Disuse; Deconditioning; Decreased endurance; Limited cardiovascular endurance; Decreased muscle strength/control/mass; Joint stiffness; Contracture; Loss of integrity of bone structures; Pain/discomfort; Neuromuscular/musculoskeletal impairment; Sensoriperceptual/cognitive impairment; Developmental delay; Depressive mood state; Anxiety; Malnutrition; Altered cellular metabolism; Body mass index above 75th age-appropriate percentile; Deficient knowledge regarding value of physical activity; Cultural beliefs regarding age-appropriate activity; Lack of environmental supports (e.g., physical or social); Prescribed movement restrictions; Medications; Reluctance to initiate movement

DEFINING CHARACTERISTICS

Subjective
[Report of pain/discomfort on movement]; [Unwillingness to move]

Objective
Limited range of motion; Limited ability to perform gross fine/motor skills; Difficulty turning; Slowed movement; Uncoordinated/jerky movements; Movement-induced tremor; Decreased [slower] reaction time; Postural instability; Gait changes; Engages in substitutions for movement (e.g., increased attention to other's activity, controlling behavior, focus on preillness disability/activity)

MOBILITY, IMPAIRED WHEELCHAIR

Diagnostic Division: Safety

Definition: Limitation of independent operation of wheelchair within environment.

RELATED FACTORS
Neuromuscular/musculosketal impairments (e.g., contractures); Insufficient muscle strength; Limited endurance; Deconditioning; Obesity; Impaired vision; Pain; Depressed mood; Cognitive impairment; Deficient knowledge; Environmental constraints (e.g., stairs, inclines, uneven surfaces, unsafe obstacles, distances, lack of assistive devices or persons, wheelchair type)

DEFINING CHARACTERISTICS
Inability to operate manual/power wheelchair on: Even/uneven surface; An incline/decline; Curbs

NAUSEA

Diagnostic Division: Food/Fluid

Definition: A subjective, unpleasant, wavelike sensation in the back of the throat, epigastrium, or abdomen that may lead to the urge or need to vomit.

RELATED FACTORS
Treatment
Gastric irritation; Gastric distention; Pharmaceuticals [e.g., analgesics—aspirin/nonsterodial anti-inflammatory drugs/opioids, anesthesia, antivirals for HIV, steroids, antibiotics, chemotherapeutic agents]; [Radiation therapy/exposure]

Biophysical
Biochemical disorders (e.g., uremia, diabetic ketoacidosis, pregnancy); Localized tumors (e.g., acoustic neuroma, primary or secondary brain tumors, bone metastases at base of skull); Intra-abdominal tumors; Toxins (e.g., tumor-produced peptides, abnormal metabolites due to cancer); Esophageal/pancreatic disease; Liver/splenetic capsule stretch; Gastric distention [e.g., delayed gastric emptying, pyloric intestinal obstruction, external compression of the stomach, other organ enlargement that slows stomach functioning (squashed stomach syndrome)]; Gastric irritation [e.g., pharyngeal and/or peritoneal inflammation]; Motion sickness; Ménière's disease; Labyrinthitis; Increased intracranial pressure; Meningitis

Situational
Noxious odors/taste; Unpleasant visual stimulation; Pain; Psychological factors; Anxiety; Fear

DEFINING CHARACTERISTICS

Subjective
Reports nausea ["sick to stomach"]

Objective
Aversion toward food; Increased salivation; Sour taste in mouth; Increased swallowing; Gagging sensation

NEGLECT, UNILATERAL

Diagnostic Division: Neurosensory

Definition: Impairment in sensory and motor response, mental representation, and spatial attention to body and the corresponding environment characterized by inattention to one side and overattention to the opposite side. Left side neglect is more severe and persistent than right side neglect.

RELATED FACTORS
Brain injury from: Cerebrovascular problems; Neurological illness; Trauma; Tumor; Left hemiplegia from cerebrovascular accident of the right hemisphere; Hemianopsia

DEFINING CHARACTERISTICS

Subjective
[Reports feeling that part does not belong to own self]

Objective
Marked deviation of the eyes/head/trunk (as if drawn magnetically) to the nonneglected side and to stimuli and activities on that side; Failure to move eyes/head/limbs/trunk in the neglected hemisphere despite being aware of a stimulus in that space; Failure to notice people approaching from the neglected side; Displacement of sounds to the non-neglected side; Appears unaware of positioning of neglected limb; Lack of safety precautions with regard to the neglected side; Failure to: eat food from portion of the plate on the neglected side; dress/groom neglected side; Difficulty remembering details of internally represented familiar scenes that are on the neglected side; Use of only vertical half of page when writing; Failure to cancel lines on the half of the page on the neglected side; Substitution of letters to form alternative words that are similar to the original in length when reading; Distortion/omission of drawing on the half of the page on the neglected side; Perseveration of visual-motor tasks on nonneglected side; Transfer of pain sensation to the nonneglected side

NONCOMPLIANCE [ADHERENCE, INEFFECTIVE] (SPECIFY)

Diagnostic Division: Teaching/Learning

Definition: Behavior of person and/or caregiver that fails to coincide with a health-promoting or therapeutic plan agreed upon by the person (and/or family, and/or community) and health care professional. In the presence of an agreed-on health-promoting or therapeutic plan, person's or caregiver's behavior is fully or partially adherent or nonadherent and may lead to clinically ineffective, partially ineffective outcomes.

NOTE: When the plan of care is reviewed with the client/significant other, use of the term *noncompliance* may create a negative response and sense of conflict between health care providers and client. Labeling the client noncompliant may also lead to problems with third-party reimbursement. Where possible, use of the Nursing Diagnosis: ineffective Therapeutic Regimen Management is recommended.

RELATED FACTORS
Health Care Plan
Duration; Cost; Intensity; Complexity; Financial flexibility of plan

Individual factors
Personal/developmental abilities; Knowledge/skill relevant to the regimen behavior; Motivational forces; Individual's value system; Health beliefs; Cultural influences; Spiritual values; Significant others; [Altered thought processes such as depression, paranoia]; [Difficulty changing behavior, as in addictions]; [Denial]; [Issues of secondary gain]

Health System
Individual health coverage; Credibility of provider; Client-provider relationships; Provider continuity/regular follow-up; Provider reimbursement; Communication/teaching skills of the provider; Access/ convenience of care; Satisfaction with care

Network
Involvement of members in health plan; Social value regarding plan; Perceived beliefs of significant others

DEFINING CHARACTERISTICS

Subjective
[Does not perceive illness/risk to be serious, does not believe in efficacy of therapy, unwilling to follow treatment regimen or accept side effects/limitations

Objective
Behavior indicative of failure to adhere; Objective tests (e.g., physiological measures, detection of physiologic markers); Failure to progress; Evidence of development of complications/exacerbation of symptoms; Failure to keep appointments; [Inability to set or attain mutual goals]

NUTRITION: LESS THAN BODY REQUIREMENTS, IMBALANCED

Diagnostic Division: Food/Fluid

Definition: Intake of nutrients insufficient to meet metabolic needs.

RELATED FACTORS
Inability to ingest/digest food; Inability to absorb nutrients; Biological/psychological/economic factors; [Increased metabolic demands, e.g., burns]; [Lack of information, misinformation, misconceptions]

DEFINING CHARACTERISTICS

Subjective
Reported food intake less than RDA (recommended daily allowances); Lack of food; Lack of interest in food; Aversion to eating; Reported altered taste sensation; Perceived inability to digest food; Satiety immediately after ingesting food; Abdominal pain/cramping; Lack of information, misinformation, misconceptions

Objective
Body weight 20% or more under ideal [for height and frame]; [Decreased subcutaneous fat/muscle mass]; Loss of weight with adequate food intake; Hyperactive bowel sounds; Diarrhea; Steatorrhea; Weakness of muscles required for swallowing or mastication; Poor muscle tone; Sore buccal cavity; Pale mucous membranes; Capillary fragility; Excessive loss of hair [or increased growth of hair on body (lanugo)]; [Cessation of menses]; [Abnormal laboratory studies (e.g., decreased albumin, total proteins; iron deficiency; electrolyte imbalances)]

NUTRITION: MORE THAN BODY REQUIREMENTS, IMBALANCED

Diagnostic Division: Food / Fluid

Definition: Intake of nutrients that exceed metabolic needs.

RELATED FACTORS
Excessive intake in relationship to metabolic need

NOTE: Underlying cause is often complex and may be difficult to diagnose/treat

DEFINING CHARACTERISTICS

Subjective
Dysfunctional eating patterns (e.g., pairing food with other activities); Eating in response to external cues (e.g., time of day, social situation); Concentrating food intake at end of day; Eating in response to internal cues other than hunger (e.g., anxiety); Sedentary activity level

Objective
Weight 20% over ideal for height and frame [obese]; Triceps skinfold >15 mm in men and 25 mm in women; [Percentage of body fat greater than 22% for trim women and 15% for trim men]

NUTRITION: READINESS FOR ENHANCED

Diagnostic Division: Food / Fluid

Definition: A pattern of nutrient intake that is sufficient for meeting metabolic needs and can be strengthened.

DEFINING CHARACTERISTICS

Subjective
Expresses knowledge of healthy food and fluid choices/willingness to enhance nutrition; Eats regularly; Attitude toward eating/drinking is congruent with health goals

Objective
Consumes adequate food/fluid; Follows an appropriate standard for intake (e.g., the food pyramid or American Diabetic Association guidelines); Safe preparation/storage for food/fluids

NUTRITION: RISK FOR MORE THAN BODY REQUIREMENTS, IMBALANCED

Diagnostic Division: Food / Fluid

Definition: At risk for an intake of nutrients that exceed metabolic needs.

RISK FACTORS
Dysfunctional eating patterns; Pairing food with other activities; Eating in response to external cues other than hunger (e.g., time of day, social situation); Eating in response

to internal cues other than hunger (such as anxiety); Concentrating food intake at end of day; Parental obesity; Rapid transition across growth percentiles in children; Reported use of solid food as major food source before 5 months of age; Higher baseline weight at beginning of each pregnancy; Observed use of food as reward/comfort measure; [Frequent/repeated dieting]; [Alteration in usual activity patterns/sedentary lifestyle]; [Majority of foods consumed are concentrated, high-calorie/fat sources]; [Lower socioeconomic status]

ORAL MUCOUS MEMBRANE, IMPAIRED

Diagnostic Division: Food / Fluid

Definition: Disruption of the lips and/or soft tissue of the oral cavity.

RELATED FACTORS

Dehydration; NPO for more than 24 hours; Malnutrition; Decreased salivation; Medication side effects; Diminished hormone levels (women); Mouth breathing; Deficient knowledge of appropriate oral hygiene; Ineffective oral hygiene; Barriers to oral self-care/professional care; Mechanical factors (e.g., ill-fitting dentures; braces; tubes [endotrachial, nasogastric], surgery in oral cavity); Loss of supportive structures; Trauma; Cleft lip or palate; Chemical irritants (e.g., alcohol, tobacco, acidic foods, regular use of inhalers or other noxious agents); Chemotherapy; Immunosuppression; Immunocompromised; Decreased platelets; Infection; Radiation therapy; Stress; Depression

DEFINING CHARACTERISTICS

Subjective

Xerostomia [dry mouth]; Oral pain/discomfort; Reports bad taste in mouth; Diminished taste; Difficulty eating/swallowing

Objective

Coated tongue; Smooth atrophic tongue; Geographic tongue; Gingival/mucosal pallor; Stomatitis; Hyperemia; Gingival hyperplasia; Macroplasia; Vesicles; Nodules; Papules; White patches/plaques; Spongy patches; White curdlike exudate; Oral lesions/ulcers; Fissures; Bleeding; Chelitis; Desquamation; Mucosal denudation; Purulent drainage/exudates; Presence of pathogens; Enlarged tonsils; Edema; Halitosis; Gingival recession, pockets deeper than 4 mm; [Carious teeth]; Red or bluish masses (e.g., hemangiomas); Difficult speech

PAIN, ACUTE

Diagnostic Division: Pain / Discomfort

Definition: Unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage (International Association for the Study of Pain); sudden or slow onset of any intensity from mild to severe with an anticipated or predictable end and a duration of less than 6 months.

RELATED FACTORS

Injuring agents (biological, chemical, physical, psychological)

DEFINING CHARACTERISTICS

Subjective

Verbal/coded report; [may be less from patients under 40, men, and some cultural groups]; Changes in appetite and eating; [Pain unrelieved and/or increased beyond tolerance]

Objective

Observed evidence of pain; Guarded behavior; Protective gestures; Positioning to avoid pain; Facial mask; Sleep disturbance (eyes lack luster, beaten look, fixed or scattered movement, grimace); Expressive behavior (e.g., restlessness, moaning, crying, vigilance, irritability, sighing); Distraction behavior (e.g., pacing, seeking out other people and/or activities, repetitive activities); Changes in muscle tone (may span from listless [flaccid] to rigid); Diaphoresis; Changes in blood pressure/heart rate/respiration rate; Pupillary dilation; Self-focusing; Narrowed focus (altered time perception, impaired thought process, reduced interaction with people and environment)

PAIN, CHRONIC

Diagnostic Division: Pain / Comfort

Definition: An unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage (International Association for the Study of Pain); sudden or slow onset of any intensity from mild to severe, constant or recurring without anticipated or predictable end and a duration of greater than 6 months.

NOTE: Pain is a signal that something is wrong. Chronic pain can be recurrent and periodically disabling (e.g., migraine headaches) or may be unremitting. Although chronic pain syndrome includes various learned behaviors, psychologic factors become the primary contribution to impairment. It is a complex entity, combining elements from other nursing diagnoses (e.g., Powerlessness; deficient Diversional Activity; interrupted Family Processes; Self-care Deficit, and risk for Disuse Syndrome).

RELATED FACTORS
Chronic physical/psychosocial disability

DEFINING CHARACTERISTICS

Subjective
Verbal/coded report; Fear of reinjury; Altered ability to continue previous activities; Changes in sleep patterns; Fatigue; Anorexia; [Preoccupation with pain]; [Desperately seeks alternative solutions/therapies for relief/control of pain]

Objective
Observed protective behavior; Guarding behavior; Irritability; Restlessness; Facial mask; Self-focusing; Reduced interaction with people; Depression; Atrophy of involved muscle group; Sympathetic mediated responses (temperature, cold, changes of body position, hypersensitivity)

PARENTING, IMPAIRED

Diagnostic Division: Social Interaction

Definition: Inability of the primary caretaker to create, maintain, or regain an environment that promotes the optimum growth and development of the child.

RELATED FACTORS
Infant or Child
Premature birth; Multiple births; Not gender desired; Illness; Separation from parent; Difficult temperament; Temperamental conflicts with parental expectations; Handicapping condition; Developmental delay; Altered perceptual abilities; Attention-deficit hyperactivity disorder

Knowledge
Deficient knowledge about child development/health maintenance, parenting skills; Inability to respond to infant cues; Unrealistic expectation [for self, infant, partner]; Lack of education; Limited cognitive functioning; Lack of cognitive readiness for parenthood; Poor communication skills; Preference for physical punishment

Physiological
Physical illness

Psychological
Young parental age; Lack of prenatal care; Difficult birthing process; High number of/closely spaced pregnancies; Sleep disruption/ deprivation; Depression; History of substance abuse; Disability; History of mental illness

Social
Presence of stress (e.g., financial, legal, recent crisis, cultural move [e.g., from another country/cultural group within same country]); Job problems; Unemployment; Financial difficulties; Relocations; Poor home environment; Situational/chronic low self-esteem; Lack of family cohesiveness; Marital conflict; Change in family unit; Inadequate child-care arrangements; Role strain; Single parents; Father/mother of child not involved; Lack of/or poor parental role model; Lack of valuing of parenthood; Inability to put child's needs before own; Unplanned or unwanted pregnancy; Low socioeconomic class; Poverty; Lack of resources; Lack of transportation; Poor problem-solving skills; Maladaptive coping strategies; Lack of social support networks; Social isolation; History of being abusive/being abused; Legal difficulties

DEFINING CHARACTERISTICS

Subjective
Parental
Statements of inability to meet child's needs; Verbalization of inability to control child; Negative statements about child; Verbalization of frustration/role inadequacy

Objective
Infant or Child
Frequent accidents/illness; Failure to thrive; Poor academic performance/cognitive development; Poor social competence; Behavior disorders; Incidence of trauma (e.g., physical and psychological)/abuse; Lack of attachment; Lack of separation anxiety; Runaway

Parental
Maternal-child interaction deficit; Poor parent-child interaction; Little cuddling; Inadequate attachment; Inadequate child health maintenance; Unsafe home environment; Inappropriate child-care arrangements; Inappropriate stimulation (e.g., visual, tactile, auditory); Inappropriate caretaking skills; Inconsistent care/behavior management; Inflexibility to meet needs of child; Frequently punitive; Rejection of/hostility to child; Child abuse/neglect; Abandonment

PARENTING, READINESS FOR ENHANCED

Diagnostic Division: Social Interaction

Definition: A pattern of providing an environment for children or other dependent persons that is sufficient to nurture growth and development and can be strengthened.

DEFINING CHARACTERISTICS

Subjective
Expresses willingness to enhance parenting; Children or other dependent person(s) express(es) satisfaction with home environment

Objective
Emotional support of children [/dependent person(s)]; Evidence of attachment; Needs of children [/dependent person(s)] are met (e.g., physical and emotional); Exhibits realistic expectations of children [/dependent person(s)]

PARENTING, RISK FOR IMPAIRED

Diagnostic Division: Social Interaction

Definition: Risk for inability of the primary caretaker to create, maintain, or regain an environment that promotes the optimum growth and development of the child.

RISK FACTORS
Infant or Child
Altered perceptual abilities; Attention-deficit hyperactivity disorder; Difficult temperament; Temperamental conflicts with parental expectation; Premature birth; Multiple births; Not gender desired; Illness; Prolonged separation from parent; Handicapping condition/developmental delay

Knowledge
Unrealistic expectation of child; Deficient knowledge about child development/health maintenance, parenting skills; Low educational level or attainment; Lack of cognitive readiness for parenthood; Low cognitive functioning; Poor communication skills; Inability to respond to infant cues; Preference for physical punishment

Physiological
Physical illness

Psychological
Young parental age; Closely spaced pregnancies; High number of pregnancies; Difficult birthing process; Sleep disruption/deprivation; Depression; History of substance abuse; Disability; History of mental illness

Social
Stress; Unemployment; Financial difficulties; Poor home environments; Relocation [including cultural move (e.g., from another country/cultural group within same country)]; Situational/chronic low self-esteem; Lack of family cohesiveness; Marital conflict; Change in family unit; Inadequate child-care arrangements; Role strain; Single parent; Father/mother of child not involved; Parent-child separation; Poor/lack of pa-

rental role model; Lack of valuing of parenthood; Unplanned/unwanted pregnancy; Late/lack of prenatal care; Low socioeconomic class; Poverty; Lack of resources/access to resources; Lack of transportation; Poor problem-solving skills; Maladaptive coping strategies; Lack of social support network; Social isolation; History of being abused/being abusive; Legal difficulties

PERIPHERAL NEUROVASCULAR DYSFUNCTION, RISK FOR

Diagnostic Division: Neurosensory

Definition: At risk of experiencing a disruption in circulation, sensation, or motion of an extremity.

RISK FACTORS

Fractures; Trauma; Vascular obstruction; Mechanical compression (e.g., tourniquet, cane, cast, brace, dressing, restraint); Orthopedic surgery; Immobilization

POISONING, RISK FOR

Diagnostic Division: Safety

Definition: Accentuated risk of accidental exposure to or ingestion of drugs or dangerous products in doses sufficient to cause poisoning [/or the adverse effects of prescribed medication/drug use].

RISK FACTORS

Internal

Reduced vision; Lack of safety/drug education; Lack of proper precaution; [Unsafe habits]; [Disregard for safety measures]; [Lack of supervision]; Verbalization of occupational setting without adequate safeguards; Cognitive/emotional difficulties; [Age, e.g., young child, elderly person]; [Chronic disease state/disability]; [Cultural or religious beliefs/practices]

External

Large supplies of drugs in house; Medicines stored in unlocked cabinets accessible to children/confused individuals; Availability of illicit drugs potentially contaminated by poisonous additives; Dangerous products placed within reach of children/confused individuals; [Therapeutic margin of safety of specific drugs (e.g., therapeutic versus toxic level, half-life, method of uptake and degradation in body, adequacy of organ function)]; [Use of multiple herbal supplements or megadosing]

POST-TRAUMA SYNDROME [SPECIFY STAGE]

Diagnostic Division: Ego Integrity

Definition: Sustained maladaptive response to a traumatic, overwhelming event.

RELATED FACTORS

Events outside the range of usual human experience; Serious threat to self/loved ones; Serious injury to self/loved ones; Serious accidents (e.g., industrial, motor vehicle); Abuse (physical and psychosocial); Criminal victimization; Rape; Witnessing mutilation/violent death; Tragic occurrence involving multiple deaths; Disasters; Sudden destruction of one's home/community; Epidemics; Wars; Being held prisoner of war; Torture

DEFINING CHARACTERISTICS

Subjective

Intrusive thoughts/dreams; Nightmares; Flashbacks; Palpitations; Headaches; [Loss of interest in usual activities]; [Loss of feeling of intimacy/sexuality]; Hopelessness; Shame; [Excessive verbalization of the traumatic event]; [Verbalization of survival guilt/guilt about behavior required for survival]; Anxiety; Fear; Grieving; Reports feeling numb; Depression; Difficulty in concentrating; Gastric irritability; [Changes in appetite/sleep pattern]; [Chronic fatigue/easy fatigability]

Objective

Hypervigilance; Exaggerated startle response; Irritability; Neurosensory irritability; Denial; Repression; Avoidance; Alienation; Detachment; Psychogenic amnesia; Altered mood states; Aggression; [Poor impulse control/explosiveness]; Rage; Panic attacks; Horror; Substance abuse; Compulsive behavior; Enuresis (in children); [Difficulty with interpersonal relationships]; [Dependence on others]; [Work/school failure]

[Stages: Acute subtype: Begins within 6 months and does not last longer than 6 months; Chronic subtype: Lasts longer than 6 months; Delayed subtype: Period of latency of 6 months or longer before onset of symptoms]

POST-TRAUMA SYNDROME, RISK FOR

Diagnostic Division: Ego Integrity

Definition: A risk for sustained maladaptive response to a traumatic, overwhelming event.

RISK FACTORS

Occupation (e.g., police, fire, rescue, corrections, emergency room staff, mental health worker, [responder family members]); Perception of event; Exaggerated sense of responsibility; Diminished ego strength; Survivor's role in the event; Inadequate social support; Nonsupportive environment; Displacement from home; Duration of the event

POWER, READINESS FOR ENHANCED

Diagnostic Division: Ego Integrity

Definition: A pattern of participating knowingly in change that is sufficient for well-being and can be strengthened.

DEFINING CHARACTERISTICS

Subjective

Expresses readiness to enhance: Power; Knowledge for participation in change; Awareness of possible changes to be made; Identification of choices that can be made for change; Expresses readiness to enhance: Freedom to perform actions for change; Involvement in creating change; Participation in choices for daily living and health

POWERLESSNESS [SPECIFY LEVEL]

Diagnostic Division: Ego Integrity

Definition: Perception that one's own action will not significantly affect an outcome; a perceived lack of control over a current situation or immediate happening.

RELATED FACTORS

Health care environment [e.g., loss of privacy, personal possessions, control over therapies]; Interpersonal interaction [e.g., misuse of power, force; abusive relationships]; Illness-related regimen [e.g., chronic/debilitating conditions]; Lifestyle of helplessness [e.g., repeated failures, dependency]

DEFINING CHARACTERISTICS

Subjective

Low

Expressions of uncertainty about fluctuating energy levels

Moderate

Expressions of dissatisfaction/frustration over inability to perform previous tasks/activities; Expression of doubt regarding role performance; Fear of alienation from caregivers; Reluctance to express true feelings; Resentment; Anger; Guilt

Severe

Verbal expressions of having no control (e.g., over self-care, situation, outcome); Depression over physical deterioration

Objective

Low

Passivity

Moderate

Dependence on others that may result in irritability; Inability to seek information regarding care; Passivity; Nonparticipation in care/decision making when opportunities are provided; Does not monitor progress; Does not defend self-care practices when challenged

Severe

Apathy; [Withdrawal]; [Resignation]; [Crying]

POWERLESSNESS, RISK FOR

Diagnostic Division: Ego Integrity

Definition: Risk for perceived lack of control over a situation and/or one's ability to significantly affect an outcome.

RISK FACTORS
Physiological
Illness [hospitalization, intubation, ventilator, suctioning]; Dying; Acute injury; Progressive debilitating disease process (e.g., spinal cord injury, multiple sclerosis); Aging [e.g., decreased physical strength, decreased mobility]

Psychosocial
Deficient knowledge (e.g., illness or health care system); Lifestyle of dependency; Inadequate coping patterns; Absence of integrality (e.g., essence of power); Situational/chronic low self-esteem; Disturbed body image

PROTECTION, INEFFECTIVE

Diagnostic Division: Safety

Definition: Decrease in the ability to guard self from internal or external threats such as illness or injury.

RELATED FACTORS
Extremes of age; Inadequate nutrition; Alcohol abuse; Abnormal blood profiles (e.g., leukopenia, thrombocytopenia, anemia, coagulation); Drug therapies (e.g., antineoplastic, corticosteroid, immune, anticoagulant, thrombolytic); Treatments (e.g., surgery, radiation); Cancer; Immune disorders

DEFINING CHARACTERISTICS

Subjective
Neurosensory alterations; Chilling; Itching; Insomnia; Fatigue; Weakness; Anorexia

Objective
Deficient immunity; Impaired healing; Altered clotting; Maladaptive stress response; Perspiring [inappropriate]; Dyspnea; Cough; Restlessness; Immobility; Disorientation; Pressure sores

RAPE-TRAUMA SYNDROME

Diagnostic Division: Ego Integrity

Definition: Sustained maladaptive response to a forced, violent sexual penetration against the victim's will and consent. [Rape is not a sexual crime, but a crime of violence and identified as sexual assault. Although attacks are most often directed toward women, men also may be victims.]

NOTE: This syndrome includes the following three subcomponents: Rape-Trauma, Compound reaction, and Silent reaction

RELATED FACTORS
Rape [actual/attempted forced sexual penetration]

DEFINING CHARACTERISTICS

Subjective
Embarrassment; Humiliation; Shame; Guilt; Self-blame; Loss of self-esteem; Helplessness; Powerlessness; Shock; Fear; Anxiety; Anger; Revenge; Nightmares; Sleep disturbances; Change in relationships; Sexual dysfunction

Objective
Physical trauma [e.g., bruising, tissue irritation]; Muscle tension/spasms; Confusion; Disorganization; Inability to make decisions; Agitation; Hyperalertness; Aggression; Mood swings; Vulnerability; Dependence; Depression; Substance abuse; Suicide attempts; Denial; Phobias; Paranoia; Dissociative disorders

RAPE-TRAUMA SYNDROME: COMPOUND REACTION

Diagnostic Division: Ego Integrity

Definition: Forced violent sexual penetration against the victim's will and consent. The trauma syndrome that develops from this attack or attempted attack includes an acute phase of disorganization of the victim's lifestyle and a long-term process of reorganization of lifestyle.

RELATED FACTORS
To be developed.

DEFINING CHARACTERISTICS

Subjective
Acute Phase
Multiple physical symptoms (e.g., gastrointestinal irritability, genitourinary discomfort, muscle tension, sleep pattern disturbance); Reactivated symptoms of such previous conditions (i.e., physical/psychiatric illness); Substance abuse

Objective
Acute Phase
Emotional reactions (e.g., anger, embarrassment, fear of physical violence and death, humiliation, self-blame, revenge); Long-term phase: Changes in lifestyle (e.g., changes in residence, dealing with repetitive nightmares and phobias, seeking family/social network support)

RAPE-TRAUMA SYNDROME: SILENT REACTION

Diagnostic Division: Ego Integrity

Definition: Forced violent sexual penetration against the victim's will and consent. The trauma syndrome that develops from this attack or attempted attack includes an acute phase of disorganization of the victim's lifestyle and a long-term process of reorganization of lifestyle.

RELATED FACTORS
To be developed.

DEFINING CHARACTERISTICS

Subjective
Increase in nightmares; Abrupt changes in relationships with men; Pronounced changes in sexual behavior

Objective
Increasing anxiety during interview (e.g., blocking of associations, long periods of silence; minor stuttering, physical distress); No verbalization of the occurrence of rape; Sudden onset of phobic reactions

RELIGIOSITY, IMPAIRED

Diagnostic Division: Ego Integrity

Definition: Impaired ability to exercise reliance on beliefs and/or participate in rituals of a particular faith tradition.

NOTE: NANDA recognizes that the term *religiosity* may be culture specific; however, the term is useful in the U.S. and is well supported in the U.S. literature.

RELATED FACTORS
Developmental and Situational
Life transitions; Aging; End-stage life crisis

Physical
Illness; Pain

Psychological Factors
Ineffective support/coping; Anxiety; Fear of death; Personal crisis [/disaster]; Lack of security; Use of religion to manipulate

Sociocultural
Cultural/environmental barriers to practicing religion; Lack of social integration; Lack of sociocultural interaction

Spiritual
Spiritual crisis; Suffering

DEFINING CHARACTERISTICS

Subjective
Expresses emotional distress because of separation from faith community; Expresses a need to reconnect with previous belief patterns/customs; Questions religious belief patterns/customs; Difficulty adhering to prescribed religious beliefs and rituals (e.g., religious ceremonies, dietary regulations, clothing, prayer, worship/religious services, private religious behaviors/reading religious materials/media, holiday observances, meetings with religious leaders)

RELIGIOSITY, READINESS FOR ENHANCED

Diagnostic Division: Ego Integrity

Definition: Ability to increase reliance on religious beliefs and/or participate in rituals of a particular faith tradition.

RELATED FACTORS
To be developed

DEFINING CHARACTERISTICS

Subjective
Expresses desire to strengthen religious belief patterns/customs that had provided comfort/religion in the past; Request for assistance to increase participation in prescribed religious beliefs (e.g., religious ceremonies, dietary regulations/rituals, clothing, prayer, worship/religious services, private religious behaviors, reading religious materials/media, holiday observances); Requests assistance expanding religious options/religious materials/experiences; Requests meeting with religious leaders/facilitators; Requests forgiveness/reconciliation; Questions/rejects belief patterns/customs that are harmful

RELIGIOSITY, RISK FOR IMPAIRED

Diagnostic Division: Ego Integrity

Definition: At risk for an impaired ability to exercise reliance on religious beliefs and/or participate in rituals of a particular faith tradition.

NOTE: NANDA recognizes that the term *religiosity* may be culture specific; however, the term is useful in the U.S. and is well supported in the U.S. literature.

RISK FACTORS
Developmental
Life transitions

Environmental
Lack of transportation; Barriers to practicing religion

Physical
Illness; Hospitalization; Pain

Psychological
Inadequate coping/caregiving; Ineffective support; Depression; Lack of security

Sociocultural
Lack of social interaction; Social isolation; Cultural barrier to practicing religion

Spiritual
Suffering

RELOCATION STRESS SYNDROME

Diagnostic Division: Ego Integrity

Definition: Physiologic and/or psychological disturbances as a result of transfer from one environment to another.

RELATED FACTORS
Losses; Feeling of powerlessness; Lack of adequate support system; Lack of predeparture counseling; Unpredictability of experience; Isolation; Language barrier; Impaired psychosocial health; Passive coping; Decreased health status

DEFINING CHARACTERISTICS

Subjective

Anxiety (e.g., separation); Anger; Insecurity; Worry; Fear; Loneliness; Depression; Unwillingness to move; Concern over relocation; Sleep disturbance

Objective

Move from one environment to another; Increased [frequency of] verbalization of needs; Pessimism; Frustration; Increased physical symptoms/illness; Withdrawal; Aloneness; Alienation; [Hostile behavior/outbursts]; Loss of identity; Loss of self-worth/self-esteem; Dependency; [Increased confusion]; [Cognitive impairment]

RELOCATION STRESS SYNDROME, RISK FOR

Diagnostic Division: Ego Integrity

Definition: At risk for physiological and/or psychosocial disturbance following transfer from one environment to another.

RISK FACTORS

Move from one environment to another; Moderate to high degree of environmental change [e.g., physical, ethnic, cultural]; Lack of adequate support system/group; Lack of predeparture counseling; Passive coping; Feelings of powerlessness; Losses; Moderate mental competence; Unpredictability of experiences

ROLE PERFORMANCE, INEFFECTIVE

Diagnostic Division: Social Interaction

Definition: The patterns of behavior and self-expression do not match the environmental context, norms, and expectations.

NOTE: There is a typology of roles: sociopersonal (friendship, family, marital, parenting, community), home management, intimacy (sexuality, relationship building), leisure/exercise/recreation, self-management, socialization (developmental transitions), community contributor, and religious.

RELATED FACTORS

Knowledge

Inadequate/lack of role model; Inadequate role preparation (e.g., role transition, skill, rehearsal, validation); Lack of education; [Developmental transitions]; Unrealistic role expectations

Physiological

Body image alteration; Cognitive deficits; Neurological deficits; Physical illness; Mental illness; Depression; Low self-esteem; Fatigue; Pain; Substance abuse

Social

Inadequate role socialization [e.g., role model, expectations, responsibilities]; Young age; Developmental level; Lack of resources; Low socioeconomic status; Stress; Conflict; Job schedule demands; Domestic violence; Inadequate support system; Lack of rewards; Inappropriate linkage with the health care system

DEFINING CHARACTERISTICS

Subjective

Altered role perceptions; Change in self-/other's perception of role; Change in usual patterns of responsibility/capacity to resume; Inadequate opportunities for role enactment; Role dissatisfaction; Role overload; Role denial; Discrimination [by others]; Powerlessness

Objective

Deficient knowledge; Inadequate role competency/skills; Inadequate adaptation to change; Inappropriate developmental expectations; Inadequate confidence; Inadequate motivation; Inadequate self-management/coping; Inadequate external support for role enactment; Role strain; Role conflict/confusion; Role ambivalence; [Failure to assume role]; Uncertainty; Anxiety; Depression; Pessimistic; Domestic violence; Harassment; System conflict

SELF-CARE, READINESS FOR ENHANCED

Diagnostic Division: Hygiene

Definition: A pattern of performing activities for oneself that helps to meet health-related goals and can be strengthened.

DEFINING CHARACTERISTICS

Subjective

Expresses desire to enhance independence in maintaining: life/health/personal development/well-being; Expresses desire to enhance: Self-care; Knowledge for strategies for self-care; Responsibility for self-care

NOTE: Note: Based on the definition and defining characteristics of this ND, the focus appears to be broader than simply meeting routine basic ADLs and addresses independence in maintaining overall health, personal development, and general well-being.

SELF-CARE DEFICIT, [SPECIFY LEVEL] FEEDING, BATHING/ HYGIENE, DRESSING/GROOMING, TOILETING

Diagnostic Division: Hygiene

Definition: Impaired ability to perform or complete feeding, bathing/hygiene, dressing and grooming, or toileting activities for oneself [on a temporary, permanent, or progressing basis] (Specify level of independence using a standardized functional scale).

NOTE: Self-care also may be expanded to include the practices used by the client to promote health, the individual responsibility for self, a way of thinking. Refer to Nursing Diagnoses impaired Home Maintenance, ineffective Health Maintenance

RELATED FACTORS

Weakness; Fatigue; Decreased motivation; Neuromuscular/musculoskeletal impairment; Environmental barriers; Severe anxiety; Pain; Discomfort; Perceptual/cognitive impairment; [Mechanical restrictions such as cast, splint, traction, ventilator]; Inability to perceive body part/spatial relationship [bathing/hygiene]; Impaired transfer ability [self-toileting]; Impaired mobility status [self-toileting]

DEFINING CHARACTERISTICS

Bathing/Hygiene

(levels 0–4) Inability to: Get bath supplies; Wash body; Obtain water source; Regulate bath water; Access bathroom [tub]; Dry body

Dressing/Grooming

(levels 0–4) Inability to: Choose clothing; Pick up clothing; Put clothing on upper/lower body; Put on socks/shoes; Use zippers/assistive devices; Remove clothes; Maintain appearance at a satisfactory level; Impaired ability to: Obtain clothing; Put on/take off necessary items of clothing; Fasten clothing

Feeding

(levels 0–4) Inability to: Prepare food for ingestion; Open containers; Handle utensils; Get food onto utensil; Bring food from a receptacle to the mouth; Ingest food safely; Manipulate food in mouth; Chew/swallow food; Pick up cup or glass; Use assistive device; Ingest sufficient food; Complete a meal; Ingest food in a socially acceptable manner

Toileting

(levels 0–4) Inability to: Get to toilet or commode; Manipulate clothing for toileting; Sit on/rise from toilet or commode; Carry out proper toilet hygiene; Flush toilet or [empty] commode

SELF-CONCEPT, READINESS FOR ENHANCED

Diagnostic Division: Ego Integrity

Definition: A pattern of perceptions or ideas about the self that is sufficient for well-being and can be strengthened.

DEFINING CHARACTERISTICS

Subjective
Expresses willingness to enhance self-concept; Accepts strengths/limitations; Expresses confidence in abilities; Expresses satisfaction with thoughts about self/sense of worthiness; Expresses satisfaction with body image/personal identity/role performance

Objective
Actions are congruent with expressed feelings and thoughts

SELF-ESTEEM, CHRONIC LOW

Diagnostic Division: Ego Integrity

Definition: Long-standing negative self-evaluation/feelings about self or self-capabilities.

RELATED FACTORS
To be developed; [Fixation in earlier level of development]; [Continual negative evaluation of self/capabilities from childhood]; [Personal vulnerability]; [Life choices perpetuating failure]; [Ineffective social/occupational functioning]; [Feelings of abandonment by significant other]; [Willingness to tolerate possibly life-threatening domestic violence]; [Chronic physical/psychiatric conditions]; [Antisocial behaviors]

DEFINING CHARACTERISTICS

Subjective
Self-negating verbalization; Expressions of shame/guilt; Evaluates self as unable to deal with events; Rejects positive feedback/exaggerates negative feedback about self

Objective
Hesitant to try new things/situations; Frequent lack of success in life events; Overly conforming; Dependent on others' opinions; Excessively seeks reassurance; Lack of eye contact; Nonassertive; Passive; Indecisive

SELF-ESTEEM, SITUATIONAL LOW

Diagnostic Division: Ego Integrity

Definition: Development of a negative perception of self-worth in response to a current situation (specify).

RELATED FACTORS
Developmental changes [e.g., maturational transitions, adolescence, aging]; Functional impairments; Disturbed body image; Loss [e.g., loss of health status, body part, independent functioning; memory deficit/cognitive impairment]; Social role changes; Failures/rejections; Lack of recognition [/rewards]; [Feelings of abandonment by SO]; Behavior inconsistent with values

DEFINING CHARACTERISTICS

Subjective
Verbally reports current situational challenge to self-worth; Expressions of helplessness/uselessness; Evaluation of self as unable to deal with situations or events

Objective
Self-negating verbalizations; Indecisive/nonassertive behavior

SELF-ESTEEM, SITUATIONAL LOW, RISK FOR

Diagnostic Division: Ego Integrity

Definition: At risk for developing a negative perception of self-worth in response to a current situation. (specify situation)

RISK FACTORS
Developmental changes; Disturbed body image; Functional impairment; Loss [e.g., loss of health status, body part, independent functioning, memory deficit/cognitive impairment]; Social role changes; Unrealistic self-expectations; History of learned helplessness; History of neglect/abuse/abandonment; Behavior inconsistent with values; Lack of recognition [/rewards]; Failures; Rejections; Decreased control over environment; Physical illness

SELF-MUTILATION

Diagnostic Division: Safety

Definition: Deliberate, self-injurious behavior causing tissue damage with the intent of causing nonfatal injury to attain relief of tension.

RELATED FACTORS

Adolescence; Peers who self-mutilate; Isolation from peers; Dissociation; Depersonalization; Psychotic state (e.g., command hallucinations); Character disorder; Borderline personality disorders; Emotionally disturbed; Developmentally delayed/autistic individuals; History of self-injurious behavior; History of inability to plan solutions/see long-term consequences; Childhood illness/surgery; Childhood sexual abuse; Battered child; Disturbed/unstable body image; Eating disorders; Inadequate coping; Perfectionism; Negative feelings (e.g., depression, rejection, self-hatred, separation anxiety, guilt); Low/unstable self-esteem; Poor communication between parent and adolescent; Lack of family confidante; Feels threatened with loss of significant relationship [e.g., loss of parent/parental relationship]; Disturbed interpersonal relationships; Use of manipulation to obtain nurturing relationship with others; Family alcoholism/divorce; Violence between parental figures; Family history of self-destructive behaviors; Living in nontraditional settings (e.g., foster, group, or institutional care); Incarceration; Inability to express tension verbally; Mounting tension that is intolerable; Needs quick reduction of stress; Irresistible urge to cut/damage self; Impulsivity; Labile behavior; Sexual identity crisis; Substance abuse

DEFINING CHARACTERISTICS

Subjective

Self-inflicted burns (e.g., eraser, cigarette); Ingestion/inhalation of harmful substances/objects

Objective

Cuts/scratches on body; Picking at wounds; Biting; Abrading; Severing; Insertion of object(s) into body orifice(s); Hitting; Constricting a body part

SELF-MUTILATION, RISK FOR

Diagnostic Division: Safety

Definition: At risk for deliberate self-injurious behavior causing tissue damage with the intent of causing nonfatal injury to attain relief of tension.

RISK FACTORS

Adolescence; Peers who self-mutilate; Isolation from peers; Dissociation; Depersonalization; Psychotic state (e.g., command hallucinations); Character disorders; Borderline personality disorders; Emotionally disturbed child; Developmentally delayed/autistic individuals; History of self-injurious behavior; History of inability to plan solutions/see long-term consequences; Childhood illness/surgery; Childhood sexual abuse; Battered child; Disturbed/unstable body image; Eating disorders; Ineffective coping; Loss of control over problem-solving situations; Perfectionism; Negative feelings (e.g., depression, rejection, self-hatred, separation anxiety, guilt); Low/unstable self-esteem; Feels threatened with loss of significant relationship [e.g., loss of parent/parental relationship]; Loss of significant relationship; Lack of family confidante; Disturbed interpersonal relationships; Use of manipulation to obtain nurturing relationship with others; Family alcoholism/divorce; Violence between parental figures; Family history of self-destructive behaviors; Living in nontraditional settings (e.g., foster, group, or institutional care); Incarceration; Inability to express tension verbally; Mounting tension that is intolerable; Needs quick reduction of stress; Irresistible urge to damage self; Impulsivity; Sexual identity crisis; Substance abuse

SENSORY/PERCEPTION, DISTURBED (SPECIFY: VISUAL, AUDITORY, KINESTHETIC, GUSTATORY, TACTILE, OLFACTORY)

Diagnostic Division: Neurosensory

Definition: Change in the quantity or patterning of incoming stimuli accompanied by a diminished, exaggerated, distorted, or impaired response to such stimuli.

RELATED FACTORS

Insufficient environmental stimuli

[e.g., therapeutically restricted environments—isolation, intensive care, bedrest, traction, confining illnesses, incubator; socially restricted environment—institutionaliza-

tion, homebound, aging, chronic/terminal illness, infant deprivation; stigmatized—mentally ill/developmentally delayed/handicapped]

Excessive environmental stimuli
[e.g., excessive noise level, such as work environment, client's immediate environment (ICU with support machinery and the like)]

Altered sensory reception/transmission/integration
[e.g., neurological disease, trauma, or deficit; altered status of sense organs]

Biochemical imbalances
[e.g., elevated BUN, elevated ammonia, hypoxia]; Electrolyte imbalance; [Drugs, e.g., stimulants or depressants, mind-altering drugs] Psychological stress; [Sleep deprivation]

DEFINING CHARACTERISTICS

Subjective
[Reported] change in sensory acuity [e.g., photosensitivity, hypoesthesias/hyperesthesias, diminished/altered sense of taste, inability to tell position of body parts (proprioception)]; Sensory distortions

Objective
[Measured] change in sensory acuity; Change in usual response to stimuli [e.g., rapid mood swings, exaggerated emotional responses, anxiety/panic state; Change in behavior pattern; Restlessness; Irritability; Change in problem-solving abilities; Poor concentration; Disorientation; Hallucinations; [Illusions]; [Bizarre thinking]; Impaired communication; [Motor incoordination, altered sense of balance/falls (e.g., Ménière's syndrome)]

SEXUAL DYSFUNCTION

Diagnostic Division: Sexuality

Definition: The state in which an individual experiences a change in sexual function during the sexual response phases of desire, excitation, and/or orgasm that is viewed as unsatisfying, unrewarding, inadequate.

RELATED FACTORS
Ineffectual/ absent role models; Lack of significant other; Lack of privacy; Misinformation or lack of knowledge; Vulnerability; Physical abuse; Psychosocial abuse (e.g., harmful relationships); Altered body function/structure (e.g., pregnancy, recent childbirth, drugs, surgery, anomalies, disease process, trauma, [paraplegia/quadriplegia], radiation, [effects of aging]); Biopsychosocial alteration of sexuality; Values conflict

DEFINING CHARACTERISTICS

Subjective
Verbalization of problem [e.g., loss of sexual desire, premature ejaculation, dyspareunia, vaginismus]; Actual/perceived limitation imposed by disease/therapy; Perceived deficiency of sexual desire; Perceived alteration in sexual excitation; Alterations in achieving sexual satisfaction; Inability to achieve desired satisfaction; Alterations in achieving perceived sex role; Seeking confirmation of desirability [concern about body image]; Change of interest in self/others

SEXUALITY PATTERNS, INEFFECTIVE

Diagnostic Division: Sexuality

Definition: Expressions of concern regarding one's own sexuality.

RELATED FACTORS
Knowledge/skill deficit about alternative responses to health-related transitions, altered body function or structure, illness, or medical treatment; Lack of privacy; Impaired relationship with a significant other; Lack of significant other; Ineffective/absent role models; Conflicts with sexual orientation or variant preferences; Fear of pregnancy/acquiring a sexually transmitted disease

DEFINING CHARACTERISTICS

Subjective
Reported: Difficulties in sexual behaviors/activities; Changes in sexual behaviors/activities; Limitations in sexual behaviors/activities; Alteration in relationship with sig-

nificant other; Alterations in achieving perceived sex role; Conflicts involving values; [Expressions of feeling alienated, lonely, loss, powerless, angry]

SKIN INTEGRITY, IMPAIRED

Diagnostic Division: Safety

Definition: Altered epidermis and/or dermis.

RELATED FACTORS

External

Hyperthermia; Hypothermia; Chemical substance; Radiation; Medications; Physical immobilization; Humidity; Moisture; [Excretions/secretions]; Mechanical factors (e.g., shearing forces, pressure, restraint); [Trauma/injury]; [Surgery]; Extremes in age

Internal

Imbalanced nutritional state (e.g., obesity, emaciation); Impaired metabolic state; Changes in fluid status; Skeletal prominence; Changes in turgor (change in elasticity); [Presence of edema]; Impaired circulation/sensation; Changes in pigmentation; Developmental factors; Immunological deficit; [Psychogenic factors, e.g., obsessive-compulsive behaviors]

DEFINING CHARACTERISTICS

Subjective

[Reports of itching, pain, numbness of affected/surrounding area]

Objective

Disruption of skin surface [epidermis]; Destruction of skin layers [dermis]; Invasion of body structures

SKIN INTEGRITY, RISK FOR IMPAIRED

Diagnostic Division: Safety

Definition: At risk for skin being adversely altered.

NOTE: Risk should be determined by the use of a standardized risk assessment tool [e.g., Braden, Norton, or similar scale].

RISK FACTORS

External

Chemical substance; Radiation; Hypothermia; Hyperthermia; Physical immobilization; Humidity; Moisture; Excretions; Secretions; Mechanical factors (e.g., shearing forces, pressure, restraint); Extremes of age

Internal

Imbalanced nutritional state (e.g., obesity, emaciation); Impaired metabolic state; [Presence of edema]; Skeletal prominence; Changes in skin turgor [/elasticity]; Impaired circulation/sensation; Changes in pigmentation; Developmental factors; Immunologic factors; Medications; Psychogenetic factors

SLEEP, READINESS FOR ENHANCED

Diagnostic Division: Activity/Rest

Definition: pattern of natural, periodic suspension of consciousness that provides adequate rest, sustains a desired lifestyle, and can be strengthened.

DEFINING CHARACTERISTICS

Subjective

Expresses willingness to enhance sleep; Expresses a feeling of being rested after sleep; Follows sleep routines that promote sleep habits

Objective

Amount of sleep and REM sleep is congruent with developmental needs; Occasional or infrequent use of medications to induce sleep

SLEEP DEPRIVATION

Diagnostic Division: Activity / Rest

Definition: Prolonged periods of time without sleep (sustained natural, periodic suspension of relative consciousness).

RELATED FACTORS

Sustained environmental stimulation; Sustained uncomfortable sleep environment; Inadequate daytime activity; Sustained circadian asynchrony; Aging-related sleep stage shifts; Non–sleep-inducing parenting practices; Sustained inadequate sleep hygiene; Prolonged use of pharmacological or dietary antisoporifics; Prolonged discomfort (e.g., physical, psychological); Periodic limb movement (e.g., restless leg syndrome, nocturnal myoclonus); Sleep-related enuresis/painful erections; Nightmares; Sleepwalking; Sleep terror; Sleep apnea; Sundowner's syndrome; Dementia; Idiopathic central nervous system hypersomnolence; Narcolepsy; Familial sleep paralysis

DEFINING CHARACTERISTICS

Subjective

Daytime drowsiness; Decreased ability to function; Malaise; Lethargy; Fatigue; Anxiety; Perceptual disorders (e.g., disturbed body sensation, delusions, feeling afloat); Heightened sensitivity to pain

Objective

Restlessness; Irritability; Inability to concentrate; Slowed reaction; Listlessness; Apathy; Fleeting nystagmus; Hand tremors; Acute confusion; Transient paranoia; Agitation; Combativeness; Hallucinations

SOCIAL INTERACTION, IMPAIRED

Diagnostic Division: Social Interaction

Definition: Insufficient or excessive quantity or ineffective quality of social exchange.

RELATED FACTORS

Deficit about ways to enhance mutuality (e.g., knowledge, skill); Communication barriers [including head injury, stroke, other neurological conditions affecting ability to communicate]; Self-concept disturbance; Absence of significant others; Limited physical mobility [e.g., neuromuscular disease]; Therapeutic isolation; Sociocultural dissonance; Environmental barriers; Disturbed thought processes

DEFINING CHARACTERISTICS

Subjective

Discomfort in social situations; Inability to receive/communicate a satisfying sense of social engagement (e.g., belonging, caring, interest, or shared history); Family report of changes in interaction (e.g., style, pattern)

Objective

Use of unsuccessful social interaction behaviors; Dysfunctional interaction with others

SOCIAL ISOLATION

Diagnostic Division: Social Interaction

Definition: Aloneness experienced by the individual and perceived as imposed by others and as a negative or threatened state.

RELATED FACTORS

Factors contributing to the absence of satisfying personal relationships (e.g., delay in accomplishing developmental tasks); Immature interests; Alterations in physical appearance; Altered state of wellness; Alterations in mental status; Unaccepted social behavior/values; Inadequate personal resources; Inability to engage in satisfying personal relationships; [Traumatic incidents or events causing physical and/or emotional pain]

DEFINING CHARACTERISTICS

Subjective

Expresses feelings of aloneness imposed by others; Expresses feelings of rejection; Insecurity in public; Inability to meet expectations of others; Inadequate purpose in life;

Developmentally inappropriate interests; Experiences feelings of difference from others; Expresses values unacceptable to the dominant cultural group

Objective
Absence of supportive SO(s) [family, friends, group]; Sad/dull affect; Uncommunicative; Withdrawn; No eye contact; Evidence of handicap (e.g., physical, mental); Illness; Developmentally inappropriate behaviors; Repetitive meaningless actions; Seeks to be alone; Preoccupation with own thoughts; Shows behavior unaccepted by dominant cultural group; Exists in a subculture; Projects hostility

SORROW, CHRONIC

Diagnostic Division: Ego Integrity

Definition: A cyclical, recurring, and potentially progressive pattern of pervasive sadness that is experienced by a client (parent or caregiver, or individual with chronic illness or disability) in response to continual loss, throughout the trajectory of an illness or disability.

RELATED FACTORS
Death of a loved one; Experiences chronic illness/ disability (e.g., physical or mental); Crises in management of the illness; Crises related to developmental stages; Missed opportunities/milestones; Unending caregiving

DEFINING CHARACTERISTICS

Subjective
Expresses negative feelings (e.g., anger, being misunderstood, confusion, depression, disappointment, emptiness, fear, frustration, guilt, self-blame, helplessness, hopelessness, loneliness, low self-esteem, recurring loss, overwhelmed); Expresses feelings of sadness (e.g., periodic, recurrent); Expresses feelings that may interfere with ability to reach highest level of personal/social well-being

SPIRITUAL DISTRESS

Diagnostic Division: Ego Integrity

Definition: Impaired ability to experience and integrate meaning and purpose in life through a person's connectedness with self, others, art, music, literature, nature, or a power greater than oneself.

RELATED FACTORS
Active dying; Loneliness; Social alienation; Self-alienation; Sociocultural deprivation; Anxiety; Pain; Life change; Chronic illness [of self or others]; Death; [Challenged belief/value system (e.g., moral/ethical implications of therapy]

DEFINING CHARACTERISTICS

Subjective
Connections to Self
Expresses lack of: Hope; Meaning/purpose in life; Serenity (e.g., peace); Love; Acceptance; Forgiveness of self; Courage; [Expresses:] Anger; Guilt

Connections with Others
Refuses interactions with significant other(s)/spiritual leaders; Verbalizes being separated from support system; Expresses alienation

Connections with Art, Music, Literature, Nature
Inability to express previous state of creativity (e.g., singing/listening to music/writing); Uninterested in nature/reading spiritual literature

Connections with Power Greater Than Self
Sudden changes in spiritual practices; Inability to pray/participate in religious activities; Inability to experience the transcendent; Expresses being abandoned; Expresses hopelessness/suffering/having anger toward God; Requests to see a religious leader

Objective
Connections to Self
Poor coping

Connections with Power Greater Than Self
Inability to be introspective

SPIRITUAL DISTRESS, RISK FOR

Diagnostic Division: Ego Integrity

Definition: At risk for an impaired ability to experience and integrate meaning and purpose in life through connectedness with self, others, art, music, literature, nature, and/or a power greater than oneself.

RISK FACTORS
Physical
Physical/chronic illness; Substance abuse

Psychosocial
Stress; Anxiety; Depression; Low self-esteem; Poor relationships; Blocks to experiencing love; Inability to forgive; Loss; Separated support system; Racial/cultural conflict; Changes in religious rituals/spiritual practices

Developmental
Life changes

Environmental
Environmental changes; Natural disasters

SPIRITUAL WELL-BEING, READINESS FOR ENHANCED

Diagnostic Division: Ego Integrity

Definition: Ability to experience and integrate meaning and purpose in life through connectedness with self, others, art, music, literature, nature, or a power greater than oneself.

DEFINING CHARACTERISTICS

Subjective
Connections to Self
Expresses desire for enhanced: Acceptance; Coping; Courage; Forgiveness of self; Hope; Joy; Love; Meaning/purpose in life; Satisfying philosophy of life; Surrender; Expresses lack of serenity (e.g., peace); Meditation

Connections with Others
Requests interactions with significant others/spiritual leaders; Requests forgiveness of others

Connections with Powers Greater Than Self
Participates in religious activities; Prays; Expresses reverence/awe; Reports mystical experiences

Objective
Connections with Others
Provides service to others

Connections with Art, Music, Literature, and Nature
Displays creative energy (e.g., writing, poetry, singing); Listens to music; Reads spiritual literature; Spends time outdoors

STRESS OVERLOAD

Diagnostic Division: Ego Integrity

Definition: Excessive amounts and types of demands that require action.

RELATED FACTORS
Inadequate resources (e.g., financial, social, education/knowledge level); Intense, repeated stressors (e.g., family violence, chronic illness, terminal illness); Multiple coexisting stressors (e.g., environmental threats/demands; physical threats/demands; social threats/demands)

DEFINING CHARACTERISTICS

Subjective
Expresses difficulty in functioning/problems with decision making; Expresses a feeling of pressure/tension/increased impatience/anger; Reports negative impact from stress (e.g., physical symptoms, psychological distress, feeling of "being sick" or of "going to

get sick"); Reports situational stress as excessive (e.g., rates stress level as a seven or above on a 10-point scale

Objective
Demonstrates increased feelings of impatience/anger

SUFFOCATION, RISK FOR

Diagnostic Division: Safety

Definition: Accentuated risk of accidental suffocation (inadequate air available for inhalation).

RISK FACTORS
Internal
Reduced olfactory sensation; Reduced motor abilities; Lack of safety education/precautions; Cognitive/emotional difficulties [e.g., altered consciousness/mentation]; Disease/injury process

External
Pillow/propped bottle placed in an infant's crib; Hanging a pacifier around infant's neck; Playing with plastic bags; Inserting small objects into airway; Leaving children unattended in water; Discarded refrigerators without removed doors; Vehicle warming in closed garage [/faulty exhaust system]; Use of fuel-burning heaters not vented to outside; Household gas leaks; Smoking in bed; Low-strung clothesline; Eating large mouthfuls [or pieces] of food

SUICIDE, RISK FOR

Diagnostic Division: Safety

Definition: Risk for self-inflicted, life-threatening injury.

RISK FACTORS
Behavioral
History of prior suicide attempt; Buying a gun; Stockpiling medicines; Making/changing a will; Giving away possessions; Sudden euphoric recovery from major depression; Impulsiveness; Marked changes in behavior/attitude/school performance

Demographic
Age (e.g., elderly, young adult males, adolescents); Race (e.g., Caucasian, Native American); Male gender; Divorced; Widowed

Physical
Physical/terminal illness; Chronic pain

Psychological:
Family history of suicide; Abuse in childhood; Substance use/abuse; Psychiatric illness/disorder (e.g., depression, schizophrenia, bipolar disorder); Guilt; Gay or lesbian youth

Situational
Living alone; Retired; Economic instability; Relocation; Institutionalization; Loss of autonomy/independence; Presence of gun in home; Adolescents living in nontraditional settings (e.g., juvenile detention center, prison, halfway house, group home)

Social
Loss of important relationship; Disrupted family life; Poor support systems; Social isolation; Grief; Loneliness; Hopelessness; Helplessness; Legal/disciplinary problems; Cluster suicides

Verbal
Threats of killing oneself; States desire to die [/end it all]

SURGICAL RECOVERY, DELAYED

Diagnostic Division: Pain / Discomfort

Definition: Extension of the number of postoperative days required to initiate and perform activities that maintain life, health, and well-being.

RELATED FACTORS
Extensive/prolonged surgical procedure; Pain; Obesity; Preoperative expectations; Postoperative surgical site care

DEFINING CHARACTERISTICS

Subjective

Perception that more time is needed to recover; Report of pain/discomfort; Fatigue; Loss of appetite with or without nausea; Postpones resumption of work/employment activities

Objective

Evidence of interrupted healing of surgical area (e.g., red, indurated, draining, immobilized); Difficulty in moving about; Requires help to complete self-care

SWALLOWING, IMPAIRED

Diagnostic Division: Food / Fluid

Definition: Abnormal functioning of the swallowing mechanism associated with deficits in oral, pharyngeal, or esophageal structure or function.

RELATED FACTORS

Congenital Deficits

Upper airway anomalies; Mechanical obstruction (e.g., edema, tracheostomy tube, tumor); History of tube feeding; Neuromuscular impairment (e.g., decreased or absent gag reflex, decreased strength or excursion of muscles involved in mastication, perceptual impairment, facial paralysis); Conditions with significant hypotonia; Respiratory disorders; Congenital heart disease; Behavioral feeding problems; Self-injurious behavior; Failure to thrive; Protein energy malnutrition

Neurological Problems

Nasal/nasopharyngeal cavity defects; Upper airway anomalies; Oropharyngeal/ laryngeal abnormalities; Tracheal/laryngeal/esophageal defects; Gastroesophageal reflux disease; Achalasia; Traumas; Acquired anatomic defects; Cranial nerve involvement; Traumatic head injury; Prematurity; Developmental delay; Cerebral palsy

DEFINING CHARACTERISTICS

Subjective

Esophageal Phase Impairment

Complaints [reports] of "something stuck"; Odynophagia; Food refusal; Volume limiting; Heartburn; Epigastric pain; Nighttime coughing/awakening

Objective

Oral Phase Impairment

Weak suck resulting in inefficient nippling; Slow bolus formation; Lack of tongue action to form bolus; Premature entry of bolus; Incomplete lip closure; Food pushed out of/ falls from mouth; Lack of chewing; Coughing/choking/gagging before a swallow; Piecemeal deglutition; Abnormality in oral phase of swallow study; Inability to clear oral cavity; Pooling in lateral sulci; Nasal reflux; Sialorrhea or drooling; Long meals with little consumption

Pharyngeal Phase Impairment

Food refusal; Altered head positions; Delayed/multiple swallows; Inadequate laryngeal elevation; Abnormality in pharyngeal phase by swallow study; Choking; Coughing; Gagging; Nasal reflux; Gurgly voice quality; Unexplained fevers; Recurrent pulmonary infections

Esophageal Phase Impairment

Observed evidence of difficulty in swallowing (e.g., stasis of food in oral cavity, coughing/ choking); Abnormality in esophageal phase by swallow study; Hyperextension of head (e.g., arching during or after meals); Repetitive swallowing; Bruxism; Unexplained irritability surrounding mealtime; Acidic smelling breath; Regurgitation of gastric contents (wet burps); Vomitus on pillow; Vomiting; Hematemesis

THERAPEUTIC REGIMEN MANAGEMENT: EFFECTIVE

Diagnostic Division: Teaching / Learning

Definition: Pattern of regulating and integrating into daily living a program for treatment of illness and its sequelae that is satisfactory for meeting specific health goals.

RELATED FACTORS

NOTE: To be developed; [Complexity of health care management; therapeutic regimen]; [Added demands made on individual or family]; [Adequate social supports]

DEFINING CHARACTERISTICS

Subjective

Verbalized desire to manage the treatment of illness and prevention of sequelae; Verbalized intent to reduce risk factors for progression of illness and sequelae

Objective

Appropriate choices of daily activities for meeting the goals of a treatment or prevention program; Illness symptoms are within a normal range of expectation

THERAPEUTIC REGIMEN MANAGEMENT: INEFFECTIVE

Diagnostic Division: Teaching/Learning

Definition: A pattern of regulating and integrating into daily living a program for treatment of illness and the sequelae of illness that is unsatisfactory for meeting specific health goals.

RELATED FACTORS

Complexity of health care system/therapeutic regimen; Decisional conflicts; Economic difficulties; Excessive demands made (e.g., individual or family); Family conflict; Family patterns of health care; Inadequate number of cues to action; Knowledge deficits; Mistrust of regimen/health care personnel; Perceived seriousness/susceptibility/barriers/benefits; Powerlessness; Social support deficits

DEFINING CHARACTERISTICS

Subjective

Verbalized desire to manage the illness; Verbalized difficulty with prescribed regimens

Objective

Failure to include treatment regimens in daily routines/take action to reduce risk factors; Makes choices in daily living ineffective for meeting the health goals; [Unexpected acceleration of illness symptoms]

THERAPEUTIC REGIMEN MANAGEMENT, INEFFECTIVE COMMUNITY

Diagnostic Division: Teaching/Learning

Definition: Pattern of regulating and integrating into community processes programs for treatment of illness and the sequelae of illness that are unsatisfactory for meeting health-related goals.

RELATED FACTORS

To be developed; [Lack of safety for community members]; [Economic insecurity]; [Healthcare not available]; [Unhealthy environment]; [Education not available for all community members]; [Lack of means to meet human needs for recognition, fellowship, security, and membership]

DEFINING CHARACTERISTICS

Subjective

[Community members/agencies verbalize overburdening of resources for meeting therapeutic needs of all members]

Objective

Deficits in advocates for aggregates; Deficits in community activities for prevention; Illness symptoms above the norm expected for the population; Unexpected acceleration of illness; Insufficient health care resources (e.g., people, programs); Unavailable health care resources for illness care; [Deficits in community for collaboration and development of coalitions to address needs]

THERAPEUTIC REGIMEN MANAGEMENT, INEFFECTIVE FAMILY

Diagnostic Division: Teaching/Learning

Definition: A pattern of regulating and integrating into family processes a program for treatment of illness and the sequelae of illness that is unsatisfactory for meeting specific health goals.

RELATED FACTORS
Complexity of health care system/therapeutic regimen; Decisional conflicts; Economic difficulties; Excessive demands; Family conflicts

DEFINING CHARACTERISTICS

Subjective
Verbalizes difficulty with therapeutic regimen; Verbalizes desire to manage the illness

Objective
Inappropriate family activities for meeting health goals; Acceleration of illness symptoms of a family member; Failure to take action to reduce risk factors; Lack of attention to illness

THERAPEUTIC REGIMEN MANAGEMENT: READINESS FOR ENHANCED

Diagnostic Division: Teaching/Learning

Definition: A pattern of regulating and integrating into daily living programs for treatment of illness and its sequelae that are sufficient for meeting health-related goals and can be strengthened.

DEFINING CHARACTERISTICS

Subjective
Expresses desire to manage the illness (e.g., treatment, prevention); Expresses little difficulty with prescribed regimens; Describes reduction of risk factors

Objective
Choices of daily living are appropriate for meeting goals (e.g., treatment, prevention); No unexpected acceleration of illness symptoms

THERMOREGULATION, INEFFECTIVE

Diagnostic Division: Safety

Definition: Temperature fluctuation between hypothermia and hyperthermia.

RELATED FACTORS
Trauma [e.g., intracranial surgery, head injury]; Illness [e.g., cerebral edema, CVA]; Immaturity; Aging [e.g., loss/absence of brown adipose tissue]; Fluctuating environmental temperature; [Changes in hypothalamic tissue causing alterations in emission of thermosensitive cells and regulation of heat loss/production]; [Changes in metabolic rate/activity]; [Changes in level/action of thyroxine and catecholamines]; [Chemical reactions in contracting muscles]

DEFINING CHARACTERISTICS
Objective
Fluctuations in body temperature above and below the normal range; Tachycardia; Reduction in body temperature below normal range; Cool skin; Moderate pallor; Mild shivering; Piloerection; Cyanotic nail beds; Slow capillary refill; Hypertension; Warm to touch; Flushed skin; Increased respiratory rate; Seizures

THOUGHT PROCESSES, DISTURBED

Diagnostic Division: Neurosensory

Definition: Disruption in cognitive operations and activities.

RELATED FACTORS
To be developed; [Physiological changes]; [Aging]; [Hypoxia]; [Head injury]; [Malnutrition]; [Infections]; [Biochemical changes]; [Medications]; [Substance abuse]; [Sleep deprivation]; [Psychological conflicts]; [Emotional changes]; [Mental disorders]

DEFINING CHARACTERISTICS

Subjective
[Ideas of reference]; [Hallucinations]; [Delusions]

Objective
Inaccurate interpretation of environment; Inappropriate/non-reality-based thinking; Egocentricity; Memory deficit; [Confabulation]; Hypervigilance; Hypovigilance; Cognitive dissonance, [Decreased ability to grasp ideas, make decisions, problem-solve, use abstract reasoning or conceptualize, calculate; disordered thought sequencing]; Distractibility; [Altered attention span]; [Inappropriate social behavior]

TISSUE INTEGRITY, IMPAIRED

Diagnostic Division: Safety

Definition: Damage to mucous membrane, corneal, integumentary, or subcutaneous tissues.

RELATED FACTORS
Altered circulation; Nutritional factors (e.g., deficit or excess); [Metabolic/endocrine dysfunction]; Fluid deficit/excess; Knowledge deficit; Impaired physical mobility; Chemical irritants [e.g., body excretions, secretions, medications]; Radiation; Temperature extremes; Mechanical (e.g., pressure, shear, friction); [Surgery]; Knowledge deficit; [Infection]

TISSUE PERFUSION, INEFFECTIVE (SPECIFY TYPE): RENAL, CEREBRAL, CARDIOPULMONARY, GASTROINTESTINAL, PERIPHERAL

Diagnostic Division: Circulation

Definition: Decrease in oxygen resulting in the failure to nourish the tissues at the capillary level. [Although tissue perfusion problems can exist without decreased cardiac output, there may be a relationship between cardiac output and tissue perfusion.]

RELATED FACTORS
Hypervolemia; Hypovolemia; Interruption of flow; Decreased hemoglobin concentration in blood; Enzyme poisoning; Altered affinity of hemoglobin for oxygen; Impaired transport of oxygen; Mismatch of ventilation with blood flow; Exchange problems; Hypoventilation

DEFINING CHARACTERISTICS

Subjective
Cardiopulmonary
Chest pain; Dyspnea; Sense of "impending doom"

Gastrointestinal
Nausea; Abdominal pain or tenderness

Peripheral
Claudication

Objective
Renal
Altered blood pressure outside of acceptable parameters; Oliguria; Anuria; Hematuria; Elevation in BUN/creatine ratio

Cerebral
Altered mental status; Speech abnormalities; Behavioral changes; [Restlessness]; Changes in motor response; Extremity weakness; Paralysis; Changes in pupillary reactions; Difficulty in swallowing

Cardiopulmonary
Arrhythmias; Capillary refill >3 sec; Altered respiratory rate outside of acceptable parameters; Use of accessory muscles; Chest retraction; Nasal flaring; Bronchospasms; Abnormal arterial blood gases; [Hemoptysis]

Gastrointestinal
Hypoactive/absent bowel sounds; Abdominal distention; [Vomiting]

Peripheral
Altered skin characteristics (e.g., hair, nails, moisture); Skin temperature changes; Skin discolorations; Skin color pales on elevation, color does not return on lowering the leg; Altered sensations; Blood pressure changes in extremities; Weak/absent pulses; Diminished arterial pulsations; Bruits; Edema; Delayed healing; Positive Homans' sign

TRANSFER ABILITY, IMPAIRED

Diagnostic Division: Safety

Definition: Limitation of independent movement between two nearby surfaces.

NOTE: Specify level of independence using a standardized functional scale.

RELATED FACTORS

Insufficient muscle strength; Deconditioning; Neuromuscular impairment; Musculoskeletal impairment (e.g., contractures); Impaired balance; Pain; Obesity; Impaired vision; Lack of knowledge; Cognitive impairment; Environment constraints (e.g., bed height, inadequate space, wheelchair type, treatment equipment, restraints)

DEFINING CHARACTERISTICS

Inability to transfer from: Bed to chair/chair to bed; Bed to standing/standing to bed; Chair to standing/standing to chair; Chair to floor/floor to chair; Standing to floor/floor to standing; Chair to car/car to chair; Inability to transfer: On/off a toilet or commode; In/out of tub or shower; Between uneven levels

TRAUMA, RISK FOR

Diagnostic Division: Safety

Definition: Accentuated risk of accidental tissue injury (e.g., wound, burn, fracture).

RISK FACTORS

Internal

Weakness; Balancing difficulties; Reduced muscle coordination; Reduced hand/eye coordination; Poor vision; Reduced sensation; Lack of safety education/precautions; Insufficient finances; Cognitive/emotional difficulties; History of previous trauma

External [includes but is not limited to:]

Slippery floors (e.g., wet or highly waxed); Unanchored rugs/electic wires; Bathtub without antislip equipment; Use of unsteady ladder/chairs; Obstructed passageways; Entering unlighted rooms; Inadequate stair rails; Children playing without gates at top of stairs; High beds; Inappropriate call-for-aid mechanisms for bed-resting client; Unsafe window protection in homes with young children; Pot handles facing toward front of stove; Bathing in very hot water (e.g., unsupervised bathing of young children); Potential igniting gas leaks; Delayed lighting of gas appliances; Wearing flowing clothing around open flames; Flammable children's clothing/toys; Smoking in bed/near oxygen; Grease waste collected on stoves; Children playing with dangerous objects; Accessibility of guns; Playing with explosives; Experimenting with chemical; Inadequately stored combustibles (e.g., matches, oily rags)/ corrosives (e.g., lye); Contact with corrosives; Overloaded fuse boxes; Faulty electrical plugs; Frayed wires; Defective appliances; Overloaded electrical outlets; Exposure to dangerous machinery; Contact with rapidly moving machinery; Struggling with restraints; Contact with intense cold; Lack of protection from heat source; Overexposure to radiotherapy; Large icicles hanging from the roof; Use of cracked dishware; Knives stored uncovered; High-crime neighborhood; Driving a mechanically unsafe vehicle; Driving at excessive speeds; Driving without necessary visual aids; Driving while intoxicated; Children riding in the front seat of car; Nonuse/misuse of seat restraints; Unsafe road/walkways; Physical proximity to vehicle pathways (e.g., driveways, lanes, railroad tracks); Misuse [/nonuse] of necessary headgear [e.g., for bicycles, motorcycles, skateboarding, skiing]

URINARY ELIMINATION, IMPAIRED

Diagnostic Division: Elimination

Definition: Disturbance in urine elimination.

RELATED FACTORS

Multiple causality; Sensory motor impairment; Anatomical obstruction; UTI; [Mechanical trauma; [Fluid/volume states]; [Psychogenic factors]; [Surgical diversion]

DEFINING CHARACTERISTICS

Subjective

Frequency; Urgency; Hesitancy; Dysuria; Nocturia; [Enuresis]

Objective

Incontinence; Retention

URINARY ELIMINATION, READINESS FOR ENHANCED

Diagnostic Division: Elimination

Definition: A pattern of urinary functions that is sufficient for meeting eliminatory needs and can be strengthened.

DEFINING CHARACTERISTICS

Subjective
Expresses willingness to enhance urinary elimination; Positions self for emptying of bladder

Objective
Urine is straw colored/odorless; Amount of output/specific gravity is within normal limits; Fluid intake is adequate for daily needs

URINARY INCONTINENCE, FUNCTIONAL

Diagnostic Division: Elimination

Definition: Inability of usually continent person to reach toilet in time to avoid unintentional loss of urine.

RELATED FACTORS
Altered environmental factors [e.g., poor lighting or inability to locate bathroom]; Neuromuscular limitations; Weakened supporting pelvic structures; Impaired vision/cognition; Psychological factors; [Reluctance to request assistance/use bedpan]; [Increased urine production]

DEFINING CHARACTERISTICS

Subjective
Senses need to void; [voiding in large amounts]

Objective
Loss of urine before reaching toilet; Amount of time required to reach toilet exceeds length of time between sensing urge and uncontrolled voiding; Able to completely empty bladder; May be incontinent only in early morning

URINARY INCONTINENCE, OVERFLOW

Diagnostic Division: Elimination

Definition: Involuntary loss of urine associated with overdistention of the bladder.

RELATED FACTORS
Bladder outlet obstruction; Fecal impaction; Urethral obstruction; Severe pelvic prolapse; Detrusor external sphincter dyssynergia; Detrusor hypocontractility; Side effects of calcium channel blockers/anticholinergic/decongestant medications

DEFINING CHARACTERISTICS

Subjective
Reports involuntary leakage of small volumes of urine; Nocturia

Objective
Bladder distention; High postvoid residual volume; Observed involuntary leakage of small volumes of urine

URINARY INCONTINENCE, REFLEX

Diagnostic Division: Elimination

Definition: Involuntary loss of urine at somewhat predictable intervals when a specific bladder volume is reached.

RELATED FACTORS
Tissue damage (e.g., due to radiation cystitis, inflammatory bladder conditions, or radical pelvic surgery); Neurological impairment above level of sacral or pontine micturition center

DEFINING CHARACTERISTICS

Subjective

No sensation of bladder fullness/urge to void/voiding; Sensation of urgency without voluntary inhibition of bladder contraction; Sensations associated with full bladder (e.g., sweating, restlessness, and abdominal discomfort)

Objective

Predictable pattern of voiding; Inability to voluntarily inhibit/initiate voiding; Complete emptying with [brain] lesion above pontine micturition center; Incomplete emptying with [spinal cord] lesion above sacral micturition center

URINARY INCONTINENCE, RISK FOR URGE

Diagnostic Division: Elimination

Definition: At risk for involuntary loss of urine associated with a sudden, strong sensation or urinary urgency.

RISK FACTORS

Effects of medications/caffeine/alcohol; Detrusor hyperreflexia (e.g., from cystitis, urethritis, tumors, renal calculi, CNS disorders above pontine micturition center; Impaired bladder contractility; Involuntary sphincter relaxation; Ineffective toileting habits; Small bladder capacity

URINARY INCONTINENCE, STRESS

Diagnostic Division: Elimination

Definition: Sudden leakage of urine with activities that increase intra-abdominal pressure.

RELATED FACTORS

Degenerative changes in pelvic muscles; Weak pelvic muscles; High intra-abdominal pressure [e.g., obesity, gravid uterus]; Intrinsic urethral sphincter deficiency

DEFINING CHARACTERISTICS

Subjective

Reported involuntary leakage of small amounts of urine: On exertion [e.g., lifting, impact aerobics]; With sneezing, laughing, or coughing; In the absence of detrusor contraction/an overdistended bladder

Objective

Observed involuntary leakage of small amounts of urine: On exertion [e.g., lifting, impact aerobics]; With sneezing, laughing, or coughing; In the absence of detrusor contraction/an overdistended bladder

URINARY INCONTINENCE, TOTAL

Diagnostic Division: Elimination

Definition: Continuous and unpredictable loss of urine.

RELATED FACTORS

Neuropathy preventing transmission of reflex [signals to the reflex arc] indicating bladder fullness; Neurological dysfunction [e.g., cerebral lesions]; Independent contraction of detrusor reflex; Trauma/disease affecting spinal cord nerves [destruction of sensory or motor neurons below the injury level]; Anatomic (fistula)

DEFINING CHARACTERISTICS

Subjective

Constant flow of urine at unpredictable times without uninhibited bladder contractions/spasm or distention; Nocturia; Lack of bladder/perineal filling [awareness]; Unawareness of incontinence

Objective

Unsuccessful incontinence refractory treatments

URINARY INCONTINENCE, URGE

Diagnostic Division: Elimination

Definition: Involuntary passage of urine occurring soon after a strong sense of urgency to void.

RELATED FACTORS
Decreased bladder capacity [e.g., history of pelvic inflammatory disease (PID), abdominal surgeries, indwelling urinary catheter]; Bladder infection; Atrophic urethritis/vaginitis; Alcohol/caffeine intake; [Increased fluids]; Use of diuretics; Fecal impaction; Detrusor hyperactivity with impaired bladder contractility

DEFINING CHARACTERISTICS

Subjective
Reports: Urinary urgency; Involuntary loss of urine with bladder contractions/spasms; Inability to reach toilet in time to avoid urine loss

Objective
Observed inability to reach toilet in time to avoid urine loss

URINARY RETENTION [ACUTE/CHRONIC]

Diagnostic Division: Elimination

Definition: Incomplete emptying of the bladder.

RELATED FACTORS
High urethral pressure; Inhibition of reflex arc; Strong sphincter; Blockage [e.g., benign prostatic hypertrophy—BPH, perineal swelling]; [Habituation of reflex arc]; [Infections]; [Neurological diseases/trauma]; [Use of medications with side effect of retention (e.g., atropine, belladonna, psychotropics, antihistamines, opiates)]

DEFINING CHARACTERISTICS

Subjective
Sensation of bladder fullness; Dribbling; Dysuria

Objective
Bladder distention; Small, frequent voiding or absence of urine output; Residual urine [150 ml or more]; Overflow incontinence; [Reduced stream]

VENTILATION, IMPAIRED SPONTANEOUS

Diagnostic Division: Respiration

Definition: Decreased energy reserves results in an individual's inability to maintain breathing adequate to support life.

RELATED FACTORS
Metabolic factors; [hypermetabolic state (e.g., infection), nutritional deficits/depletion of energy stores]; Respiratory muscle fatigue; [Airway size/resistance; problems with secretion management]

DEFINING CHARACTERISTICS

Subjective
Apprehension; [Difficulty breathing]

Objective
Dyspnea; Increased metabolic rate; Increased heart rate; Increased restlessness; Decreased cooperation; Increased use of accessory muscles; Decreased tidal volume; Decreased P_{O_2}; Decreased Sa_{O_2}; Increased P_{CO_2}

VENTILATORY WEANING RESPONSE, DYSFUNCTIONAL (DVWR)

Diagnostic Division: Respiration

Definition: Inability to adjust to lowered levels of mechanical ventilator support, which interrupts and prolongs the weaning process.

RELATED FACTORS
Physiological
Ineffective airway clearance; Sleep pattern disturbance; Inadequate nutrition; Uncontrolled pain; [Muscle weakness/fatigue]; [Inability to control respiratory muscles]; [Immobility]

Psychological
Knowledge deficit of the weaning process; Patient's perceived inefficacy about the ability to wean; Decreased motivation; Decreased self-esteem; Anxiety; Fear; Insufficient trust in the nurse [care provider]; Hopelessness; Powerlessness; [Unprepared for weaning attempt]

Situational
Uncontrolled episodic energy demands; Inappropriate pacing of diminished ventilator support; Inadequate social support; Adverse environment (e.g., noisy, active environment, negative events in the room, low nurse-patient ratio; unfamiliar nursing staff [extended nurse absence from bedside]); History of ventilator dependence >4 days; History of multiple unsuccessful weaning attempts

DEFINING CHARACTERISTICS
Responds to lowered levels of mechanical ventilator support with:

Mild DVWR

Subjective
Expressed feelings of increased need for oxygen; Breathing discomfort; Fatigue; Warmth; Queries about possible machine malfunction

Objective
Restlessness; Slight increased respiratory rate from baseline; Increased concentration on breathing
Moderate DVWR

Subjective
Apprehension

Objective
Slight increase from baseline blood pressure (<20 mm Hg); Slight increase from baseline heart rate (<20 beats/min); Baseline increase in respiratory rate (<5 breaths/min); Slight respiratory accessory muscle use; Decreased air entry on auscultation; Hypervigilance to activities; Wide-eyed look; Inability to respond to coaching/cooperate; Diaphoresis; Color changes; Pale; Slight cyanosis
Severe DVWR

Objective
Agitation; Decreased level of consciousness; Deterioration in arterial blood gases [ABGs] from current baseline; Increase from baseline BP (>20 mm Hg); Increase from baseline heart rate (>20 beats/min); Respiratory rate increases significantly from baseline; Full respiratory accessory muscle use; Shallow/gasping breaths; Paradoxical abdominal breathing; Adventitious breath sounds; Audible airway secretions; Asynchronized breathing with the ventilator; Profuse diaphoresis; Cyanosis

VIOLENCE, [ACTUAL]/RISK FOR OTHER-DIRECTED

Diagnostic Division: Safety

Definition: At risk for behaviors in which an individual demonstrates that he/she can be physically, emotionally, and/or sexually harmful to others.

RISK FACTORS
History of: Violence against others (e.g., hitting, kicking, scratching, biting or spitting, throwing objects at someone; attempted rape, rape, sexual molestation; urinating/defecating on a person); Threats (e.g., verbal threats against property/person, social threats, cursing, threatening notes/letters, threatening gestures, sexual threats); Violent antisocial behavior (e.g., stealing, insistent borrowing, insistent demands for privileges, insistent interruption of meetings; refusal to eat/take medication, ignoring instructions); Indirect violence (e.g., tearing off clothes, urinating/defecating on floor, stamping feet, temper tantrum; running in corridors, yelling, writing on walls, ripping objects off walls, throwing objects, breaking a window, slamming doors; sexual advances); Substance abuse; Childhood abuse/witnessing family violence; Neurological impairment (e.g., positive EEG, CT, MRI, neurological findings; head trauma; seizure disorders, [temporal lobe epilepsy]); Cognitive impairment (e.g., learning disabilities,

attention deficit disorder, decreased intellectual functioning); [Organic brain syndrome]; Pathological intoxication [toxic reaction to medication]; Psychotic symptomatology (e.g., auditory, visual, command hallucinations; paranoid delusions; loose, rambling, or illogical thought processes); [Panic states]; [Rage reactions]; [Catatonic/manic excitement]; Cruelty to animals; Firesetting; Motor vehicle offenses (e.g., frequent traffic violations, use of motor vehicle to release anger); Suicidal behavior; Impulsivity; Availability of weapon(s); Body language (e.g., rigid posture, clenching of fists and jaw, hyperactivity, pacing, breathlessness, threatening stances); [Hormonal imbalance (e.g., premenstrual syndrome—PMS, postpartal depression/psychosis)]; Prenatal/perinatal complications; [Expressed intent/desire to harm others directly or indirectly]; [Almost continuous thoughts of violence]

VIOLENCE, [ACTUAL]/RISK FOR SELF-DIRECTED

Diagnostic Division: Safety

Definition: Behaviors in which an individual demonstrates that he/she can be physically, emotionally, and/or sexually harmful to self.

RISK FACTORS

Age 15 to 19, over 45; Marital status (single, widowed, divorced); Employment problems (e.g., unemployed, recent job loss/failure); Occupation (executive, administrator/owner of business, professional, semiskilled worker); Conflictual interpersonal relationships; Family background (e.g., chaotic or conflictual, history of suicide); Sexual orientation (bisexual [active], homosexual [inactive]); Physical health problems (e.g., hypochondriac, chronic or terminal illness); Mental health problems (e.g., severe depression, [bipolar disorder], psychosis, severe personality disorder, alcoholism or drug abuse); Emotional problems (e.g., hopelessness [lifting of depressed mood], despair, increased anxiety, panic, anger, hostility); History of multiple suicide attempts; Suicidal ideation; Suicide plan; Lack of personal resources (e.g., poor achievement, poor insight, affect unavailable and poorly controlled); Lack of social resources (e.g., poor rapport, socially isolated, unresponsive family); Verbal clues (e.g., talking about death, "better off without me," asking questions about lethal dosages of drugs); Behavioral clues (e.g., writing forlorn love notes, directing angry messages at a significant other who has rejected the person, giving away personal items, taking out a large life insurance policy)

WALKING, IMPAIRED

Diagnostic Division: Safety

Definition: Limitation of independent movement within the environment on foot.

NOTE: Specific level of independence using a standardized functional scale

RELATED FACTORS

Insufficient muscle strength; Neuromuscular impairment; Musculoskeletal impairment (e.g., contractures); Limited endurance; Deconditioning; Fear of falling; Impaired balance; Impaired vision; Pain; Obesity; Depressed mood; Cognitive impairment; Lack of knowledge; Environmental constraints (e.g., stairs, inclines, uneven surfaces, unsafe obstacles, distances, lack of assistive devices or person, restraints)

DEFINING CHARACTERISTICS

Impaired ability to: Walk required distances; Walk on an incline/decline; Walk on uneven surfaces; Navigate curbs; Climb stairs

WANDERING [SPECIFY SPORADIC OR CONTINUAL]

Diagnostic Division: Safety

Definition: Meandering, aimless, or repetitive locomotion that exposes the individual to harm; frequently incongruent with boundaries, limits, or obstacles.

RELATED FACTORS

Cognitive impairment (e.g., memory and recall deficits, disorientation, poor visuoconstructive or visuospatial ability, language defects); Sedation; Cortical atrophy; Premorbid behavior (e.g., outgoing, sociable personality; premorbid dementia); Separation from familiar environment; Overstimulating environment; Emotional state (e.g.,

frustration, anxiety, boredom, depression, agitation); Physiological state or need (e.g., hunger, thirst, pain, urination, constipation); Time of day

DEFINING CHARACTERISTICS

Objective

Frequent/continuous movement from place to place, often revisiting the same destinations; Persistent locomotion in search of something; Scanning/ searching behaviors; Haphazard locomotion; Fretful locomotion/pacing; Long periods of locomotion without an apparent destination; Locomotion into unauthorized or private spaces; Trespassing; Locomotion resulting in unintended leaving of a premise; Inability to locate significant landmarks in a familiar setting; Getting lost; Locomotion that cannot be easily dissuaded; Shadowing a caregiver's locomotion; Hyperactivity; Periods of locomotion interspersed with periods of nonlocomotion (e.g., sitting, standing, sleeping)