



R 1. *respiration*; *right*; *roentgen*. 2. In chemistry, a radical. 3. In the ideal gas equation, $PV = nRT$, R is the gas constant. Its value is 0.082 liter-atmospheres per degree per mole. 4. An abbreviation for the transmissibility of a contagious illness. An $R = 1$ implies that a single infected person (on average) transmits a given infection to one additional person. A disease with an $R = 10$ would be more contagious; one infected individual would on average transmit the infection to ten others.

R- Abbr. used in organic chemistry to indicate part of a molecule.

R- Rinne negative. SEE: *Rinne test*.

R+ Rinne positive. SEE: *Rinne test*.

R Symbol for *L. recipe*, take. SEE: *prescription*.

R0 Meaning *complete resection* (of a tumor). It is used in surgical oncology.

RA *rheumatoid arthritis*; *right atrium*.

Ra Symbol for the element radium.

RabAvert (răb'ă-věrt") Rabies vaccine.

rabbetting (răb'ět-ing) [Fr. *raboter*, to plane] Interlocking of the jagged edges of a fractured bone.

rabbit fever Tularemia.

rabbitpox An acute viral disease of laboratory rabbits.

rabid (răb'id) Pert. to or affected with rabies.

rabies (ră'bēez) [L. *rabere*, to rage] A fatal infection of the central nervous system caused by the rabies virus. Human infection occurs as the result of a bite from a wild animal in which the virus is present. Rarely, it may be transmitted by inhalation of infectious aerosol particles or contamination of conjunctiva or other mucous membranes by the saliva of an infected animal. The long incubation period, before signs of rabies appear, is 3 to 12 weeks; this means that wild animals that are displaying no signs of the disease may still be infected, thereby increasing the risk of human infection. SYN: *hydrophobia*. SEE: *immune globulin*; *rabies vaccine*.

ETIOLOGY: Rabies is found almost exclusively in wild animals (e.g., raccoons, skunks, coyotes, foxes, and bats), which serve as reservoirs for infection. Domestic animal infections have been rare in the U.S. since 1960, but dogs and cats in developing countries may be infected. After infection, the virus replicates in the animal for several days to months; this period stimulates an immune response to viral antigens. The virus then spreads through the cytoplasm

of peripheral nerve axons to the central nervous system.

SYMPTOMS: Early symptoms in humans usually are nonspecific and include fever, malaise, and headache. Progressive signs of cerebral infection are those of encephalitis, including anxiety, confusion, insomnia, agitation, delirium, hallucinations, hypersalivation, hyperactive reflexes, and convulsions; periods of stupor alternate cyclically with episodes of extreme agitation. The classic symptom of hydrophobia (fear of water) is probably related to the painful contracture of the pharyngeal muscles that occurs during swallowing. Once clinical signs occur, the disease usually is fatal within days.

DIAGNOSIS: The diagnosis of rabies is made in animals by a direct fluorescent antibody test on brain tissue. In humans, brain biopsies, skin biopsies from the nape of the neck, corneal impression tests, and/or spinal fluid, blood, or salivary antibody tests are conducted.

PREVENTION: Veterinarians, animal handlers, and those who come in frequent contact with wild animals should receive preexposure prophylaxis with rabies vaccine. The vaccine does not prevent infection with rabies but simplifies treatment because it eliminates the need for immune globulin and decreases the amount of rabies vaccine required postexposure.

To decrease the spread of rabies, the Centers for Disease Control and Prevention recommends that all domestic animals be vaccinated routinely (consult local veterinarian and public health department) and that contact between pets and wild animals be minimized. Control of rabies in pets through vaccination and elimination of contact with stray animals significantly reduces the risk of human infection. Garbage containers should be designed to prevent attracting raccoons and skunks. Physical contact with raccoons, skunks, foxes, coyotes, and bats should be reported immediately. SEE: *Standard Precautions Appendix*.

TREATMENT: Physicians should contact the local or state health department to determine the need for postexposure prophylaxis. All wounds are vigorously cleaned. Intravenous immune globulin containing preformed antibodies and one dose of rabies vaccine are given immediately (day 1); an additional four doses of vaccine are administered on

days 3, 7, 14, and 28. No cases of rabies have occurred when this protocol has been followed promptly after exposure. Most fatalities occur when people do not seek medical assistance because they are not aware of the possibility of rabies infection.

rabies immune globulin, human rabies immune globulin ABBR: RIG, HRIG. A standardized preparation of globulins derived from blood plasma or serum from selected human donors who have been immunized with rabies vaccine and have developed high titers of rabies antibody. It is used to produce passive immunity in persons bitten by animals. SEE: *rabies*.

rabies virus group A genus of viruses whose official designation is *Lyssavirus*. The virus that causes human rabies is included in this group.

rabiform (rā'bi-form) [" + *forma*, shape] Resembling rabies.

raccoon sign [raccoons have distinctive periorbital coloration] Periorbital echymosis, which may be present in patients who have a basilar skull fracture.

race (rās) [Fr.] **1.** The descendants of a genetically cohesive ancestral group. **2.** A group of organisms identifiable within a species. **3.** A political or social designation for a group of people thought to share a common ancestry or common ethnicity. In contemporary societies, such designations have limited validity and value, although they are sometimes employed as a means of social, economic, or political discrimination.

racemase (rā'sē-mās) An enzyme that catalyzes racemization (i.e., the production of an optically inactive compound).

racemate (rā'sē-māt) A racemic compound.

racemic (rā-sē-mīk) Optically inactive; used of compounds.

racemization (rā'sē-mī-zā'shūn) The production of a racemic form of an optically inactive compound.

racemose (rās'ē-mōs) [L. *racemosus*, full of clusters] Resembling a clustered bunch of grapes, as a gland; divided and subdivided; ending in a bunch of follicles.

rachi-, rachio- [Gr. *rhachis*, spine] Combining forms meaning *spine*.

rachial (rā'kē-āl) [Gr. *rhachis*, spine] Spinal.

rachicele (rā'ki-sēl) [" + *kele*, tumor, swelling] Protrusion of the contents of the spinal canal in spina bifida cystica.

rachidial (rā-kīd'ē-āl) Spinal.

rachidian (rā-kīd'ē-ān) Pert. to the spinal column.

rachilysis (rā-kīl'i-sis) [" + *lysis*, dissolution] The mechanical treatment of lateral curvature of the spine through traction and pressure.

rachimeter (rā-kē-ōm'ē-tēr) [" + *met-*

ron, measure] An instrument for measuring a spinal curvature.

rachiopagus (rā'kē-ōp'ā-gūs) [" + *pagos*, thing fixed] A conjoined twin deformity in which the two are joined at the vertebral column.

rachiotome (rā'kē-ō-tōm") [" + *tome*, incision] An instrument for dividing the vertebrae.

rachis (rā'kis) *pl.* **rachises** [Gr. *rhachis*] The spinal column.

rachischisis (rā-kīs'kī-sīs) [" + *schisis*, a splitting] A congenital spinal column fissure (e.g., spina bifida).

posterior r. Spina bifida.

rachitic (rā-kīt'īk) Pert. to or affected with rickets.

rachitis (rā-kī'tīs) [" + *itis*, inflammatory] **1.** Inflammation of the spine. **2.** Rickets.

r. fetalis annularis Congenital enlargement of the epiphyses of the long bones.

r. fetalis micromelica Congenital shortness of the bones.

rachitome (rāk'i-tōm") [" + *tome*, incision] An instrument used to open the spinal canal.

rachitomy (rā-kīt'ō-mē) [" + *tome*, incision] Surgical cutting of the vertebral column.

rad *radiation absorbed dose.*

radectomy, radiectomy (rā-dēk'tō-mē, rā'dē-ēk'tō-mē) [L. *radix*, root, + Gr. *ektome*, excision] Surgical removal of all or a portion of a dental root.

radiability (rā'dē-ā-bīl'i-tē) [L. *radius*, ray, + *habilitas*, able] The capability of being penetrated readily by ionizing radiation. **radiable** (rā'dē-ā-bāl), *adj.*

radial (rā'dē-āl) **1.** Radiating out from a given center. **2.** Pert. to the radius.

radialis (rā'dē-ā'lis) [L.] Pert. to the radius bone.

radian (rā'dē-ān) **1.** A unit of angular measurement equivalent to 57.295 degrees. It is subtended at the center of a circle by an arc the length of the radius of the circle. **2.** In ophthalmometry, a lens of 1 radian would have one plane surface equal in length to the radius of curvature of the curved surface.

radiant (rā'dē-ānt) [L. *radians*, radiate] **1.** Emitting beams of light. **2.** Transmitted by radiation. **3.** Emanating from a common center. SEE: *energy; heat; radiation.*

radiate (rā'dē-āt) [L. *radiare*, to emit rays] To spread from a common center.

radiation (rā-dē-ā'shūn) [L. *radiatio*, to radiate] **1.** The process by which energy is propagated through space or matter. **2.** The emission of rays in all directions from a common center. **3.** Ionizing rays used for diagnostic or therapeutic purposes. Two types of radiation therapy are commonly used for patients with cancer: teletherapy and brachytherapy. SEE: *brachytherapy*. **4.** A gen-

eral term for any form of radiant energy emission or divergence, as of energy in all directions from luminous bodies, radiographical tubes, particle accelerators, radioactive elements, and fluorescent substances. **5.** In neurology, a group of fibers that diverge from a common origin.

acoustic r. Auditory r.

actinic r. Ionizing, electromagnetic radiation that can produce chemical changes, such as the damage done to skin by ultraviolet sunlight.

auditory r. A band of fibers that connect auditory areas of the cerebral cortex with the medial geniculate body of the thalamus. SYN: *acoustic radiation*.

background r. Total radioactivity from cosmic rays, natural radioactive materials, and other radiation that is present in a specific area.

bremsstrahlung r. Diagnostic radiation produced at the target of the anode in an x-ray tube. An electron is accelerated at high speed from the x-ray tube cathode filament. It interacts with the nuclear field of a target atom, changing direction and losing energy that is emitted in the form of an ionizing radiation photon. The result is a heterogeneous beam.

characteristic r. In radiology, the production of radiation in an anode caused by an interaction between an electron from the electron stream and an inner-shell electron of the target material. The result is an ejected electron, a positive atom, and an x-ray photon characteristic of the difference in binding energies between the atomic shells.

corpuscular r. Radiation composed of discrete elements or particles such as elements of atomic nuclei (i.e., alpha, beta, neutron, positron, or proton particles).

cosmic r. Ionizing radiation from the sun and other extraterrestrial sources. It has a short wavelength, high velocity, and an exceptional ability to penetrate tissue. It accounts for about one tenth of the yearly total of ionizing radiation exposure for each person. Colloquially, it is known as "cosmic rays."

electromagnetic r. Rays that travel at the speed of light. They exhibit both magnetic and electrical properties. SEE: *electromagnetic spectrum* for table.

heterogeneous r. Radiation containing waves of various wavelengths.

homogeneous r. Radiation containing photons of similar wavelength.

infrared r. Infrared ray.

interstitial r. Radiation treatment accomplished by inserting sealed sources of a particle emitter directly into tissues.

ionizing r. Electromagnetic waves capable of producing ions after interac-

tion with matter. Examples include x-rays, gamma rays, and beta particles. SEE: *radiation injury*, *ionizing*.

irritative r. An overdose of ultraviolet irradiation resulting in erythema and, in exceptional cases, blister formation.

low-level r. Electromagnetic waves at intensity levels below that known to cause obvious damage to living things. Low-level radiation includes that emitted by power lines, nuclear power plants, and appliances such as electric blankets, television sets, and computer terminals.

nonionizing r. ABBR: NIR. Electromagnetic radiation that does not readily ionize atoms such as that in visible light, ultraviolet light, infrared light, microwaves, ultrasound, and radiofrequency emissions.

optic r. A system of fibers extending from the lateral geniculate body of the thalamus through the sublenticular portion of the internal capsule to the calcarine occipital cortex (striate area). SYN: *geniculocalcarine tract*.

photochemical r. Light rays that penetrate tissues only fractions of a millimeter, are absorbed by cells, and cause physical and biological changes. This type of radiation causes surface heating.

photothermal r. Radiation of heat by a source of light, as that from an electric bulb.

primary r. That radiation being emitted directly to the patient from an x-ray source.

remnant r. Ionizing radiation that passes through the part being examined to make the radiographical image.

scattered r. X-rays that have changed direction because of a collision with matter.

secondary r. X-rays produced by the interaction between primary radiation and the substance being radiated.

solar r. Radiation from the sun; 60% is infrared and 40% is visible and ultraviolet.

striatomesencephalic r. Fibers originating in the corpus striatum and terminating principally in the substantia nigra of the midbrain.

striothalamic r. Groups of fibers connecting the corpus striatum with the thalamus and subthalamus.

synchrotron r. Radiation released by charged particles accelerated by a synchrotron. It may be used to obtain non-invasive images of body structures (e.g., the coronary arteries) or to study the structure of proteins, tissue samples, or other objects of biological or medical interest.

thalamic r. Groups of fibers connecting the thalamus with the cerebral hemispheres. These include frontal, parietal, occipital, and optic radiations.

thermal r. Heat radiation.

ultraviolet r. Radiant energy extending from 3900 to 200 angstrom units (A.U.) Divided into near ultraviolet, which extends from 3900 to 2900 A.U., and far ultraviolet, which extends from 2900 to 200 A.U.

visible r. The radiation of the visible spectrum, which may be broken up into different wavelengths representing different colors:

Violet, 3900–4550 angstrom units (A.U.)

Blue, 4550–4920 A.U.

Green, 4920–5770 A.U.

Yellow, 5770–5970 A.U.

Orange, 5970–6220 A.U.

Red, 6220–7700 A.U.

x r. 1. Electromagnetic waves or energy composed of x-rays. **2.** Treatment with or exposure to x-rays.

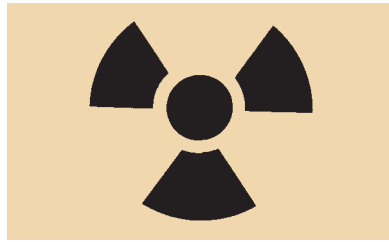
radiation injury, ionizing Damage to cells and intracellular molecules by x-rays, gamma rays, radionuclides, or other sources of radioactive energy. In sufficient doses, radioactive energy can damage the cytoplasm and the genetic material of the cell, leading to organ dysfunction (esp. in rapidly dividing tissues such as the skin and the lining of the gastrointestinal tract), mutations, inhibition of cell division, cell death, or carcinogenesis. When the developing fetus is exposed to radiation in the womb, developmental malformations may result. SEE: *low-level radiation; radiation syndrome.*

radiation protection Prophylaxis against injury from ionizing radiation. The only effective preventive measures are shielding the source and the operator, handlers, and patients; maintaining appropriate distance from the source; and limiting the time and amount of exposure. In general, the use of drugs to protect against radiation is not practical because of their toxicity. An exception is the use of orally administered potassium iodide to protect the thyroid from radioactive iodine.

radiation sickness Radiation syndrome.

radiation symbol An international symbol used to indicate radioactive sources, containers for radioactive materials, and areas where radioactive materials are stored and used. The presence of this symbol (a magenta or black propeller on a yellow background) on a sign denotes the need for caution to avoid contamination with or undue exposure to atomic radiation. The wording on the sign varies with the level of potential radiation in the area. SEE: *illus.*

radiation syndrome Illness due to overexposure to harmful electromagnetic waves, usually x-rays or gamma rays. Mild acute illness is manifested by anorexia, headache, nausea, vomiting, and diarrhea. Delayed effects resulting from repeated or prolonged exposure may re-



UNIVERSAL RADIATION SYMBOL

sult in skin ulcers, alopecia, proctitis, enteritis, amenorrhea, sterility, disturbances in blood cell formation, cataract formation, premature aging, and cancer. SYN: *radiation sickness.*

radiation therapist Radiation therapy technologist.

radiation therapy The use of energy from man-made ionizing radiation or from the radioactive decay of atomic nuclei to destroy diseased tissues, esp. cancers. SYN: *radiotherapy.*

conformal r.t. The application of radiation therapy to tumors that have been imaged three-dimensionally. The objective is to deliver the radiation directly to the tumor (to make the energy “conform” to the unique shape of the tumor), leaving neighboring healthy tissues unaffected by the damaging effects of radiation. SYN: *intensity-modulated radiation therapy.*

PATIENT CARE: Care is taken to direct therapeutic radiation toward diseased tissues (e.g. those infiltrated by cancer), leaving healthy tissues spared of its damaging effects. To accomplish this, the body is precisely measured and marked (“tattooed”), and cradles are designed to hold the patient in a precise position each time he receives a treatment. Systemic adverse effects of radiation therapy may include weakness, fatigue, anorexia, nausea, vomiting, and anemia. These may subside with antiemetics, steroids, frequent small meals, fluid maintenance, and added rest and are seldom severe enough to require discontinuing treatment although dosage adjustment may be required. Localized adverse effects of radiation depend on the organ system affected. For example, radiation of the breast may sometimes result in esophagitis or pneumonitis (inflammation of neighboring organs); cranial radiation may cause hair loss; radiation treatment of head and neck cancers may cause dry mouth (for which good oral hygiene or artificial saliva may be helpful). Because radiation may affect bone marrow, patients require frequent measurement of complete blood counts. Radiation also requires special skin care, and the patient should use a hypoallergenic moisturizer: Biaf-

ine, Radiacare Gel, and Aquaphor are popular brands. Many nurses and patients prefer using natural aloe (from the leaf of an aloe plant, split open to apply the gel from inside), or bottled aloe. Usually the radiation therapist will recommend that the skin be free of any such preparations at treatment time.

intensity-modulated r.t. ABBR: IMRT. Conformal radiation therapy.

intraoperative radiation therapy ABBR: IORT. The administration of a large dose of radiation to a malignant tumor during surgery. After the tumor is debulked, the surrounding tissues are displaced, temporarily sutured, or protected by the applicator shield. The applicator then delivers a large dose of radiation directly to the affected tissues. IORT is used, e.g., to manage otherwise unresectable tumors.

radiation therapy technologist ABBR: RT(T). A technologist who assists specialists in nuclear medicine in the proper and safe use of radiation for patient diagnosis and treatment. The roles of the radiation therapy technologist include the operation of radiation detection equipment, the administration of radiopharmaceuticals, and the recognition and early treatment of radiation-related emergencies, among others.

radiation treatment The administration of high-energy x-ray photons, electrons, or nuclear emissions for the cure of cancer or palliation of symptoms.

radiator (rā'dē-ā'tor) [LL. *radiatus*, radiate] A device for radiating heat or light.

infrared r. A device for transmitting infrared rays.

radical (rād'ī-kāl) [LL. *radicalis*, having roots] **1.** In chemistry, a group of atoms acting as a single unit, passing without change from one compound to another, but unable to exist in a free state. **2.** Oriented toward the origin or root. **3.** A foundation or principle.

acid r. The electronegative portion of a molecule when the acid hydrogen is removed.

alcohol r. The portion of an alcohol molecule left when the hydrogen of the OH-group is removed.

free r. A molecule containing an odd number of electrons. These molecules contain an open bond or a half bond and are highly reactive. The odd electron is represented in the chemical formula by a dot. If two radicals react, both are eliminated; if a radical reacts with a nonradical, another free radical is produced. This type of event may become a chain reaction. In ischemic injury to tissues (e.g., myocardial infarction), free radical production may play an important role at certain stages in the progression of the injury.

The body has developed methods of defending against the harmful effects of free radicals. Superoxide dismutases, enzymes in mitochondria, and antioxidants are effective in counteracting the harmful effects of free radicals. SEE: *antioxidant; oxidative stress; superoxide; superoxide dismutase.*

radical treatment An extensive or complete therapy, such as surgical removal of an entire diseased organ and its associated lymphatic drainage. Alternatives to radical treatment may include observation, palliation, modified procedures, lumpectomies, or conservative treatments.

radices (rād'ī-sēz) [L.] Pl. of *radix*.

radicle (rād'ī-kl) [L. *radicula*, little root] A structure resembling a rootlet, as a radicle of a nerve or vein. SYN: *radicula*.

radicotomy (rād'ī-kōt'ō-mē) [L. *radix*, root, + Gr. *tome*, incision] Rhizotomy. SEE: *radicectomy*.

radicul-, radiculo- Combining forms meaning *nerve root*.

radicula (rā-dīk'ū-lā) [L.] Radicle.

radiculalgia (rā-dīk'ū-lāl'jē-ā) [L. *radix*, root, + Gr. *algos*, pain] Neuralgia of nerve roots.

radicular (rā-dīk'ū-lār) [L. *radix*, root]

1. Pert. to a root or radicle. **2.** Pert. to the tissues on or around a tooth root (e.g., radicular dentin, radicular bone).

radicectomy (rā-dīk'ū-lēk'tō-mē) [" + Gr. *ektome*, excision] **1.** Excision of a spinal nerve root. **2.** Resection of a posterior spinal nerve root. SEE: *rhizotomy*.

radiculitis (rā-dīk'ū-lī'tis) [L. *radicula*, little root, + Gr. *itis*, inflammation] Inflammation of the spinal nerve roots, accompanied by pain and hyperesthesia.

radiculoganglionitis (rā-dīk'ū-lō-gāng'glē-ō-nī'tis) [" + Gr. *ganglion*, knot, + *itis*, inflammation] Inflammation of the posterior spinal roots and their ganglia.

radiculomedullary (rā-dīk'ū-lō-mēd'ū-lēr'ē) [" + *medullaris*, marrow] Pert. to the nerve roots and the spinal cord.

radiculomeningomyelitis (rā-dīk'ū-lō-mē-nīng'ō-mī-ēl-ī'tis) [" + Gr. *meninx*, membrane, + *myelos*, marrow, + *itis*, inflammation] Inflammation of the nerve roots, meninges, and spinal cord.

radiculoneuritis (rā-dīk'ū-lō-nū-rī'tis) [L. *radicula*, little root, + Gr. *neuron*, sinew, + *itis*, inflammation] Inflammation of the spinal nerve roots.

radiculopathy (rā-dīk'ū-lōp'ā-thē) [" + *pathos*, disease, suffering] Any disease of a nerve root.

radicectomy (rā'dē-ēk'tō-mē) [L. *radix*, root, + Gr. *ektome*, excision] SEE: *radectomy*.

radii (rā'dē-ī) [L.] Pl. of *radius*.

radio- [L. *radius*, ray] **1.** Combining form indicating *radiant energy, radioactive substances*. **2.** Combining form used as a prefix indicating *radioactive isotope*.

radioactive (rā'dē-ō-āk'tív) [L. *radius*, ray, + *activus*, acting] Capable of spontaneous emission of alpha, beta, or gamma rays as a result of the disintegration of the nucleus of an atom.

radioactive patient An individual treated or accidentally contaminated with radioactive materials. The patient should be told how long to avoid close contact with children and pregnant women.

radioactivity (rā'dē-ō-āk'tív'itē) Spontaneous disintegration of an atomic nucleus resulting in the emission of alpha, beta, or gamma rays.

artificial r. Radioactivity resulting from bombardment of a substance with high-energy particles in a cyclotron, betatron, or other apparatus.

induced r. Temporary radioactivity of a substance that has been exposed to a radioactive element.

natural r. Radioactivity emitted by elements in the environment, such as radon in soil. It may include alpha particles, beta particles, or gamma rays.

radioallergosorbent test (rā'dē-ō-äl'ēr-gō-sor'bēnt) ABBR: RAST. A blood test for allergy that measures minute quantities of immunoglobulin E in blood. People who have type I hypersensitivity reactions to common allergens (e.g., ragweed, trees, molds, milk, eggs, and animal dander) have elevated levels of IgE. For these individuals and others, RAST is safer than skin testing, because it carries no risk of systemic anaphylaxis. RAST is not as sensitive as skin testing, however.

radioautograph (rā'dē-ō-aw'tō-gráf) [" + " + *graphein*, to write] A photograph of a histologic section of a tissue showing the distribution of radioactive substances in the tissue.

radiobicipital (rā'dē-ō-bī-síp'i-tāl) Pert. to the radius and biceps muscle of the arm.

radiobiology (rā'dē-ō-bī-ōl'ō-jē) The branch of biology that deals with the effects of ionizing radiation on living organisms.

radiocarbon (rā'dē-ō-kār'bōn) A radioisotope of carbon; ^{13}C and ^{14}C are used in medical studies.

radiocardiogram (rā'dē-ō-kār'dē-ō-grām) [L. *radius*, ray, + Gr. *kardia*, heart, + *gramma*, something written] The record or film obtained during radiocardiography.

radiocardiography (rā'dē-ō-kār'dē-ōg'rā-fē) [" + " + *graphein*, to write] The investigation of the anatomy and function of the heart by obtaining a record or film of a radioactive substance as it travels through the heart.

radiocarpal (rā'dē-ō-kār'pāl) [" + Gr. *karpos*, wrist] Pert. to the radius and carpus.

radiochemistry (rā'dē-ō-kēm'is-trē) [" + Gr. *chemeia*, chemistry] The branch of chemistry dealing with radioactive phenomena.

radiocontrast (rā'dē-ō-kōn'trāst") Contrast medium.

radiocurable (rā'dē-ō-kūr'ā-bl) Curable by radiation therapy.

radiocystitis (rā'dē-ō-sīs-ti'tis) [" + Gr. *kystis*, bladder, + *itis*, inflammation] Inflammation of the bladder following radiation therapy as a result of cell and tissue damage.

radiodensity (rā'dē-ō-dēn'si-tē) The impenetrability of a substance or tissue by x-rays. SYN: *radiopacity*.

radiodermatitis (rā'dē-ō-dēr'mā-ti'tis) [" + Gr. *derma*, skin, + *osis*, condition] Radiation dermatitis.

radiodiagnosis (rā'dē-ō-dī'āg-nō'sis) [" + Gr. *dia*, through, + *gnosis*, knowledge] Diagnosis with radiological imaging.

radiodigital (rā'dē-ō-dig'i-tāl) Pert. to the radius and the fingers.

radioecology (rā'dē-ō-ē-kōl'ō-jē) [" + Gr. *oikos*, house, + *logos*, word, reason] Investigation of the effect of radiation on the living organisms in the environment.

radioelement (rā'dē-ō-ēl'ē-mēnt) [" + *elementum*, a rudiment] Any of the radioactive elements.

radioencephalogram (rā'dē-ō-ēn-sēf'äl-lō-grām") [" + Gr. *enkephalos*, brain, + *gramma*, something written] The record obtained when a radioactive tracer passes through the blood vessels of the brain.

radioencephalography (rā'dē-ō-ēn-sēf'äl-lōg'rā-fē) [" + " + *graphein*, to write] The recording of radio waves transmitted from the brain to a receiver but without electrodes being placed on the scalp.

radioepithelitis (rā'dē-ō-ēp'i-thē-lī'tis) [" + " + *thela*, nipple, + *itis*, inflammation] Radiation dermatitis.

radiofrequency identification (rā'dē-ō-frē'kwēn-sē) [" + "] ABBR: RFID. A method of labeling a drug or device with a unique electronic code to ensure that the object has been manufactured, stored, distributed, inventoried, and marketed legitimately. RFID devices provide electronic tags to prevent adulteration, counterfeiting, or theft of health care-related products.

radiogenic (rā'dē-ō-jēn'ik) [" + *genan*, to produce] **1.** Producing radiation. **2.** Caused by radiation. SYN: *actinogenic*.

radiogold (rā'dē-ō-göld) A radioisotope of gold.

radiograph (rā'dē-ō-gráf) [" + Gr. *graphein*, to write] **1.** An x-ray image or

photograph produced on photographic film or some other image receptor by x-rays or nuclear radiation that is passed through a structure to be imaged. SYN: *radiographic image*. SYN: *roentgenogram*. **2.** To make a radiograph. **3.** The film used to make a radiograph.

bitewing r. A radiograph that shows the crowns and upper third of the roots of upper and lower teeth. It is made by using a dental film with a tab (bitewing) or placement device that holds the film in place when the jaws are closed on the tab and is used to detect proximal caries and the interdental bone. SYN: *interproximal radiograph*.

body section r. Tomogram.

bregma-menton r. A radiograph taken in the submental-vertex plane, from below the chin to the top of the skull. It shows the contour of the zygomatic arches and the lateral separation of the mandibular condyles, coronoid processes, or both.

bucket-handle r. An informal term for radiograph taken with the beam aimed from beneath the chin toward the vertex of the skull. It is used to assess facial and orbital floor injuries.

cephalogram r. A radiograph of the jaws, teeth, and skull, used to demonstrate dental occlusion and its relation to other craniofacial structures.

dental r. A radiograph of dental structures made on x-ray film or stored as a digital image. The radiographs may be extraoral or intraoral. Three common types of intraoral dental images are periapical, interproximal, and occlusal radiographs.

interproximal r. Bitewing radiograph.

lateral cephalometric r. A radiograph of the entire head, taken from the side with the head in a fixed position and used to make definitive observations or measurements.

lateral oblique r. A radiograph used to examine the body of the mandible and the ramus. Projections may be performed with conventional dental radiographical film and may cover a broader area than a typical periapical radiograph. Also called *lateral jaw survey*.

lateral skull r. A radiograph of the sinuses and lateral aspects of the cranial skeleton.

maxillary sinus r. A frontal radiograph of the maxillary sinuses and the zygomas that allows direct comparison of both sides. SYN: *Water's projection*.

panoramic r. A type of extraoral curved-surface radiograph that shows the entire upper and lower jaws in a continuous single film. SYN: *panoraphy*; *pantomography*.

periapical r. An intraoral radiograph that depicts the tooth and surrounding

tissues extending to the apical region. SYN: *dental radiograph*.

posteroanterior r. A frontal radiograph of the skull. It is used to examine the skull for disease, trauma, and developmental abnormalities.

rotational r. Panoramic r.

transcranial r. A radiograph that includes views of the mouth in open, closed, and static positions.

radiographer (rā"dē-ōg'rā-fēr) A radiologic technologist specializing in the production of images for medical diagnosis. Such images include radiographs (x-ray images), computed-tomography (CT) scans, mammograms, and magnetic resonance images (MRIs).

radiography (rā-dē-ōg'rā-fē) The process of obtaining an image for diagnosis using a radiological modality.

body section r. Tomography.

direct r. The conversion of x-ray energy received from an imaged body part into digital format using semiconductors, without first collecting images on an image plate or as light.

radioguided surgery (rā'dē-ō-gīd'ēd) The use of radionuclides, such as isotopes of technetium, to locate lymph nodes or other tissues to excise during an operation.

radiohumeral (rā"dē-ō-hū'mēr-āl) [" + *humerus*, upper arm] Pert. to the radius and humerus.

radioimmunity (rā"dē-ō-ī-mū'nī-tē) [" + *immunitas*, immunity] Apparent decreased sensitivity to radiation that may follow repeated radiation therapy.

radioimmunoassay (rā"dē-ō-īm'ū-nō-ās'ā) ABBR: RIA. A method of determining the concentration of a substance, esp. hormones, based on the competitive inhibition of binding of a radioactively labeled substance to a specific antibody. Protein concentrations in the picogram (10^{-12} g) range can be measured by this technique.

radioimmunodiffusion (rā"dē-ō-īm'ū-nō-dīf-fū'zhūn) [" + " + *dis*, apart, + *fundere*, to pour] A method of studying antigen-antibody interaction by use of radioisotope-labeled antigens or antibodies diffused through a gel.

radioimmunoelectrophoresis (rā"dē-ō-īm'ū-nō-ē-lēk'trō-fō-rē'sis) [" + " + Gr. *elektron*, amber, + *phoresis*, bearing] Electrophoresis involving the use of a radioisotope-labeled antigen or antibody. An autoradiograph is taken of the electrophoretic pattern produced.

radioimmunoguided surgery (rā'dē-ō-īm'ū-nā-gīd'ēd, -ī-mūn'ā) ABBR: RIGS. The use of tumor-specific, radioactively labeled monoclonal antibodies to detect and stage cancers and distinguish malignant tissue from surrounding normal tissue. This improves the management of surgical tumors.

radioimmunoimaging (rā'dē-ō-īm'ū-nō-īm'ī-jīng) Immunoscintigraphy.

radioimmunosorbent test (rā'dē-ō-īm'ū-nā-sōr'bēnt, -ī-mūn'ā) ABBR: RIST. Use of radioimmunoassay to measure the immune globulin E (IgE) antibody in serum.

radioimmunotherapy (rā'dē-ō-īm'ū-nō-thēr'ā-pē) The use of radioactively labeled monoclonal antibodies to treat malignancies, e.g., breast cancers, non-Hodgkin's lymphoma, and prostate cancer. The monoclonal antibodies selectively bind with antigens on the tumor cells and deliver a dose of cell-killing radiation directly to those cells.

radioiodine (rā'dē-ō-ī'ō-dīn) A radioactive isotope of iodine, used in the diagnosis and treatment of thyroid disorders. The most commonly used isotope is ¹³¹I.

radioiron (rā'dē-ō-ī'ērən) A radioactive isotope of iron; ⁵⁵Fe and ⁵⁹Fe are used in medical studies.

radioisotope (rā'dē-ō-ī'sō-tōp) A radioactive form of an element.

radiolabel (rā'dē-ō-lā'bél) Tag, radioactive.

radiolead (rā'dē-ō-léd') A radioactive isotope of lead.

radiolesion (rā'dē-ō-lē'zhūn) An injury caused by radiation.

radioligand (rā'dē-ō-lī'gānd, rād'dē-ō-līg'ānd) A molecule, esp. an antigen or antibody, with a radioactive tracer attached to it.

radiological technologist A technologist trained in the safe application of ionizing radiation to portions of the body to assist the physician in the diagnosis of injuries and disease. This individual may also supervise or teach others. Technology programs approved by the Joint Review Commission on Education in the Radiologic Sciences are conducted in hospitals, medical schools, and colleges with hospital affiliations.

radiologist (rā-dē-ōl'ō-jīst) [L. *radius*, ray, + Gr. *logos*, word, reason] A physician who uses x-rays or other sources of ionizing radiation, sound, or radiofrequencies for diagnosis and treatment.

radiology (rā-dē-ōl'ō-jē) The branch of medicine concerned with radioactive substances, including x-rays, radioactive isotopes, and ionizing radiation, and the application of this information to prevention, diagnosis, and treatment of disease.

radiolucency (rā'dē-ō-lū'sēn-sē) [L. + *lucere*, to shine] The property of being partly or wholly penetrable by radiant energy.

radiolucient (rā'dē-ō-lū'sēnt) [L. + *lucere*, to shine] Penetrable by x-rays.

radiolus (rā-dē'ō-lūs) [L., a little ray] A sound or probe.

radiometer (rā-dē-ōm'ē-tēr) [L. + Gr.

metron, measure] An instrument for measuring the intensity of radiation.

radiomicrometer (rā'dē-ō-mī-krōm'ē-tēr) [L. + Gr. *mikros*, small, + *metron*, measure] An instrument for measuring small changes in radiation.

radiomimetic (rā'dē-ō-mīm-ēt'ik) [L. + Gr. *mimetikos*, imitation] Imitating the biological effects of radiation. Alkylating agents are examples of substances with this property. SEE: *alkylating agent*.

radiomuscular (rā'dē-ō-mūs'kū-lār) Pert. to the radius or radial artery and the muscles of the arm.

radiomutation (rā'dē-ō-mū-tā'shūn) The permanent alteration of the genetic material of a cell caused by the effects of ionizing radiation.

radionecrosis (rā'dē-ō-nē-krō'sis) [L. + Gr. *nekrosis*, state of death] The disintegration of tissue resulting from exposure to ionizing radiation.

radioneuritis (rā'dē-ō-nū-rī'tis) [L. + Gr. *neuron*, sinew, + *itis*, inflammation] Inflammation of a nerve caused by exposure to radioactivity.

radionitrogen (rā'dē-ō-nī'trō-jēn) A radioisotope of nitrogen.

radionuclide (rā'dē-ō-nū'klīd) An atom that disintegrates by emitting electromagnetic rays, known as gamma rays.

radiopacity (rā'dē-ō-pās'ī-tē) Radiodensity.

radiopaque (rā-dē-ō-pāk') [L. + *opacus*, dark] Impenetrable to x-rays or other forms of radiation.

radiopathology (rā'dē-ō-pā-thōl'ō-jē) [L. + Gr. *pathos*, disease, suffering, + *logos*, word, reason] The study of radiation injuries.

radiopelvimetry (rā'dē-ō-pēl-vīm'ēt-rē) [L. + *pelvis*, basin, + Gr. *metron*, measure] Measurement of the pelvis by use of x-rays.

radiopharmaceutical (rā'dē-ō-fārm'ā-sū'tī-kāl) A radioactive chemical or drug (e.g., an isotope of technetium or iodine) that has a specific affinity for a particular body tissue or organ. It can be used in nuclear medicine to obtain images of structures, or to treat radiation-sensitive diseases.



Radiopharmaceuticals must be handled in accordance with prescribed methods to prevent the patient or those treating the patient from being exposed to unnecessary ionizing radiation.

radiophosphorus (rā'dē-ō-fōs'fō-rūs) A radioactive isotope of phosphorus. ³²P is used in medical studies.

radiopotassium (rā'dē-ō-pō-tās'ē-ūm) A radioactive isotope of potassium. ⁴²K is used in medical studies.

radiopotentialion (rā'dē-ō-pō-tēn'shē-ā'shūn) [L. + *potentia*, power] The aug-

mentation of the effect of radiation. This may be produced by certain drugs and by oxygen.

radioprotective agent SEE: under *agent*.

radioreaction (rā'dē-ō-rē-āk'shūn) The reaction of the body to radiation.

radioreceptor (rā'dē-ō-rē-sēp'tor) Something that receives radiant energy such as light, heat, or x-rays.

radioresistant (rā'dē-ō-rē-zis'tānt) Resistant to the action of radiation; used esp. of a tumor that cannot be destroyed by radiation treatment.

radioresponsive (rā'dē-ō-rē-spōn'siv) Radiosensitive.

radioscopy (rā-dē-ōs'kō-pē) [L. *radius*, ray, + Gr. *skopein*, to examine] Inspection and examination of the internal structures of the body by fluoroscopic procedures. SYN: *fluoroscopy*.

radiosensitivity (rā-dē-ō-sēn-sī-bil'ī-tē) Radiosensitivity.

radiosensitivity (rā'dē-ō-sēn'sī-tiv'ī-tē) Reactiveness or responsiveness of a cell to radiation. SYN: *radiosensitivity*. SEE: table. **radiosensitive**, *adj.*

Radiosensitive Tumors

adenoid cystic carcinoma
breast cancer
Ewing's sarcoma
Hürthle cell tumor
lymphoma
Merkel cell tumor
prostate cancer
seminoma

radiosodium (rā'dē-ō-sō'dē-ūm) A radioisotope of sodium such as ²⁴Na and ²²Na.

radiostrontium (rā'dē-ō-strōn'shē-ūm) A radioisotope of strontium.

radiosulfur (rā'dē-ō-sül'fūr) A radioisotope of sulfur.

radiosurgery (rā'dē-ō-sūr'jēr-ē) [+ Gr. *cheirurgia*, handwork] The use of ionizing radiation in surgery. SEE: *gamma knife surgery*.

radiotelemetry (rā'dē-ō-tēl-ēm'ē-trē) [+ Gr. *tele*, distant, + *metron*, measure] The transmission of data, including biological data, by radio from a patient to a remote monitor or recording device for storage, analysis, and interpretation.

radiotherapeutics (rā'dē-ō-thēr'ā-pū'tiks) **1.** Radiotherapy. **2.** The study of radiotherapeutic agents.

radiotherapist (rā'dē-ō-thēr'ā-pist) [+ Gr. *therapeia*, treatment] Someone trained in use of ionizing radiation for therapeutic purposes.

radiotherapy (rā'dē-ō-thēr'ā-pē) Radiation therapy.

radiothermy (rā'dē-ō-thēr'mē) [+ Gr. *therme*, heat] **1.** The use of radiant heat or heat from radioactive substances for therapeutic purposes. **2.** Short-wave diathermy.

radiothorium (rā'dē-ō-thō'rē-ūm) A radioisotope of thorium.

radiotoxemia (rā'dē-ō-tōk-sē'mē-ă) [+ Gr. *toxikon*, poison, + *haima*, blood] A rarely used term for radiation syndrome.

radiotransparent (rā'dē-ō-trāns-pār'ēt) [+ *trans*, across, + *parere*, to appear] Penetrable by radiation.

radioulnar (rā'dē-ō-ūl'nār) [+ *ulna*, arm] Concerning the radius and ulna.

radium (rā'dē-ūm) [L. *radius*, ray] SYMB: Ra. A metallic element found in very small quantities in uranium ores such as pitchblende; atomic number 88, atomic weight 226, half-life 1622 years. It is radioactive and fluorescent. Radon is produced by the breakdown of radium. The most stable isotope, ²²⁶Ra, has been used as a source of radioactivity in medical research and therapy.

radium beam therapy [+ Gr. *therapeia*, treatment] Radiotherapy.

radius (rā'dē-ūs) [L., ray] **1.** A line extending from a circle's center point to its circumference. **2.** The outer and shorter bone of the forearm. It revolves partially about the ulna. Its head articulates with the capitulum of the humerus and with the radial notch on the ulna and is encircled by the annular ligament. Its lower portion articulates with the ulna by the ulnar notch, and by another articulation with the navicular (scaphoid) and lunate bones of the wrist. **radial**, *adj.*

fracture of r. A break in the radius. A common fracture of the lower end of the radius is a Colles' fracture, caused by falling on the outstretched hand. Fractures also occur along the shaft or at the upper end frequently involving the radial head. SEE: *fracture*.

radix (rā'diks) *pl. radices* [L., root] **1.** The root portion of a cranial or spinal nerve. **2.** The root of a plant.

radon (rā'dōn) [L. *radius*, ray] SYMB: Rn. A radioactive gaseous element resulting from the disintegration of isotopes of radium; atomic weight 222, atomic number 86. Because radium is present in the earth's crust, radon and its disintegration products accumulate in caves, mines, houses (particularly those that are energy efficient), and any space where no free exchange exists between the air contained in it and the air outside it. Exposure to radon above acceptable limits is believed to be a risk factor for lung cancer.

PATIENT CARE: If the level of radon in a house is measured and exceeds acceptable limits, steps should be taken to reduce it. In some areas, this is a legal requirement for sale of a property. Methods for removing or decreasing radon exposure in buildings are available.

r. seed A tissue implant containing

radon that is used to treat internal malignancies.

radura (ră-dūr'ă) The internationally recognized symbol for irradiated food. It consists of a stylized representation of a flower surrounded by a dashed semicircle.

Raeder's paratrigeminal syndrome (ră'dēr) [J. G. Raeder, Norwegian ophthalmologist, 1889–1956] Unilateral ptosis and miosis with preserved facial sweating; an incomplete form of Horner's syndrome. It may result from aneurysms of, or injury to, the internal carotid artery, among other lesions.

raffinose (răf'i-nōs) A trisaccharide, melitose, present in certain plants, cereals, and fungi. Hydrolysis yields fructose and melibiose.

raft A liquid phase of a cholesterol-rich region on a cell membrane that carries specific chemicals across the membrane into the cell.

lipid r. A tiny cholesterol-rich region on a cell membrane that helps selected molecules enter the cytoplasm. SYN: *lipid domain*.

rage (răj') [ME.] Violent anger.

sham r. A rage reaction produced by stimuli in decorticated animals.

rag sorter's disease A febrile pulmonary disease that may occur in people who sort paper and rags. It is caused by inhalation of anthrax.

ragweed One of several species of the genus *Ambrosia*, whose pollen is an important allergen. The pollen-producing period of grasses in temperate zones is from the middle of August to the first hard frost. SEE: *allergy*.

Raillietina (rī'lē-ē-tī'nă) A genus of tapeworms belonging to the family Davaineidae.

R. demerariensis A species that infests humans, reported from several South American countries, esp. Ecuador.

Raimiste's phenomenon, Raimiste's sign An associated reaction in hemiplegia in which resistance to hip abduction or adduction in the noninvolved extremity evokes the same motion in the involved extremity.

raised (răzd) [ME. *reisen*, to rise] Elevated above a surface.

rale (răl) Crackle.

raloxifene (ră-lök'si-fēn') A selective estrogen receptor modulator administered orally to treat and prevent osteoporosis in postmenopausal women. Its therapeutic class is bone resorption inhibitor.

ramal (ră'mäl) [L. *ramus*, branch] Pert. to a ramus.

rami (ră'mi) [L.] Pl. of ramus.

ramicotomy (răm'ti-kōt'ō-mē) [L. *ramus*, branch, + Gr. *tome*, incision] Rami-section.

ramification (răm'ti-fī-kă'shūn) [L. *ram-*

ificare, to make branches] 1. The process of branching. 2. A branch. 3. Arrangement in branches.

ramify (răm'ti-fī) To branch; to spread out in different directions.

ramisection (răm'ti-sēk'shūn) [L. *ramus*, branch, + *sectio*, a cutting] The surgical division of a ramus communicans between a spinal nerve and a ganglion of the sympathetic trunk.

ramisectomy (răm-īs-ēk'tō-mē) [r + Gr. *ektome*, excision] Excision of a ramus, specifically a ramus communicans. SEE: *ramisection*.

ramitis (răm-i'tis) [r + Gr. *itis*, inflammation] Inflammation of a ramus.

ramose (ră'mōs) [L. *ramus*, branch] Branching; having many branches.

Ramsay Hunt syndrome (răm'zē) A condition caused by herpes zoster of the geniculate ganglion of the brain or neuritis of the facial nerve and characterized by severe facial palsy and vesicular eruption in the pharynx, external ear canal, tongue, and occipital area. Deafness, tinnitus, and vertigo may be present.

ramulus (răm-ū-lūs) [L.] A small branch or ramus.

ramus (ră'mūs) pl. **rami** [L., branch] A branch; one of the divisions of a forked structure. **ramal** (-mäl), *adj.*

anterior r. One of the primary branches of a spinal nerve that supplies the lateral and ventral portions of the body wall, limbs, and perineum.

r. communicans One of the primary branches of a spinal nerve that connects with a sympathetic ganglion. Each consists of a white portion (white ramus communicans) composed of myelinated preganglionic sympathetic fibers and a gray portion (gray ramus communicans) composed of unmyelinated postganglionic fibers.

dorsal r. Posterior ramus.

mandibular r. The vertical portion of the mandible.

meningeal r. One of the primary branches of a spinal nerve that reenters the vertebral foramen and supplies the meninges and vertebral column.

posterior r. The branch of a spinal nerve carrying motor axons to and sensory axons from the deep (intrinsic) muscles of the back and the skin that overlies them. SYN: *dorsal ramus*.

pubic r. Either of the two barlike processes of the pubic bone that extend laterally and posteriorly from the pubic symphysis. The inferior ramus articulates with the ischium; the superior ramus articulates with the ilium and forms the front of the acetabulum.

ventral r. The branch of a spinal nerve that carries motor axons to and sensory axons from all parts of the body except the deep (intrinsic) muscles of the back and their overlying skin.

Rancho Los Amigos Guide to Cognitive Levels A scale widely used to classify a neurological patient's level of cognitive dysfunction according to behavior. This scale provides eight levels with descriptors, progressing from level I (no response) to level VIII (purposeful and appropriate response), as follows:

1. No response: is unresponsive to any stimuli.

2. Generalized response: exhibits limited, inconsistent, nonpurposeful responses, often to pain only.

3. Localized response: displays purposeful responses; may follow simple commands; may focus on presented object.

4. Confused, agitated: demonstrates heightened state of activity; confusion, disorientation; aggressive behavior; inability to perform self-care; unawareness of present events; agitation, which appears as internal confusion.

5. Confused, inappropriate: is nonagitated; appears alert; responds to commands; is distractible; does not concentrate on task; demonstrates agitated responses to external stimuli; is verbally inappropriate; does not learn new information.

6. Confused, appropriate: demonstrates goal-directed behavior, needs cuing; can relearn old skills, such as activities of daily living; displays serious memory problems; exhibits some awareness of self and others.

7. Automatic, appropriate: appears appropriate, oriented; frequently acts robot-like in daily routine; has minimal or no confusion; demonstrates shallow recall; exhibits increased awareness of self, interaction in environment; lacks insight into condition; shows decreased judgment and problem-solving ability; lacks realistic planning for future.

8. Purposeful, appropriate: is alert, oriented; recalls and integrates past events; learns new activities and can continue without supervision; is independent in home and living skills; is capable of driving; demonstrates defects in stress tolerance, judgment, abstract reasoning; possibly functions at reduced levels in society.

rancid (răn'sid) [L. *rancidus*, stink] Having a disagreeable odor resulting from the breakdown of double bonds in fatty acids.

rancidity (răn-sid'î-tē) The condition of being rancid.

random (răn'düm) Without order; unpredictable; unintentionally complex.

randomization (răn'düm-î-ză'shün) In research, a method used to assign subjects to experimental groups without introducing biases into a study. SYN: *random sampling*. SEE: *clinical trial*; *double-blind technique*.

randomized controlled trial ABBR: RCT.

An experimental study to assess the effects of a particular variable (e.g., a drug or treatment) in which subjects are assigned randomly to an experimental, placebo, or control group. The experimental group receives the drug or procedure; the placebo group's medication is disguised to resemble the drug being investigated. The control group receives nothing. Members of each group are prevented from knowing whether they are receiving active therapy. The researchers gathering the data are also typically blinded to group assignment.



Although RCTs represent one essential element in proving clinical relationships (e.g., the relationship between the use of a new drug and the safe cure of a disease), most RCTs do not enroll enough patients for a long enough time to detect rare events.

random sample In experimental medicine and epidemiology, an unbiased selection of individuals or items. A random sample is chosen in research investigations so that study results will have a high probability of reflecting the variables under study rather than unintentionally reflecting an unanticipated characteristic of the research subjects.

range [ME., series] The difference between the highest and lowest in a set of variables or in a series of values or observations.

r. of accommodation The difference between the least and the greatest distance of distinct vision. SEE: *accommodation*.

continuous passive r. of motion Continuous passive motion.

r. of motion ABBR: ROM. **1.** The amount of excursion through which a joint can move, measured in degrees of a circle. SEE: *range-of-motion exercise* for illus.; *goniometer*. **2.** An exercise that moves a joint through the extent of its limitations. This exercise can be active, active assisted, or passive.

passive r. of motion ABBR: PROM.

1. The possible excursion of motion at a joint, accomplished by an examiner, without any muscle contraction by the patient. This can be measured by a goniometer. The excursion is normally slightly greater than active range of motion. The examiner assesses the end point. **2.** An exercise in which an external force moves a joint through its excursion without any effort by the patient. PROM exercise is used when the patient is unable to move or when active motion is prohibited.

ranine (răn'nîn) [L. *rana*, a frog] **1.** Pert. to a ranula, or the region beneath the tip of the tongue. **2.** The branch of the

lingual artery supplying that area.
3. Pert. to frogs.

ranitidine (ră-nî'tî-dēn) A histamine H₂ antagonist and antiulcer agent, administered orally or intravenously for short-term treatment of active duodenal ulcers and benign gastric ulcers.

ranula (răn'ū-lă) [L., little frog] A cystic tumor seen on the underside of the tongue on either side of the frenum; a retention cyst of the submandibular or sublingual ducts. The swelling may be small or large.

SYMPTOMS: The tumor is semitranslucent, with soft, dilated veins coursing over it. The patient experiences fullness and discomfort, but usually no pain. The tumor contains clear fluid owing to dilatation of the salivary glands and obstruction of the sublingual mucous glands.

TREATMENT: Periodic emptying of the sac by careful needle aspiration provides temporary relief. Surgical intervention is required for complete removal.

pancreatic r. Cystic disease of the pancreas caused by obstruction of its ducts.

Ranvier's node (rôn-vê-ăz') [Louis A. Ranvier, Fr. pathologist, 1835–1922] A space between adjacent Schwann cells along a nerve fiber; no myelin sheath is present. **SYN:** *neurofibril node*. **SEE:** *nerve fiber*; *neuron* for illus.; *Schwann cell*.

RAO *right anterior oblique* position.

rape (răp) [L. *rapere*, to seize] Sexual assault or sexual violence perpetrated on one person by another against the will of the victim. Rape involves an attempt at or actual penetration of the vagina or another body orifice by a penis, finger, other body part, or inanimate object. Complete penetration by the penis or emission of seminal fluid is not necessary to constitute rape. Most rapes include force, intimidation, or violence, but acquiescence because of verbal threats does not indicate consent. Some studies have indicated that an incident involving rape occurs about every 2.5 min, and that 1 out of 6 women will be raped sometime during her life. According to the National Sexual Assault Hotline in 2005, there were about 190,000 victims of rape, attempted rape, or sexual assault, annually. A majority of rapes are inflicted by someone known to the victim. **SEE:** *rape and sexual assault prevention*; *syndrome, rape-trauma*; *sexual abuse*; *Nursing Diagnosis Appendix*.

TREATMENT: The medical care of the rape victim must include timely prophylactic treatment for sexually transmitted diseases (including HIV/AIDS), prophylaxis against hepatitis B, and prophylaxis against pregnancy.

PATIENT CARE: The health care professional provides sensitive care, esp. psychological support, by remaining with the patient and by encouraging verbalization of feelings. If available, a Sexual Assault Nurse Examiner should be summoned. State regulations regarding the reporting of rape should be followed. The health care professional explains and assists with the psychological, oral, pelvic, and rectal examinations and diagnostic tests. Directions should be followed exactly in collecting rape evidence such as head and pubic hair combings, nail scrapings, and vaginal, oral, or anal specimens for police investigation. The patient should be allowed as much control as possible throughout examination, treatment, and interview procedures. An assault and sexual history is obtained, including whether the female rape victim was menstruating and, if so, the type of menstrual protection used.

Attempts are made to obtain as accurate a history of the rape as possible. Meticulous documentation is required. Medically relevant evidence of the patient's emotional reactions and state should be included, with care taken not to record one's own feelings or thoughts. The interviewer should be aware that medical records may be called in evidence in a court of law. Prior to the examination, the patient should be asked whether she has douched, bathed, or washed her perineal area before coming to the hospital. She may need to urinate, but should be cautioned not to wipe or clean the perineum in any way. As she changes into a hospital gown, her clothing is collected in paper bags, with each bag labeled accurately (with the patient's name, collector's name, chain of evidence, location, date, and time).

After determining the patient's allergy history, prescribed treatments of associated injuries are given. Topical ice packs may be used to reduce vulvar swelling and discomfort. Analgesics and sedatives or anti-anxiety agents are prescribed as needed. Photographs to document any injuries are taken. Crisis intervention services are offered to assist the patient. Assistance is offered to help the patient explain the rape to family. Arrangements are made for someone to escort the patient home. Follow-up services and written and verbal instructions for prescribed medications, including drug actions and possible side effects, are provided. The importance of returning for sexually transmitted disease testing is explained: some microbiological cultures take days or longer to reveal results. Psychological counseling is encouraged to help the patient cope with aftereffects of the rape-trauma. Legal proceedings may revive

the trauma of the event for the victim. Further counseling and support is provided as needed. Female victims should be referred to Women Organized Against Rape or a local rape crisis center for ongoing empathic care and advice.

date r. Nonconsensual, unsolicited, and unwelcome sexual relations between individuals who are currently or were previously romantically involved or sexually intimate.

gang r. Forcible sexual intercourse or other sexual activity committed on an individual by several persons. SEE: *rape*.

male r. Sexual assault, usually penetrative, of a man by a man. Estimating the prevalence of male rape is difficult because it often is not reported.

marital r. Forcible sexual assault by a spouse at a time when the sexual encounter was neither solicited nor welcome.

prison r. Rape that occurs when the victim is assaulted by another prisoner or by a prison employee.

statutory r. Sexual intercourse with an individual younger than the legal age of consent.

rape and sexual assault prevention The precautions taken to decrease the chances of one's being forced to engage in unwanted sexual behaviors. In the U.S., about 700,000 to 1,000,000 sexual assaults occur each year; 75% to 85% of all sexual assaults are committed by friends, family members, or sexual partners of the victim; 95% of all sexual assaults are committed against women, the majority of whom are under 18 years old. Because of this, a crucial element in the prevention of sexual assault is the education of young men and adolescent boys about respectful sexual interactions with women. In addition, women who feel threatened, dominated, or controlled by men or boys in their home, school, or work environments should proactively seek help from sexual assault crisis services in their neighborhood.

Personal safety tips. (1) Because alcohol consumption is a related factor in many rapes, it is advisable to keep alcohol intake to a minimum, not allow another person to handle anything you are drinking, to avoid drug addition, and not allow a companion who is intoxicated into one's home. (2) As much as possible, preventive measures should be directed at remaining in a well-secured area and being close to persons who can be called for assistance day or night. (3) Emergency police and fire department telephone numbers should be kept readily available. Help should be summoned without delay if it is suspected that one's apartment or home is being ille-

gally entered. (4) When preparing to enter a car or home, one should be constantly alert for the presence of strangers. (5) Before leaving a well-lighted and populated area, one should have the car keys in hand and ready for quick use. It is advisable to leave one arm free of packages, handbag, or other items and to carry a noise making device. (6) When driving, it is important to lock the car doors and close any open windows immediately, and stay on well-lit streets. (7) When returning home alone at night, one should enlist the assistance of a known neighbor, law enforcement officer, or friend to search the home if the door is unlocked or anything seems amiss. Once one is safely inside, the door should be locked securely. (8) If a stranger comes to the door, a security chain should be kept on and a peephole preferably used for communication until proper identification has been presented. If doubt exists about the credentials or demeanor of the stranger, admission should be refused and help summoned immediately. (9) Always walk quickly and with assurance. (10) Avoid automated teller machines at night. (11) If attacked, make as much noise and resist assault vigorously, unless you believe that to do so would increase the likelihood of physical harm or death. (12) Never leave children unattended. (13) Do not allow strangers to enter your car. (14) If you are assaulted, seek immediate help from local medical, social, and policing agencies. Do not wash or bathe. (15) Attempt to remember as many details as possible about the attacker: clothes, size, race, accent, hair color, identifying marks and scars, facial hair, vehicle, and evidence of drug or alcohol use.

rape counseling The provision of advice, comfort, and sources of therapy for victims of sexual assault. The emotional reaction and sequelae of rape may be devastating to the mental well-being of the victim. It is therefore important that the victim be reassured about what to expect from both internal feelings and the potential reactions of society. Historically, law enforcement officers have been less than sympathetic to rape victims, but now most police departments have officers trained in rape investigation who are sensitive to the emotional and physical trauma the victim has experienced. Frequently, specially trained Sexual Assault Nurse Examiners (SANE) are available to provide care and support. Various services are available to the victim, including advocate groups and health care professionals experienced in counseling rape victims.

rapeseed (rāp-sēd) [L. *rapa*, turnip] The seed of *Brassica campestris* and other *Brassica* species, whose oil is used

in the manufacture of lubricants and canola oil. The oil made from the seeds of the variety high in erucic acid is used as an industrial lubricant. Oil made from the seeds of the low-erucic-acid variety is relatively low in saturated fat and is commonly known as canola oil.

rape-trauma syndrome Sustained maladaptive response to a forced, violent sexual penetration against the victim's will and consent. SEE: *rape*; *Nursing Diagnoses Appendix*.

Like other posttraumatic stress disorders, this condition initially causes an acute phase of disorganization and involves a long-term reorganization of lifestyle. Sequelae may include marked changes in lifestyle and a variety of phobias.

Acute phase: Profound emotional responses mark the acute phase (i.e., fear, shame, and feelings of humiliation; self-blame and self-degradation; and anger and desire for revenge). Most commonly, rape victims exhibit crying, trembling, talkativeness, statements of disbelief, and emotional shock. Some may exhibit overt signs of hostility, which reflect their anger and feelings of powerlessness. Later, patient complaints of sleep pattern disturbances, gastrointestinal irritability, and genitourinary discomforts reflect physical responses to emotional trauma. Some victims may appear quiet, dispassionate, and smiling; however, these behaviors should not be misinterpreted as indicating a lack of concern; rather, they may represent an avoidance reaction.

Long-term phase: Many rape victims experience one or more of the following: nightmares; chronic suspicion, inability to trust, and altered interpersonal relationships; anxiety, aversion to men, and avoidance of sex; depression; and phobias. Paradoxically, patients express feelings of guilt and shame because they feel that either they invited the attack, should have prevented the episode, or that they deserved being punished.

PATIENT CARE: The nurse exhibits empathy and understanding and ensures privacy and a quiet supportive environment. The patient is encouraged to verbalize feelings, fears, and concerns. Positive self-perception and self-esteem are promoted and supported. The nurse emphasizes that rape usually is an expression of the rapist's overwhelming feelings of psychosocial impotence and anger and that the act conveys a sense of power over others; the woman was a victim of the rapist's inability to contain a violent personal rage that is not related to her or to sex. The patient is referred to community resources (support groups) and for psychological counsel-

ing. Most patients prefer to have a counselor of the same sex.

rape-trauma syndrome: compound reaction A nursing diagnosis accepted at the NANDA 13th Conference (1998); 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. SEE: *Nursing Diagnoses Appendix*.

rape-trauma syndrome: silent reaction A nursing diagnosis accepted at the NANDA 13th Conference (1998); 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. SEE: *Nursing Diagnoses Appendix*.

raphe (rā'fē) [Gr. *rhaphe*] A crease, ridge, or seam denoting union of the halves of a part.

abdominal r. Linea alba.

palatine r. A line or ridge in the median line of the palate. The raphe appears as a whitish line, which sometimes turns into a slight groove at its posterior end.

r. of penis A median ridge on the undersurface of the penis, a continuation of the raphe of the scrotum.

perineal r. A line or ridge in the midline of the perineum.

pterygomandibular r. A tendinous line of fusion between the buccinator and superior pharyngeal constrictor muscles that passes between the pterygoid process and the mandible, serving as an important landmark in dental anesthesia.

r. of scrotum A ridge in the midline of the scrotum.

r. of tongue A median groove on the dorsum of the tongue.

rapid antigen test Any laboratory test used to quickly identify the presence of a specific antigen in a body fluid sample. Rapid antigen tests are often used to assess whether disease-causing viruses or bacteria are present in samples of body fluids (instead of waiting for the results of microbiological cultures). A commonly employed rapid antigen test is used on saliva swabbed from the throat or tonsils of patients suspected of having streptococcal pharyngitis.

rapid cycling Four or more episodes of depression, mania, hypomania, or other alternating mood disturbances occurring in a single year. Roughly 10% of patients with bipolar illness have this condition; more men than women are affected. Lithium carbonate is less effec-



DIAPER RASH

(A) mild diaper rash, (B) severe yeast infection in diaper area

tive in treating rapid cycling than in treating other forms of bipolar disorder.

rapid surfactant test Shake test.

rappel (ră-pél') To slide down a rope, as in a lifesaving rescue.

rapport (ră-por') [Fr. *rapporter*, to bring back] A relationship of mutual trust and understanding, esp. between the patient and physician, nurse, or other health care provider.

rapture A state of great joy, delight, or ecstasy.

rarefaction (răr'ë-făk'shūn) [L. *rarefacere*, to make thin] The process of decreasing in density and weight.

r. of bone Osteoporosis.

rarefy (răr'ë-fi) To make less dense; to increase the porosity of something.

RAS *reticular activating system*.

rash (răsh) [O.Fr. *rasche*] A general term for any eruption that appears on the skin transiently (as opposed to durable skin lesions such as scars, tattoos, or moles). SYN: *exanthem*.

PATIENT CARE: Assessments are made of the location and characteristics of the lesion, such as color; size (height and diameter); pattern, whether discrete or coalesced; and any secondary changes (crusting, scaling, lichenification). Associated symptoms such as pruritus or discomfort, temporal elements, history of known allergies, drugs used, and contacts with communicable diseases during prior 2-week period also are assessed. Suspected drugs are discontinued, and the potential communicable disease patient is isolated and assessed. Cool compresses are applied to relieve itching. Topical preparations and dressings are applied and systemic medications administered as prescribed. The patient is instructed to keep hands clean and nails short and even, and to avoid scratching. The patient also is taught about the treatment

regimen, its actions, and its side effects and evaluates for desired effects and side effects.

butterfly r. A rash on both cheeks joined by an extension across the bridge of the nose. It is seen in systemic lupus erythematosus, esp. after the patient's face has been exposed to sunlight, and in seborrheic dermatitis, tuberous sclerosis, and dermatomyositis. SEE: *discoid lupus erythematosus*.

diaper r. Irritant contact dermatitis as a reaction to friction, maceration, and prolonged contact with urine, feces, soap retained in diapers, and topical preparations. A persistent diaper rash may be colonized by yeast or bacteria. SYN: *diaper dermatitis*. SEE: *illus*.

TREATMENT: Treatment is symptomatic. Diapers should be changed frequently. If washable cloth diapers are used, they should be thoroughly washed and rinsed; occlusive plastic pants should not be used over diaper; the perianal and genital areas should be washed with warm water and mild, non-perfumed soap. If these measures and application of a bland protective agent (e.g., zinc oxide paste) do not promote healing, then a small amount of 0.5% to 1% topical hydrocortisone cream should be applied to the area after each diaper change, until the rash has completely resolved.

drug r. Drug eruption.

gum r. A red papular eruption of an infant's chin and anterior chest area seen during teething. It is a form of miliaria due to excess saliva coming in contact with the skin. SYN: *red rash*; *tooth rash*.

heat r. Miliaria.

hemorrhagic r. A rash consisting chiefly of bleeding or bruising into or under the skin.

macular r. A rash in which the le-

sions are flat and level with the surrounding skin.

maculopapular r. A rash in which there are discrete macular and papular lesions or a combination of both.

mercurial r. A rash caused by local application of mercurial preparations.

mulberry r. A dusky rash seen in typhus.

red r. Gum r.

serum r. A pruritic, hivelike rash (urticaria or angioedema) or a vasculitis (palpable purpura) that accompanies serum sickness, which usually is caused by a hypersensitivity reaction to drugs or immune globulins obtained from animals. Malaise, joint pains, fevers, and other symptoms may accompany the rash. SEE: *serum sickness*.

sunburn-like r. A macular rash resembling the reddened skin characteristic of a severe sunburn. SEE: *exfoliative dermatitis*; *toxic shock syndrome*.

tooth r. Gum r.

wandering r. Geographic tongue.

Rashkind procedure (răsh'kind) **1.** Balloon atrial septostomy. **2.** The closure of an atrial septal defect, ventricular septal defect, or patent ductus arteriosus with a double disk prosthesis that is placed during cardiac catheterization. It is used as an alternative to septostomy.

rasion (ră'zhün) [L. *rasio*] The grating of drugs by use of a file.

raspatory (răs'pă-tō'rē) [L. *raspatorium*] A file used in surgery, esp. for trimming bone surfaces. SYN: *xyster*.

RAST (răst) *radioallergosorbent test*.

Rastafarian (răs-tă-fă'rē-ăn) A religious cult that originated in Jamaica in the 1930s and has members in the Caribbean, Europe, Canada, and the U.S. It is of medical importance because cult members' dietary practices may lead to vitamin B₁₂ deficiency with subsequent neurological disease, megaloblastic anemia, or both.

rat [ME.] A rodent of the genus *Rattus*, found in and around human habitations. In addition to causing economic loss from crop destruction, rats are of primary importance in the spread of human and animal diseases. They are hosts of various protozoans, flukes, tapeworms, and threadworms, and reservoirs of amebiasis, murine and scrub typhus, and bubonic plague. Typhus and plague are transmitted to people mainly by the rat flea. Rats also transmit rat-bite fever.

rat-bite fever Either of two infectious diseases transmitted by the bite of a rat. One is caused by *Streptobacillus moniliformis* and is marked by skin inflammation, fever, chills, headache, vomiting, and back and joint pain. The other is caused by *Spirillum minus* and is associated with ulceration, rash, and re-

current fever. The latter disease is rare in the U.S. SYN: *sodokosis*; *sodoku*.

TREATMENT: Both diseases are treated with penicillin. Therapy is most effective when penicillin is given intravenously for 1 week, then orally for 1 week. Tetanus prophylaxis is also administered.

rate (răt) [L. *rata*, calculated] The speed or frequency of occurrence of an event, usually expressed with respect to time or some other known standard.

acquisition r. In radiology, the speed with which medical images are recorded, usually expressed in images per second.

attack r. The rate of occurrence of new cases of a disease.

basal metabolic r. SEE: *basal metabolic rate*.

baseline fetal heart r. ABBR: FHR. Average range of beats per minute recorded within a 10-min time frame. Normal range is between 120 and 160 beats per minute.

birth r. The number of live births per 1000 in the population in a given year.

case r. Morbidity r.

case fatality r. The percentage of individuals afflicted with an illness who die as a result of it.

concordance r. The frequency with which a gene will be inherited or expressed by identical or fraternal twins.

death r. The number of deaths in a specified population, usually expressed per 100,000 population, over a given period, usually 1 year. SYN: *mortality rate*.

dose r. The quantity of medicine or radiation administered per unit of time.

erythrocyte sedimentation r. ABBR: ESR. SEE: *sedimentation r.*

false-negative r. The rate of occurrence of negative test results in individuals who actually have the attribute or disease for which they are being tested.

false-positive r. The rate of occurrence of positive test results in individuals who actually do not have the attribute or disease for which they are being tested.

fertility r. The number of births per year per 1000 women between ages 15 and 44 in a given population.

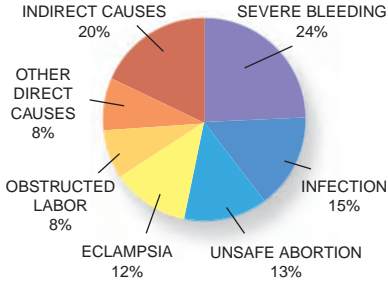
growth r. The rate at which an individual, tissue, or organ grows over time.

heart r. The number of heartbeats per unit of time, usually expressed or written as number per minute.

infant mortality r. The number of deaths per year of live-born infants less than 1 year of age divided by the number of live births in the same year. This value is usually expressed as deaths per 100,000 live births. SEE: *neonatal mortality r.*; *perinatal mortality r.*

maternal mortality r. The number of

maternal deaths in 1 year from puerperal causes (i.e., those associated with pregnancy, childbirth, and the puerperium) within 42 days after delivery divided by the number of live births in that same year. This value is usually expressed as deaths per 100,000 live births. **SEE: *illus.***



CAUSES OF MATERNAL DEATH

maximum midexpiratory flow r. ABBR: MMFR. The average airflow during the middle half of a forced vital capacity effort.

morbidity r. The number of cases per year of certain diseases in relation to the population in which they occur. SYN: *case rate*.

mortality r. Death r.

neonatal mortality r. SEE: *neonatal mortality rate*.

peak expiratory flow r. The maximum rate of exhalation during a forced expiration, measured in liters per second or liters per minute. It is used as a test of airway obstruction.

perinatal mortality r. The number of stillbirths (in which the gestation period was 28 weeks or more) in the first 7 days of life divided by the number of live births plus stillbirths in the same year. This value is usually expressed as deaths per 100,000 live births plus stillbirths. SEE: *infant mortality r.*; *neonatal mortality r.*

periodontal disease r. SEE: *periodontal (Ramfjord) index*.

pulse r. The number of heartbeats per unit of time that can be detected by palpating any accessible artery.

respiration r. The number of breaths per unit of time.

sedimentation r. ABBR: ESR (erythrocyte sedimentation rate). A nonspecific laboratory test used as a marker of inflammation. In this test, the speed at which erythrocytes settle out of unclotted blood is measured. Blood to which an anticoagulant has been added is placed in a long, narrow tube, and the distance the red cells fall in 1 hr is the ESR. Normally, it is less than 10 mm/hr in men and slightly higher in women.

The speed at which the cells settle depends on how many red blood cells clump together. Clumping is increased by the presence of acute-phase proteins, released during inflammation.

specific absorption r. The time rate at which electromagnetic energy is absorbed by a kilogram of tissue, usually expressed as the heat absorbed by the tissue, or as the power absorbed per unit of mass.

ventilation r. ABBR: VR. The number of breaths per minute.

rate of perceived exertion ABBR: RPE. A category and category-ratio scale developed by physiologist G. A. Borg, in which a patient reports his or her level of effort during exercise. The corresponding written descriptions range from "very light" to "very, very hard." The scale correlates well with cardiorespiratory and metabolic variables such as minute ventilation, heart rate, and blood lactate levels. SEE: *Borg's dyspnea scale*.

PATIENT CARE: This scale is helpful when patients are unable to take their own pulses during exercise or have abnormal heart rate responses to exercise.

ratio (rā'shē-ō) [L., computation] The relationship in degree or number between two things. Particular ratios are listed under the first word. SEE: e.g., *body weight ratio*; *international normalized ratio*; *sex ratio*.

ration (rā'shūn) A fixed allowance of food and drink for a certain period.

rational (rāsh'ūn-āl) [L. *rationalis*, reason] **1.** Of sound mind. SYN: *sane*. **2.** Reasonable or logical; employing treatments based on reasoning or general principles; opposed to empiric.

rationale (rāsh'ūn-āl') [L.] The logical or fundamental reason for a course of action or procedure.

rationalization (rāsh'ūn-āl-i-zā'shūn) In psychology, a justification for an unreasonable or illogical act or idea to make it appear reasonable.

rational treatment Treatment based on scientific principles.

rationing Resource allocation in health care, esp. in managed health care systems.

rattle (rāt'l) [ME. *ratelen*, to rattle] A coarse crackle heard during auscultation of the chest. This finding suggests excessive airway secretions are present.

death r. A colloquial term for gurgling noises caused by movements of secretions in the upper airways with inspiration and expiration in dying patients.

rattlesnake A poisonous snake of the genus *Crotalus*. Its bite may produce coagulation disorders, anaphylaxis, or injury to local tissues.

raucous (raw'kūs) [L. *raucus*, hoarse] Hoarse, harsh, as the sound of a voice.

Rauscher leukemia virus (rou'shēr)
[Frank J. Rauscher, U.S. virologist, b. 1931] A virus known to cause leukemia in mice.

rauwolfia serpentina (raw-wōlf'ē-ā)
[Leonhard Rauwolf, Ger. botanist, 1535–1596] The dried roots of a tropical shrub of the family Apocynaceae, whose extracts are potent hypotensive and sedative drugs. Derivatives include reserpine, serpentine, and serpentine.

rave (rāv) [ME. *raven*, to be delirious]
1. To talk irrationally, as in delirium.
2. An all-night dance party at which mind-altering drugs, e.g., ecstasy or other amphetamines, are often used.

raving 1. Irrational utterance. 2. Talking irrationally.

RAW *airway resistance*.

raw (raw) [AS. *hrew*] 1. Of food: not cooked. 2. Of the skin: damaged by abrasion. 3. Of information or data: unstudied, unanalyzed, or unevaluated.

raw data The information obtained during an experiment, before the information has been analyzed or statistically manipulated.

ray (rā) [L. *radius*, ray] 1. One of several lines diverging from a common center. 2. A line of propagation of any form of radiant energy, esp. light or heat; loosely, any narrow beam of light.

actinic r. A solar ray capable of producing chemical changes. SYN: *chemical ray*.

alpha r. A ray composed of positively charged helium particles derived from atomic disintegration of radioactive elements. Its velocity is one tenth the speed of light. Alpha rays are completely absorbed by a thin sheet of paper and possess powerful fluorescent, photographic, and ionizing properties. They penetrate tissues less than beta rays.

beta r. A ray composed of negatively charged electrons expelled from atoms of disintegrating radioactive elements. SYN: *beta particle*.

border r. Grenz r.

cathode r. A ray composed of negatively charged electrons discharged by a cathode through a vacuum, moving in a straight line and producing x-ray photons upon hitting solid matter.

central r. The theoretical center of an x-ray beam. The term designates the direction of the x-ray photons as projected from the focal spot of the x-ray tube to the radiographical film.

characteristic r. A secondary photon produced by an electron giving up energy as it changes location from an outer to an inner shell in an atom. The wavelengths are characteristic of the difference in binding energies.

chemical r. Actinic r.

cosmic r. Cosmic radiation.

delta r. Highly penetrative waves emitted by radioactive substances.

erythema-producing r. Ultraviolet radiation (wavelengths between 2050 and 3100 A.U.) capable of reddening skin.

gamma r. Short wavelength, high-energy electromagnetic radiation emitted by disintegrating atomic nuclei.

grenz r. A low-energy x-ray photon with an average wavelength of 2 A.U. (range from 1 to 3 A.U.); obtained with peak voltage of less than 10 kV. Grenz rays lie between ultraviolet and x-rays. SYN: *border ray*.

hard r. An x-ray photon of short wavelength and great penetrative power.

heat r. Radiation whose wavelength is between 3,900 and 14,000 A.U. Shorter wavelength heat sources penetrate tissues better than longer (infrared) sources. SEE: *heat*.

infrared r. An invisible heat ray from beyond the red end of the spectrum. Infrared wavelengths range from 7700 angstrom units (A.U.) to 1 mm. Long-wave infrared rays (15,000 to 150,000 A.U.) are emitted by all heated bodies and exclusively by bodies of low temperature such as hot water bottles and electric heating pads; short-wave infrared rays (7,200 to 15,000 A.U.) are emitted by all incandescent heaters. The sun, electric arcs, incandescent globes, and so-called infrared burners are sources of infrared rays.

USES: Infrared ray energy is transformed into heat in a superficial layer of the tissues. It is used therapeutically to stimulate local and general circulation and to relieve pain. The infrared thermograph is useful in studying the heat of tissues. SEE: *radiation*; *thermography*.

luminous r. One of the visible rays of the spectrum.

medullary r. In the kidney, one of many slender processes composed of one or two collecting ducts and other straight tubules that project into the cortex from the bases of renal pyramids.

monochromatic r. Single wavelength electromagnetic radiation.

pigment-producing r. A ray between 2540 and 3100 A.U. that is most effective in stimulating pigment production in the skin. This is due to a local response to irritation of cutaneous prickle cells.

positive r. A ray composed of positively charged ions that in a discharge tube moves from the anode toward the cathode.

primary r. In radiographic imaging, the x-ray beam that originates at the source of radiation. It is usually used to differentiate those rays from the additional scatter radiation that constitutes the majority of the beam used to create images.

roentgen r. X-ray photon.

scattered r. SEE: under *radiation*.

secondary r. X-ray photons produced after the incoming, primary x-ray photons remove an inner-shell electron from the atom. They are of lower energy than the primary radiation and usually are absorbed in matter.

ultraviolet r. An invisible ray of the spectrum beyond the violet rays. The wavelengths of ultraviolet rays vary. They may be refracted, reflected, and polarized, but will not traverse many substances impervious to the rays of the visible spectrum. They rapidly destroy the vitality of bacteria, and are able to produce photochemical and photographic effects.

Raynaud, Maurice (rě-nō') French physician, 1834–1881.

R.'s disease A primary vasospastic disease of small arteries and arterioles; the cause is unknown. There is an exaggerated response of vasomotor controls to cold or emotion.

SYMPTOMS: Patients have intermittent vasospastic attacks of varying severity and frequency that affect the digits of the hands bilaterally; the toes are less commonly involved. Color changes occur in sequence, first white (pallor), then blue (cyanosis), and then red (hyperemia as blood flow returns). Initially, there is numbness and sensation of cold; during the red phase patients may have throbbing and paresthesia. Normal skin color returns after the attack. Patients with long-term disease may develop atrophy of the skin and subcutaneous tissues, brittle nails, and occasionally skin ulcerations or gangrene.

PATIENT CARE: Persons with this disease should maintain warmth in the extremities by wearing warm mittens or gloves and socks. They should avoid contact with cold materials and prolonged exposure to cold environments. Emotional stress should be avoided. Use of tobacco is contraindicated because of the vasoconstrictive effects of nicotine. Other aggravating factors include alcohol, caffeine, and medications such as beta blockers, adrenergic receptor agonists, sympathomimetic agents, ergotamine drugs, antineoplastic agents, estrogens, immunosuppressants, biologic response modifiers, and stimulants such as amphetamines and cocaine. Increasing hydrostatic pressure, and therefore circulation, by vigorous exercise of the arms may be useful. Exercise increases circulation, warms the body, and can prevent or limit vasoconstriction. If attacks are prolonged and frequent, vasodilator drugs, including calcium channel blockers and sympatholytic agents (alpha-adrenergic re-

ceptor blockers) may be helpful. Direct vasodilators may be effective in primary Raynaud phenomenon, but not in secondary Raynaud phenomenon. Transdermal nitroglycerin or a long-acting oral nitrate reduce the severity and frequency of attacks, and provide symptomatic relief in both conditions. Applying nitroglycerin cream to the fingers may help to heal skin ulcerations, which progress to necrosis if left untreated. Drugs being used investigatively include angiotensin II-receptor blockers such as oral losartin, intravenous prostaglandins, topical nitric acid gel, and cilostazol. A sympathectomy to prevent vasoconstriction may be tried but is not always successful.

Nonpharmacologic management include massaging the affected digits; placing hands under the armpits or placing hands and feet in warm (never hot) water; climate control (avoiding winter air and also air-conditioned rooms); dressing warmly in winter (coat with snug cuffs, hat, scarf, waterproof and insulated footwear, thermal underwear); clothing made of wool, silk, down, or polypropylene synthetics that retain warmth; running the car heater for a few minutes before beginning to drive and insulating the steering wheel; wearing socks and shoes or slippers indoors and keeping indoor temperatures above 70°F; handling cold drinks and frozen foods only with barrier hand protection (insulated glasses or sleeves, mittens, pot holders). Relaxation techniques such as structured relaxation exercises with concurrent biofeedback should be encouraged, as they can decrease the frequency, severity, and number of attacks. Feet and hands must be protected from injury, examined daily for skin changes, and lotion used to prevent drying. Pavlovian conditioning takes time to master but may be beneficial: the hands are immersed in 110°F water for 45 min while exposing the rest of the body to cold or freezing temperatures with the intent of conditioning peripheral vessels to dilate in response to cold rather than constricting. Complementary and alternative therapies include acupuncture, ginkgo biloba to increase blood flow in primary RP, omega-3 and omega-6 fatty acids (in flaxseed oil) to reduce red blood cell aggregation and improve blood flow, and niacin to dilate blood vessels and increase circulation to the skin.

R.'s phenomenon Intermittent attacks of pallor or cyanosis of the small arteries and arterioles of the fingers as the result of inadequate arterial blood flow. This condition is associated with scleroderma, systemic lupus erythematosus, Buerger's disease, nerve entrapment, and anorexia-bulimia. The signs,

symptoms, and treatment are identical to those of Raynaud's disease. **SEE:** *il-lus.; Nursing Diagnoses Appendix.*



RAYNAUD'S PHENOMENON

rayon, purified (rā-ōn) A fibrous form of regenerated cellulose manufactured by the viscose process, desulfured, washed, and bleached. Once used in surgical dressings and bandages.

Rb Symbol for the element rubidium.

RBBB *right bundle branch block.*

RBC, rbc *red blood cell; red blood count.*

R.B.E. *relative biological effectiveness.*

RBRVS *resource-based relative value scale.*

R.C.D. *relative cardiac dullness.*

RCMD *refractory cytopenia with multilineage dysplasia.*

RCP *Royal College of Physicians; Respiratory Care Practitioner.*

RCS *Royal College of Surgeons.*

R.D.A. *right dorsoanterior, presentation position of the fetus; recommended dietary allowance.*

RDMS *registered diagnostic medical sonographer.*

R.D.P. *right dorsoposterior, presentation position of the fetus.*

RDR *relative dose response.*

RDS *respiratory distress syndrome.*

Re Symbol for the element rhenium.

re- [L.] Prefix meaning *back, again.*

R.E. *radium emanation; right eye; reticuloendothelium.*

reabsorb (rē'āb-sorb') To absorb again.

reabsorption (rē'āb-sorp'shūn) The process of absorbing again. It occurs in the kidney when some of the materials filtered out of the blood by the glomerulus are reabsorbed as the filtrate passes through the nephron.

reacher (rē'chēr) A type of extension device for assisting persons with limited reach to grasp and manipulate objects in the performance of everyday tasks.

react (rē-ākt') [L. *re, again, + agere, to act*] **1.** To respond to a stimulus. **2.** To participate in a chemical reaction.

reactant (rē-āk'tānt) A chemical or substance taking part in a chemical reaction.

acute phase r. Acute phase protein.

limiting r. The substance with the

lowest concentration in a chemical reaction. Its amount determines the amount of product made from that reaction.

reaction (rē-āk'shūn) [LL. *reactus, re-acted*] **1.** The response of an organism, or part of it, to a stimulus. **2.** In chemistry, a chemical process or change; transformation of one substance into another in response to a stimulus. **3.** An opposing action or counteraction. **4.** An emotional and mental response to a stimulus. Particular reactions are listed under the first word. **SEE:** e.g., *adverse drug reaction; anaphylactoid reaction; late-phase reaction.*

reaction of degeneration A change in muscle reactivity to electricity, seen in lower motor neuron paralysis.

reactivate (rē-āk'tī-vāt') To make active again (e.g., to restore to a physiological response or to awaken a dormant infection).

reactivation (rē-āk'tī-vā'shūn) The process of making something active again.

reactive (rē-āk'tiv) **1.** Capable of participating in a chemical reaction. **2.** Emotionally or psychologically responsive. **3.** Triggered by an antigen, said of antibodies and some allergic and immune illnesses.

reactive airway disease Any disease in which there is reversible bronchospasm, such as asthma. **SEE:** *asthma.*

reactive attachment disorder A developmental disorder of infancy or early childhood marked either by social isolation and withdrawal or by indiscriminate sociability. The disorder may result from neglect of the child by his or her primary caregiver or from frequent changes in caregivers (esp. in children who have lost their parents or who have been moved frequently from one foster home to another).

reactivity (rē'āk-tiv'ī-tē) **1.** The ability to respond to a stimulus. **2.** In measurement of function or behavior, the influence that the presence of the examiner and the assessment process may have on performance and therefore on the outcome or finding.

cross r. The ability of an antibody to bind with more than one antigen or of an antigen to bind with more than one antibody.

read back (rēd bāk) A method of preventing errors in which information relayed to one person is repeated and verified in a slightly different form as a means of confirming its accuracy. For example, a respiratory therapist is asked to administer an aerosol to a patient named "Dabs." Before giving the medication, he repeats the name of the patient out loud as "Dabs...delta, alpha, bravo, sam. Have I spelled the name correctly?"

reading (rēd) Interpreting or perusing

written or printed characters or material. Reading may or may not include comprehension of the material.

lip r. SEE: *lip reading*.

pulse r. The assessment of the characteristics of the radial pulse as an aid in the diagnosis of disease, a technique used in traditional Chinese medicine, Ayurvedic medicine, among other healing traditions.

reading disorder A condition that interferes with or prevents comprehension of written or printed material; used esp. in reference to children. In some adults, the condition may have developed from a brain injury or may have persisted from infancy. SEE: *dyslexia*.

reading machine for the blind An electronic device that converts printed matter into speech. Several machines for home use are available. Information may be obtained from the Lighthouse National Center for Vision and Aging at (800) 334-5497 or the American Foundation for the Blind at (800) 232-5463.

reagent (rē-ā'jēnt) [L. *reagere*, to react]
 1. A substance involved in a chemical reaction. 2. A substance used to detect the presence or amount of another substance. 3. A subject of a psychological experiment, esp. one reacting to a stimulus.

reagin (rē-ā-jīn) A type of immunoglobulin E (IgE) present in the serum of atopic individuals that mediates hypersensitivity reactions.

rapid plasma r. ABBR: RPR. A non-specific serological test for syphilis. The RPR titer is elevated in most patients with syphilis (and falsely elevated in some patients with other diseases). The titer decreases or returns to normal after successful eradication of the disease.

reaginic (rē-ā-jīn'ik), *adj.*

reality (rē-āl-i-tē) 1. The quality of being real or actual. 2. All that exists, as opposed to those ideas or mental images that are imagined.

reality orientation An intervention to orient people with early dementia or delirium. It involves repetition of verbal and nonverbal information. The environment remains constant, and the person is reminded about names, dates, weather, and other pertinent information.

reality principle (rē-āl-i-tē) In psychoanalysis, the idea that the striving for narcissistic pleasure can never be absolute, but instead must be balanced against competing demands placed on the self by other persons and situations.

reality testing The attempt by the individual to evaluate and understand the real world and his or her relation to it.

reality therapy A psychiatric treatment based on the concept that some patients deny the reality of the world around them. Therapy is directed to assist pa-

tients in recognizing and accepting the present, instead of dwelling on the past. Patients undergoing reality therapy are helped to cope with present demands, limit distortions, and anticipate future needs.

real-time 1. Pert. to technologies that report or record events and processes as they happen; said, e.g., of imaging procedures that take moving pictures rather than static images of body structures. 2. Pert. to computer systems that analyze data at the same rate as data is received, allowing automatic control of a process.

reamer (rē'mēr) A small instrument used in dentistry for enlarging the root canal of a tooth.

reanastomosis, surgical (rē-ā-nās-tō-mō'sis) The rejoining of structures, esp. vessels or tubes, that had been previously ligated.

reanimate (rē-ān'i-māt) [L. *re*, again, + *animare*, fill with life] To reactivate, restore to life, revive, or resuscitate.

reapers' keratitis (rēp'ērs kēr-ā-tī'tis) Corneal inflammation caused by grain dust. SEE: *keratitis*.

reasonable and customary fees In health care finance, the prevailing reimbursement for health services or medical care in a specific region or state. The term is vague. It reflects the reality that in differing states, regions, or health care institutions, the economics of health care may vary, owing to regional attitudes about care, or differences in professional expertise or available technologies.

reasonable care In law, the degree of care that an ordinarily prudent or reasonable person would exercise under given circumstances.

reasonable certainty Epistemological likelihood based on considerable evidence or the opinion of most experts that an event has resulted from a specific cause. The concept of reasonable certainty is a legal one; it implies a measure of proof acceptable to a jury in a court of law rather than a proof that might be acceptable to the most stringent scientist.

reasonable cost The amount a third party (usually the medical insurer) will actually reimburse for health care. This amount is based on the cost to the provider for delivering that service.

reasoning The making of judgments or drawing of conclusions based on evidence, education, experience, training, and/or personal biases.

reasoning, narrative A means of understanding people and their behaviors in the context of their life histories and their interpretations of the important events in their lives.

reattachment (rē-ā-tāch'mēnt) 1. Re-embedding of a dental crown. 2. Re-embed-

ding of periodontal ligament fibers into the cementum of a tooth that has become dislodged. **3.** Rejoining of parts that have been separated, as a finger that has been traumatically detached. SEE: *limb replantation*.

reauthorization (rē'aw-thōr-ī-zā'shŭn)

The renewal of an act of legislation, e.g., one that authorizes certain forms of treatment or health care funding.

rebase (rē-bās') To refit a denture by replacing the base material without altering the occlusal characteristics.

rebound (rē'bōwnd) [ME. *rebounden*, to leap back] A reflex response in which sudden withdrawal of a stimulus is followed by increased activity, such as an increase in heart rate or blood pressure when beta-blocking drugs or clonidine are withheld.

rebreathing (rē'brē'thēng) The inhalation of gases that had been previously exhaled.

Rebuck skin window test (rē'bŭk) An in vivo method of assessing inflammation. A superficial abrasion is made in the skin and a glass coverslip applied to the area. Leukocytes accumulate at the site and adhere to the coverslip.

recalcification (rē'kāl-si-fi-kā'shŭn) [L. *re*, again, + *calx*, lime, + *facere*, to make] The restoration of calcium salts to tissues from which they have been withdrawn.

recalcification test A test for excessive blood clotting, used esp. in cancer-related thrombosis. Also known as the modified recalcification test.

recalcitrant Difficult to treat; resistant to commonly used treatments.

recall (rē'kawl, rē-kawl') [L. + AS. *ceallian*, to call] **1.** The act of bringing back to mind something previously learned or experienced. SEE: *memory*. **2.** To remove from use; to restrict marketing of a substance or product, usually as a result of problems with product safety.

24-hr dietary r. One means of obtaining a diet history in which the individual being assessed lists all the foods along with the portion size of everything eaten or drunk in the preceding 24 hr. The information obtained is rarely accurate enough to be valid.

recall bias Distortion introduced into a research investigation that relies on the memory of subjects, specifically, their recollections of elements that might have contributed to the eventual development of a disease or condition. A research subject's memories after the occurrence of an adverse event, e.g., the diagnosis of a serious ailment, may be unduly influenced by his or her assumptions, beliefs, expectations, or prior education about possible causes of that ailment and thus may not reflect the true breadth of exposure contributing to the occurrence of the disease.

recall rate In radiology, the percentage of individuals asked to return for follow-up imaging after an anomaly is found on an initial study, e.g., the number of women who are screened with mammography and who have to return for spot films, ultrasound, or magnetic resonance imaging.

recanalization (rē'kän-äl-ī-zā'shŭn) Reestablishment of an opening through a vessel that had been previously occluded.

receiver (rē-sēv'ēr) [L. + *capere*, to take]

1. A container for holding a gas or a distillate. **2.** An apparatus for receiving electric waves or current, such as a radio receiver.

receptaculum (rē'sēp-tāk'ŭ-lŭm) *pl.* **receptacula** [L.] A vessel or cavity in which a fluid is contained.

receptor (rē-sēp'tor) [L., a receiver]

1. In cell biology, a structure in the cell membrane or within a cell that combines with a drug, hormone, chemical mediator, or an infectious agent to alter an aspect of the functioning of the cell. **2.** A sensory nerve ending. SYN: *ceptor*.

accessory r. Proteins on the surface of T lymphocytes that enhance the response of the T-cell receptor to foreign antigens and stimulate signals from the receptor to the cytoplasm. SEE: *cell, antigen-presenting; T-cell receptor*.

adrenergic r. A cell membrane protein that mediates the effects of adrenergic stimulation on target organs by catecholamines.

alpha-adrenergic r. A site in autonomic nerve pathways responsive to the adrenergic agents norepinephrine and epinephrine; in general, alpha-1 receptors produce excitatory responses and alpha-2 receptors produce inhibitory responses. SEE: *beta-adrenergic r.*

antigen r. Receptors, primarily on white blood cells, that bind with the epitope on foreign antigens, stimulating an immune response. SEE: *epitope*.

auditory r. One of the hair cells in the organ of Corti in the cochlea of the ear.

beta-adrenergic r. A site in autonomic nerve pathways responsive to the adrenergic agents norepinephrine and epinephrine; in general, beta-1 receptors produce excitatory responses and beta-2 receptors produce inhibitory responses. SEE: *alpha-adrenergic r.*

cell r. Cell membrane proteins or intracellular proteins that react with chemicals (e.g., hormones) circulating in the cell's environment. The reaction triggers the cell's characteristic response to the hormone or other chemical. SEE: *drug r.*

chemokine r. ABBR: CCR. Any of several protein receptors for chemokines that spans the cell membrane and links to intracellular G proteins. The cell-to-cell signaling and regulating ef-

fects of chemokines (e.g., on inflammation or hematopoiesis) are mediated through chemokine receptors, which can be blocked with specific antagonist drugs. CCR5 and CXCR4 are chemokine receptors that are also receptors for the human immunodeficiency virus. The virus uses these receptors to gain entry into T cells, macrophages, and other CD4⁺ cells.

cholinergic r. A site in a nerve synapse or effector cell that responds to the effect of acetylcholine.

complement r. ABBR: CR. A receptor on neutrophils, macrophages, lymphocytes, and other cells that allows complement factors to bind, thus stimulating inflammation, phagocytosis, and cell destruction.

contact r. A receptor that produces a sensation such as touch, temperature, or pain that can be localized in or on the surface of the body.

cutaneous r. A receptor located in the skin.

distance r. Receptor.

dopamine r. One of at least six receptors that bind dopamine in the brain. They influence body movements and emotional states. The dopamine receptors are designated D1, D2a, D2b, D3, D4, and D5. Each has an identifiably different function. The D2a receptor, for example, has a strong affinity for antipsychotic drugs, such as haloperidol.

drug r. A protein-containing complex on a cell membrane that is capable of being stimulated by drugs in the extracellular fluid and translating that stimulation into an intracellular response. There may be thousands of such receptors on the surface of each cell. SEE: *cell r.*

estrogen r. A cellular protein that binds female sex steroid hormones. When estrogens attach to it, they stimulate cells to transcribe DNA and manufacture proteins, typically leading to cellular growth and proliferation.

gravity r. A macular hair cell of the utricle and saccule. It responds to changes in position of the head and linear acceleration.

homing r. An adhesion molecule on leukocytes that binds to endothelial cells in blood vessels. It is used by white blood cells to guide them to inflamed or infected tissues in the body.

immunologic r. A receptor on the surface of white blood cells that identifies the type of cell and links with monokines, lymphokines, or other chemical mediators during the immune response.

killer cell inhibitory r. ABBR: KIR. Molecules on the surface of natural killer (NK) cells that bind with major histocompatibility complex (MHC) class I markers and inhibit the ability of NK cells to destroy target cells. Different

groups of KIRs may create subsets of NK cells that bind to and destroy different targets. SEE: *natural killer cell.*

olfactory r. One of the bipolar nerve cells found in olfactory epithelium whose axons form olfactory nerve fibers.

optic r. A rod or cone cell of the retina.

proprioceptive r. A muscle or tendon spindle. These are the receptors for muscle stretching or kinesthetic stimuli.

rotary r. One of the hair cells in the cristae of the ampulla of the semicircular ducts of the ear. It is stimulated by angular acceleration or rotation.

ryanodine r. ABBR: RyR. The release channel for calcium ions that is found on the membranes of the sarcoplasmic reticulum of skeletal muscles.

sensory r. A sensory nerve ending, a cell or group of cells, or a sense organ that when stimulated produces an afferent or sensory impulse.

CLASSIFICATION: *Exteroreceptors* are receptors located on or near the surface that respond to stimuli from the outside world. They include eye and ear receptors (for remote stimuli) and touch, temperature, and pain receptors (for contact). *Interoceptors* are those in the mucous linings of the respiratory and digestive tracts that respond to internal stimuli; also called *visceroreceptors*. *Proprioceptors* are those responding to stimuli arising within body tissues.

Receptors also are classified according to the nature of stimuli to which they respond. These include *chemoreceptors*, which respond to chemicals (taste buds, olfactory cells, receptors in aortic and carotid bodies); *pressoreceptors*, which respond to pressure (receptors in the aortic and carotid sinuses); *photoreceptors*, which respond to light (rods and cones); and *tactile receptors*, which respond to touch (Meissner's corpuscle).

stretch r. A proprioceptor located in a muscle or tendon that is stimulated by a stretch or pull. SEE: *proprioceptor.*

taste r. A gustatory cell of a taste bud.

temperature r. Any of the free nerve endings in the dermis that detect heat and cold.

toll-like r. ABBR: TLR. 1. One of several receptors on macrophages and other immune and endothelial cells that recognizes pathogen components such as peptidoglycan or lipopolysaccharide. Activation of a receptor stimulates release of cytokines and other chemical signals that are part of innate immunity. 2. Receptors on the surface of immune cells that react with bacterial lipopolysaccharides and other antigens on pathogenic cells and stimulate innate immune responses.

touch r. A Merkel's disk, a Meissner's corpuscle, or a nerve plexus around a hair root.

receptor-binding screening A method of identifying useful drugs by exposing large numbers of chemicals to cellular receptors and selecting those agents that attach to and activate the receptors.

receptor trafficking The movement of chemical receptors from one cellular structure to another, e.g., from the cell membrane to the cytoplasm.

receptosome (rē-sĕp'tō-sōm) Endosome.

recess (rē'sĕs) [L. *recessus*, receded] A small indentation, depression, or cavity.

cochlear r. A small concavity, lying between the two limbs of the vestibular crest in the vestibule of the ear, that lodges the beginning of the cochlear duct.

epitympanic r. Attic.

hepatorenal r. A deep pocket inside the upper right peritoneal cavity between the liver and the peritoneal surface of the right kidney. When a person is lying on his back, fluid from the omental bursa will pool into the hepatorenal recess. SYN: *hepatorenal pouch*.

infundibular r. A small projection of the third ventricle that extends into the infundibular stalk of the hypophysis.

nasopalatine r. A small depression on the floor of the nasal cavity near the nasal septum, lying immediately over the incisive foramen.

omental r. One of three pocket-like extensions of the omental bursa. The superior recess extends upward behind the caudate lobe of the liver, the inferior recess extends downward into the great omentum, and the lineal recess extends laterally to the hilus of the spleen.

pharyngeal r. A recess in the lateral wall of the nasopharynx lying above and behind the opening to the auditory tube. SYN: *Rosenmüller's fossa*.

pineal r. Recess of the roof of the third ventricle extending into the stalk of the pineal body.

piriform r. A deep depression in the wall of the laryngeal pharynx lying lateral to the orifice of the larynx. It is bounded laterally by the thyroid cartilage and medially by the cricoid and arytenoid cartilages. It is a common site for lodgment of foreign objects.

sphenoethmoidal r. A small space in the nasal fossa above the superior concha. It lies between the ethmoid bone and the anterior surface of the body of the sphenoid bone and posteriorly receives the opening of the sphenoidal sinus.

umbilical r. A dilatation on the left main branch of the portal vein that marks the position where the umbilical vein was originally attached.

recession (rē-sĕsh'ŭn) [L. *recessus*, recess] The withdrawal of a part from its normal position.

gingival r. Apical migration of the gingiva resulting from faulty tooth-brushing technique, tooth malposition, friction from soft tissues, gingival inflammation, and high frenum attachment. The incidence of recession may result in sensitivity, increased susceptibility to caries, and difficulty maintaining clean teeth. SEE: *gingivitis*.

recessive Tending to recede or go back; lacking control; not dominant; said, for example, of genes.

recidivation (rē-sĭd'ī-vā'shŭn) [L. *recidivus*, falling back] 1. The relapse of a disease or recurrence of a symptom. 2. The return to criminal activity.

recidivism (rē-sĭd'ī-vĭ-zĭm) Habitual criminality; the repetition of antisocial acts.

recidivist (rē-sĭd'ī-vĭst) 1. A confirmed criminal. 2. A patient, esp. one with mental illness, who has repeated relapses into behavior marked by antisocial acts.

recidivity (rē-sĭd'īv'ī-tē) Tendency to relapse, or to return to a former condition.

recipe (rĕs'ī-pĕ) [L., take] 1. Take, indicated by the sign R. 2. A prescription or formula for a medicine. SEE: *prescription*. 3. A set of instructions for preparing food from multiple ingredients.

recipient (rĭ-sĭp'ĕ-ĕnt) [L. *recipiens*, receiving] One who receives something, esp. blood, tissues, or an organ, provided by a donor, as in a blood transfusion or kidney transplant. SEE: *donor*.

reciprocal (rĭ-sĭp'rō-kāl) [L. *reciprocus*, alternate] Interchangeable.

reciprocal inhibition 1. The inhibition of muscles antagonistic to those being facilitated; this is essential for coordinated movement. 2. Inhibition of a complementary nerve center by the one being stimulated (e.g., the inspiration center in the medulla generates impulses to the respiratory muscles to bring about inhalation, and inhibits the expiration center at the same time).

reciprocation (rĭ-sĭp'rō-kā'shŭn) [L. *reciprocare*, to move backward and forward] The countering of a reaction by an action. In dentistry, the action of one part of a dental device to counter the effect of another part.

reciprocity (rĕ-sĭ-prō'sĭ-tē) The recognition by one state of the license to practice granted to a health care professional by another state.

Recklinghausen, Friedrich D. von (rĕk'ling-how'zĕn) German pathologist, 1833–1910.

R.'s disease Type 1 neurofibromatosis.

R.'s tumor An adenoleiomyofibroma on the wall of the fallopian tube or the

posterior uterine wall. SYN: *von Recklinghausen's tumor*.

reclination (rĕk'li-nā'shŭn) [L. *reclinatio*, lean back] A cataract operation where the lens is turned over in the vitreous.

recline (rĕ-klīn') [L. *reclinare*] To be in recumbent position; to lie down.

Reclus' disease (rā-kloo'z') [Paul Reclus, Fr. surgeon, 1847–1914] Multiple benign cystic growths in the breast.

recognition (rĕk'ŏg-nīsh'in) The ability to identify a recently encountered item; the memory of a person, place, or thing as something familiar.

recoil (rĕ'koi'l, rī-koi'l') [ME. *recoilen*] The springing back of body tissues to their relaxed state after they have been squeezed or compressed.

recombinant (rĕ-kŏm'bī-nānt) In genetics and molecular biology, pert. to genetic material combined from different sources.

recombinant DNA Segments of DNA from one organism artificially manipulated or inserted into the DNA of another organism, using a technique known as gene splicing. When the host's genetic material is reproduced, the transplanted genetic material is also copied. This technique permits isolating and examining the properties and action of specific genes. SEE: *plasmid*; *gene splicing*.

recombinant tPA Tissue plasminogen activator.

recombinase (rĕ-kŏm'bīn-ās) [*recombinant*(t) + "n"] Any enzyme that catalyzes nucleic acid recombination, i.e., the rearrangement of genetic material on a strand of DNA or RNA.

recombination (rĕ'kŏm-bī-nā'shŭn) 1. Joining again. 2. In genetics, the joining of gene combinations in the offspring that were not present in the parents.

Recombivax HB (rī-kŏm'bī-vāks") Hepatitis B (recombinant) vaccine.

recomposition (rĕ-kŏm-pŏ-zī'shŭn) [L. *re*, again, + *composer*, to place together] The recombination of constituents or parts.

recompression [" + LL. *compressare*, press together] The resubjection of a person to increased atmospheric pressure, as in the treatment of caisson disease (the bends). SEE: *aeroembolism*; *hyperbaric chamber*.

reconcentration (rĕ-kŏn'sĕn-trā'shŭn) The process of repeated concentration.

reconditioning The process of restoring normal cardiovascular and neuromuscular function following injury, disease, or inactivity. SEE: *rehabilitation*.

reconstitution (rĕ'kŏn-stī-tū'shŭn) The return of a substance previously altered for preservation and storage to its original state, as is done with dried blood plasma.

reconstruction (rĕ-kŏn-strŭk'shŭn) 1. Surgical repair or restoration of a missing part or organ. 2. The manipulation of digitized information obtained during body imaging into interpretable pictures that represent anatomical details and diseases. Also known as image reconstruction.

r. of the knee Procedures to re-establish knee stability following injury, usually to the anterior or posterior cruciate ligaments or both.

neovaginal r. Construction of an artificial vagina after the vagina has been removed because of cancer, or trauma of the pelvic area. The tissue used may be obtained from muscle and skin tissue from the abdomen. Normal sexual function is possible after the area has healed.

recontamination (rĕ'kŏn-tām'ī-nā'shŭn) The contamination of a recently disinfected or sterilized instrument before its use in patient care. It may result from inadequate packaging or mishandling of instruments after they have been rid of microorganisms.

record (rĕk'ord) 1. A written account of something. SEE: *problem-oriented medical record*. 2. In dentistry, a registration of jaw relations in a malleable material or on a device.

anecdotal r. Notes used in nursing education to document observed incidents of a student's clinical behavior related to attainment of clinical learning objectives. Such anecdotal notes have been upheld in court as documented evidence for failing a student; the notes have not been treated as hearsay evidence.

functional chew-in r. A record of the natural chewing action of the mandible made on an occlusion rim by the teeth or scribing studs.

interocclusal r. Bite plate.

medication administration r. ABBR: MAR. A file maintained on hospital units that documents the schedule and dosing of medications given to patients.

recovery (rī-kŭv'ĕr) [O.Fr. *recoverer*] 1. To regain health after illness; to regain a former state of health. 2. To regain a normal state, as to recover from fright.

recovery (rī-kŭv'ĕr-ē) 1. The process or act of becoming well or returning to a state of health. 2. Compensation awarded by a court to individuals who prevailed in a lawsuit (e.g., those who had been injured as a result of the health care provider's negligence or malpractice). 3. Emergence from anesthesia.

inversion r. In magnetic resonance imaging, a standard pulse sequence used to produce T1 weighted images.

recovery position The position in which the patient is placed on the left side with

the left arm moved aside and supported to allow for lung expansion and the right leg crossed over the left. This position affords the unconscious, breathing patient the best protection from airway occlusion or aspiration of fluids into the lungs.

recreation (rĕk-rĕ-ā-shŭn) Participation in any endeavor that is entertaining, relaxing, or refreshing. Recreational activities may be personal or private (e.g., reading, painting), social (e.g., team sports or dance), physical (e.g., hunting), or mental (e.g., meditating or praying); they may be active or passive. Many recreational activities combine more than one of these elements.

recredentialing (rĕ-krĕ-dĕn'chāl-ĕng) The process whereby an individual certified in a profession completes the current requirements for certification in that profession.

recrudescence (rĕ"krōo-dĕs'ĕns) Relapse.

recrudescent (rĕ"krōo-dĕs'ĕnt) Assuming renewed activity after a dormant or inactive period.

recruitment (rĭ-kroō'mĕnt) [O.Fr. *recrute*, new growth] **1.** An increased response to a reflex when a stimulus is prolonged, even though the strength of the stimulus is unchanged, due to activation of increasingly greater numbers of motor neurons. **2.** In audiology, an increase in the perceived intensity of a sound out of proportion to the actual increase in the sound level. **3.** The addition of staff to a hospital or clinic during expansion of employment. **4.** The reopening of collapsed alveoli.

r. of end organs An increase in discharge from sensory end organs, resulting from an increase in the number of end organs discharging and an increase in frequency of discharge from each.

recruitment maneuver Any technique in which sustained high airway pressures are applied to the patent airway in order to diminish collapse of alveoli during mechanical ventilation.

rectal (rĕk'tāl) [L. *rectus*, straight] Pert. to the rectum.

rectalgia (rĕk-tāl'jĕ-ā) [L. *rectus*, straight, + Gr. *algos*, pain] Pain in the rectum.

rectal reflex The normal desire to evacuate feces present in the rectum.

rectification (rĕk'tĭ-fi-kā'shŭn) [" + *facere*, to make] **1.** The process of refining or purifying a substance. **2.** The act of straightening or correcting. **3.** The process of changing an alternating current into a pulsating direct current.

rectified (rĕk'tĭ-fĭd) Made pure or straight; set right.

rectifier (rĕk'tĭ-fi'ĕr) [L. *rectum*, straight, + *-ficare*, to make] In electricity, a device for transforming an al-

ternating current into a pulsating direct current.

rectitis (rĕk-tĭ'tĭs) Proctitis.

recto- Combining form meaning *straight*.
rectoabdominal (rĕk"tō-āb-dōm'ĭ-nāl) [L. *rectus*, straight, + *abdomen*, belly] Pert. to the rectum and abdomen.

rectocele (rĕk'tō-sĕl) [" + Gr. *kele*, tumor, swelling] Protrusion or herniation of the posterior vaginal wall with the anterior wall of the rectum through the vagina. SEE: *cystocele*.

rectoclysis (rĕk-tōk'lĭ-sĭs) [" + Gr. *klysis*, a washing] The slow introduction of fluid into the rectum.

rectococcygeal (rĕk-tō-kōk-sĭj'ĕ-āl) [" + Gr. *kokkyx*, coccyx] Pert. to the rectum and coccyx.

rectocolitis (rĕk"tō-kō-lĭ'tĭs) Proctocolitis.

rectocystotomy (rĕk"tō-sĭs-tōt'ō-mĕ) [" + Gr. *kystis*, bladder, + *tome*, incision] An incision of the bladder through the rectum, usually to remove a stone.

rectolabial (rĕk"tō-lā'bĕ-āl) [" + *labium*, lip] Pert. to the rectum and a labium of the vulva.

rectoperineorrhaphy (rĕk"tō-pĕr'ĭ-nĕ-or'ā-fĕ) Proctoperineoplasty.

rectopexy (rĕk'tō-pĕk-sĕ) Proctopexia.

rectoplasty (rĕk'tō-plās'tĕ) Proctoplasty.

rectorrhaphy (rĕk-tor'ā-fĕ) Proctorrhaphy.

rectoscope (rĕk'tō-skōp) [" + Gr. *skopein*, to examine] Proctoscope.

rectoscopy (rĕk-tōs'kō-pĕ) Proctoscopy.

rectosigmoid (rĕk"tō-sĭg'moyd) [" + Gr. *sigma*, letter S, + *eidos*, form, shape] The upper part of the rectum and the adjoining portion of the sigmoid colon.

rectosigmoidectomy (rĕk"tō-sĭg'moy-dĕk'tō-mĕ) [" + " + *ektome*, excision] Surgical removal of the rectum and sigmoid colon.

rectostenosis (rĕk'tō-stĕn-ō'sĭs) [" + Gr. *stenos*, narrow] Stricture of the rectum.

rectostomy (rĕk-tōs'tō-mĕ) Proctostomy.

rectotomy (rĕk-tōt'ō-mĕ) Proctotomy.

rectourethral (rĕk"tō-ū-rĕ'thrāl) [" + Gr. *ourethra*, urethra] Pert. to the rectum and urethra.

rectouterine (rĕk"tō-ū'tĕr'ĭn) [" + *uterus*, womb] Pert. to the rectum and uterus.

rectovaginal (rĕk"tō-vāj'ĭ-nāl) [" + *vagina*, sheath] Pert. to the rectum and vagina.

rectovesical (rĕk"tō-vĕs'ĭ-kāl) [" + *vesica*, bladder] Pert. to the rectum and bladder.

rectovestibular (rĕk"tō-vĕs'tĭb'ū-lār) [" + *vestibulum*, vestibule] Pert. to the rectum and vestibule of the vagina.

rectovulvar (rĕk"tō-vŭl'vār) [" + *vulva*,

covering] Pert. to the rectum and vulva.

rectum (rĕk'tŭm) [L., straight] The lower part of the large intestine, about 5 in (12.7 cm) long, between the sigmoid colon and the anal canal. Its smooth muscle layer is the effector for the defecation reflex, the reflex centers for which are in the second, third, and fourth sacral segments of the spinal cord. SEE: *colon* for illus. **illus.**



RECTUM

Rectum seen during colonoscopy

rectus (rĕk'tŭs) [L.] Straight; not crooked.

recumbency (rĭ-kŭm'bĕn-sĕ) [L. *recumbens*, lying down] The condition of leaning or reclining.

recumbent (rĕ-kŭm'bĕnt) **1.** Lying down. SEE: *position, left lateral recumbent; position, unilateral recumbent; prone*. **2.** Inactive, idle.

dorsal r. Lying on one's back. SYN: *supine* (1).

lateral r. Lying on one's side.

ventral r. Lying with one's anterior side down. SYN: *prone* (1).

recuperation (rĭ-kŭ'pĕr-ā'shŭn) [L. *recuperare*, to recover] The process of returning to normal health following an illness.

recurrence (rĭ-kŭr'ĕns) Relapse. **recurrent** (-ĕnt), *adj.*

recurrent pregnancy loss (rĭ-kŭr'ĕnt) ABBR: RPL. Three or more consecutive miscarriages that occur before the 20th week of gestation.

recurvation (rĭ'kŭr-vā'shŭn) [L. *recurvus*, bent back] The act of bending backward.

recurvatum (rĕ-kŭr-vā'tŭm) Backward bowing. At the knee, it is called genu recurvatum; at the elbow, it is called cubital recurvatum.

recurve (rĕ-kŭrv') To bend backward.

red (rĕd) [AS. *read*] A primary color of the spectrum that, when added to blue,

forms purple, and when added to yellow, forms orange.

Congo r. An odorless red-brown powder used in testing for amyloid. In polarized light, amyloid treated with Congo red produces a green fluorescence.

resol r. An indicator of pH. It is yellow below pH 7.4 and red above 9.0.

methyln r. An indicator of pH. It is red at pH 4.4 and yellow at 6.2.

phenol r. Phenolsulfonphthalein.

scarlet r. A red azo dye used to stimulate healing of indolent ulcers, burns, wounds, and so on; in histology, used as a stain. SYN: *rubrum scarlatinum*.

vital r. A stain used in preparing tissues for microscopic examination.

red bag waste Medical refuse, including potentially infectious materials and other hazardous products, that is placed in special containers to prevent them from contaminating the environment or spreading disease. SEE: *Standard Precautions Appendix*.

red blood cell Erythrocyte.

spiculed r.b.c. Spiculated red cell.

redbug (rĕd'bŭg) Chiggers.

red cross **1.** A red cross on a white background; an internationally recognized sign of a medical installation or of medical personnel. **2.** The emblem of the American Red Cross.

redia (rĕ'dĕ-ā) *pl.* **rediae** [Francesco Redi, It. naturalist, 1626–1698] The stage in the life cycle of a trematode that follows the sporocyst stage. It is a sac-like form with an oral sucker and a blind gut. Rediae are produced within the sporocyst and in turn develop into second-generation rediae or cercariae.

redifferentiation (rĕ'dif'ĕr-ĕn'shĕ-ā'shŭn) The respecialization of dedifferentiated cells, as occurs in the regeneration of an amphibian limb.

red. in pulv. [L., *reductus in pulverum*] Let it be reduced to powder.

redintegration (rĕd-in'tĕ-grā'shŭn) [L. *redintegratio*] **1.** Restitution of a part. **2.** Restoration to health. **3.** Recall by mental association.

redistribution **1.** The matching of care personnel resources to the population's site of care. The term usually is used in discussing the maldistribution of in-hospital personnel compared with in-community personnel. **2.** The return of blood flow to an ischemic segment of myocardium. During exercise, regions of the heart supplied by partially occluded arteries are deprived of blood, a condition that may foster angina pectoris. With rest, healthy blood flow to the affected areas is restored. Radionuclide agents (e.g., thallium-201 or sestamibi) can be used to demonstrate regions of the coronary circulation where this effect occurs, and aid in the diagnosis and management of ischemic heart disease.

red lead Pb_3O_4 ; lead tetroxide.

red man (neck) syndrome An adverse anaphylactoid reaction to vancomycin therapy, causing pruritus, flushing, and erythema of the head and upper body. The condition is caused by release of histamine. It can be prevented by slowing the infusion rate.

re-do Reoperation, or a revision of an operation. A colloquial, but widely used term in health care. For example, a person who needs a prosthetic heart valve or hip replaced is scheduled for a "re-do" operation.

red-out (rĕd'owt) A term used in aerospace medicine to describe what happens to the vision and central nervous system (i.e., seeing red and perhaps experiencing unconsciousness) when the aircraft is doing part or all of an outside loop at high speed, or any other maneuver that causes the pilot to experience a negative force of gravity. The condition is due to engorgement of the vessels of the head including those of the retina.

redox (rĕ'dōks) Combined form indicating oxidation-reduction system or reaction.

red rice yeast extract An herbal remedy used to lower serum cholesterol and triglyceride levels. It contains 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors, is similar to the prescription drug lovastatin, and has similar effects and side effects (including muscle injury with elevation of serum creatine kinase levels). It is also known colloquially as Chinese red rice.

red rules Policies or procedures that must be adhered to without compromise to prevent avoidable error or harm.

red tide A dense growth of marine algae (dinoflagellates) in coastal waters. The tide may discolor the surface of the ocean, giving seawater a red, green, or brown appearance. The algae that cause the tide produce a variety of poisons which may kill marine vertebrates, accumulate in shellfish, and cause potential health hazards for humans who consume shellfish. Diseases associated with the consumption of shellfish during a red tide include amnesic shellfish poisoning and diarrheal shellfish poisoning, among others.

reduce (rĭ-dūs') [L. *re*, again, + *ducere*, to lead] **1.** To restore to usual relationship, as the ends of a fractured bone. **2.** To restore the normal alignment of a dislocated joint. **3.** To weaken, as a solution. **4.** To diminish, as bulk or weight.

reducible (rĭ-dūs'ĭ-bl) Capable of being replaced in a normal position, as a dislocated bone or a hernia.

reducing agent A substance that loses electrons easily and therefore causes other substances to be reduced (e.g., hy-

drogen sulfide, sulfur dioxide). SYN: *reducing substance*.

reducing substance Reducing agent.

reductant (rĭ-dŭk'tānt) The atom that is oxidized in an oxidation-reduction reaction.

reductase (rĭ-dŭk'tās) [*r*' + *ducere*, to lead, + *ase*, enzyme] An enzyme that accelerates the reduction process of chemical compounds.

reduction (rĭ-dŭk'shŭn) [L. *reductio*, leading back] **1.** Restoration to a normal position, as a fractured bone, dislocated joint, or a hernia. **2.** In chemistry, a type of reaction in which a substance gains electrons and positive valence is decreased. SEE: *oxidation*.

closed r. of fractures The treatment of bone fractures by placing the bones in their proper position without surgery.

fat r. Elimination or limitation of greasy, fatty, or oily foods from the diet (e.g., by substituting vegetables or legumes for cheeses and meats). Fat reduction is thought by some nutritionists to help reduce the risk of cancer.

fetal r. Pregnancy r.

open r. of fractures The treatment of bone fractures by the use of surgery to place the bones in their proper position.

pregnancy r. The intentional elimination of one or more fetuses carried by a woman with a multifetal pregnancy. SYN: *fetal reduction*.

risk r. **1.** A decrease in the probability of an adverse outcome. **2.** In biostatistics, $1 -$ the hazard ratio. **3.** Any lowering of factors considered hazards for a specified disease, such as wearing a condom to lower the risk for sexually transmitted diseases, ceasing smoking to prevent lung cancer or emphysema, or lowering the intake of dietary cholesterol and fats to prevent heart disease.

salt r. Limiting the quantity of sodium chloride in the diet, usually as a means of lowering blood pressure or preventing fluid retention.

selective r. **1.** In radiography, the reduction of exposed silver halide crystals to black metallic silver, creating a visible image. **2.** In oncology, killing or destroying tumor cells or their products with relatively little damage to healthy cells.

reduction division Meiosis.

redundant (rĭ-dŭn'dĕnt) [L. *reundare*, to overflow] More than necessary.

reduplicated (rĭ-dŭ'plĭ-kā'tĕd) [L. *re*, again, + *duplicare*, to double] **1.** Doubled. **2.** Bent backward on itself, as a fold.

reduplication (rĭ-dŭ'plĭ-kā'shŭn) **1.** A doubling, as of the heart sounds in some morbid conditions. **2.** A fold.

reduplicative paramnesia (rĭ-doop'lĭ-kāt'iv) A rare psychiatric disorder in which the patient is convinced that the environment in which he is living has

been duplicated brick by brick and leaf by leaf in another location. It is usually diagnosed in people who have suffered a focal brain injury (e.g., to the right hemisphere of the brain).

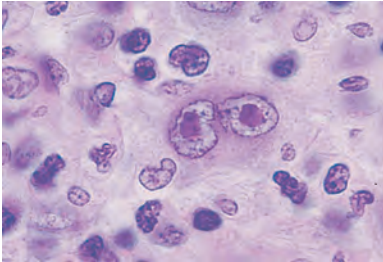
Reduviidae (rē'dū-vī'ī-dē) A family of the order Hemiptera, including the assassin bugs.

Reduvius (rē-dū'vē-ūs) A genus of true bugs belonging to the family Reduviidae.

R. personatus A species that normally feeds on other insects but sometimes preys on humans. In some cases the bite may transmit *Trypanosoma cruzi*, a protozoan responsible for Chagas' disease. SYN: *kissing bug*.

red wale markings Raised red streaks seen on esophageal or gastric varices during endoscopy. They suggest that the varices have a high likelihood of rupture and bleeding.

Reed-Sternberg cell (rēd-stērn-bērg) [Dorothy Reed, U.S. pathologist, 1874–1964; Karl Sternberg, Aust. pathologist, 1872–1935] A giant, malignant, multinucleated B lymphocyte, the presence of which is the pathologic hallmark of Hodgkin's disease. SEE: *illius*.



REED-STERNBERG CELL (CENTER)

(Orig. mag. ×600)

re-education (rē'ēd-ū-kā'shūn) [L. *re*, again, + *educare*, to educate] **1.** Training to restore competence to a person with functional limitations. **2.** A physical technique to facilitate restoration of motor control.

sensory r. A rehabilitation regimen used after sensation is impaired by peripheral nerve injuries or surgery to the hand. The purpose is to relearn the interpretation of sensory information related to pain, temperature, and object identification.

reef (rēf) A fold or tuck, usually taken in redundant tissue.

re-entry (rē-ēn'trē) In cardiology, the cycling of an electrical impulse through conductive tissue that has been recently stimulated. This is the cause of many tachycardic heart rhythms (e.g., those originating in the atrioventricular node).

re-experience (rē-ks'pēr'ē-ēns) To recall

an event, feeling, or thought; to have an intrusive memory or "flashback." Frequent re-experiencing of traumatic events is one of the symptoms of post-traumatic stress disorder.

refection (rē-fēk'shūn) [L. *reficere*, to refresh] **1.** Restoration after hunger or fatigue, esp. with food or drink. **2.** Recovery by laboratory rats from the symptoms of vitamin B deficiency caused by consuming a diet deficient in vitamin B, due to vitamin synthesis by intestinal flora.

refeeding syndrome The potentially fatal metabolic response of a starved individual to feeding, either enteral or parenteral. The correction of electrolyte imbalances is imperative before gradual refeeding to prevent hypophosphatemia, rhabdomyolysis, and other life-threatening complications.

refer (rī-fēr', rē-) [L. *referre*, to bring back] **1.** To allude to or mention. **2.** To direct attention to. **3.** To recommend someone to another health care provider for specific testing or treatment.

reference (rēf'ēr-ēns) [L. *referre*, to bring back, to report] **1.** A standard for the evaluation of objects, data, or ideas. **2.** A link or connection between data, ideas, or objects.

reference man A human being of statistically average size and physiology, used in research models of nutrition, pharmacology, population, radiologic dosimetry, or toxicology. The reference weight for men 19 and older is 76 kg. Also known as "refman" or "standard man." Similarly, *reference woman*.

reference pricing (pris'ing) A method of health care cost control in which the cost of all items in a class of roughly equivalent products or services is reimbursed at a fixed dollar amount. Patients or providers who seek care that is more expensive than the reference price pay additional fees. Those who agree to use standard services are reimbursed in full for the products or services they receive.

reference woman An idealized female, used in research models, described the same as reference man, except in weight (66 kg) and caloric intake (2000 kcal/day).

referral The practice of sending a patient to another practitioner or specialty program for consultation or service. Such a practice involves a delegation of responsibility for patient care, which should be followed up to ensure satisfactory care.

referral bias The difference that arises from the study of those patient populations who receive primary care as opposed to those who receive care at tertiary care centers.

refine (rē-fin') [L. *re*, again, + ME. *fin*, finished] To purify or render free from foreign material.

reflectance (rē-flĕk'tāns) The fraction of total light reflected after it hits a surface, and the angle at which it is reflected.

diffuse r. The reflectance of light from a rough or nonpolished surface in which the radiant energy tends to scatter. The angle of reflectance does not equal the angle of incidence.

r. photometer An instrument used to measure reflectance; used clinically in chemical analyzers, glucometers, and dipstick readers.

spectral r. The reflectance of light from a polished surface in which the angle of reflectance equals the angle of incidence.

reflection (rī-flĕk'shūn) [L. *reflexio*, a bending back] **1.** The condition of being turned back on itself, as when the peritoneum passes from the wall of a body cavity to and around an organ and back to the body wall. **2.** The throwing back of a ray of radiant energy from a surface not penetrated. **3.** Mental consideration of something previously considered.

diffuse r. The reflection of a light ray by a rough surface in which the angle of reflection is not equal to the angle of incidence. As opposed to *specular* reflection by a smooth surface in which the angle of reflection equals the angle of incidence. Employed in the analytical technique of reflectometry.

reflectometer (rē'flĕk-tōm'ĕ-tēr) An instrument that measures the light reflected by a surface. Reflectometers are used to analyze blood and urine specimens.

reflectometry A laboratory technique for analyzing thin layers of objects, such as biological membranes or layered metallic surfaces. It is performed by exposing an object to neutrons or x-rays, and measuring their scatter from the layered surface.

reflector (rī-flĕk'tor) [L. *re*, again, + *flectere*, to bend] A device or surface that reflects waves, radiant energy, or sound.

reflex (rē'flĕks) [L. *reflexus*, bend back] An involuntary response to a stimulus; an involuntary action. Reflexes are specific and predictable and are usually purposeful and adaptive. They depend on an intact neural pathway between the stimulation point and a responding organ (a muscle or gland). This pathway is called the reflex arc. In a simple reflex this includes a sensory receptor, afferent or sensory neuron, reflex center in the brain or spinal cord, one or more efferent neurons, and an effector organ (a muscle or gland). Most reflexes, however, are more complicated and include internuncial or associative neurons intercalated between afferent and efferent neurons. SEE: *arc*, *reflex* for *illus*.

abdominal r. SEE: *abdominal reflexes*.

abdominocardiac r. A change in heart rate, usually a slowing, resulting from mechanical stimulation of abdominal viscera.

accommodation r. One of the changes that take place when the eye adjusts to bring light rays from an object to focus on the retina. This involves a change in the size of the pupil, convergence or divergence of the eyes, and either a decrease or an increase in the convexity of the lens depending on the previous condition of the lens.

Achilles r. SEE: *Achilles tendon reflex*.

acoustic blink r. Involuntary closure of the eyelids after exposure to a sharp, sudden noise. This is a normal startle response that may be exaggerated in patients with anxiety disorders or hyperacusis or blunted in infants or adults with a hearing disorder or facial nerve paralysis.

acquired r. Conditioned r.

acromial r. Forearm flexion with internal rotation of the hand as a result of a quick blow to the acromion; elicited in hyperreflexic states.

adductor r. Contraction of the adductor muscles of the thigh on applying pressure to, or tapping, the medial surface of the thigh or knee.

allied r. Reflexes initiated by several stimuli originating in widely separated receptors whose impulses follow the final common path to the effector organ and reinforce one another.

anal r. Contraction of the anal sphincter, following irritation or stimulation of the skin around the anus. This reflex is lost if the second to fourth sacral nerves are injured. SYN: *anal wink*.

ankle r. Achilles tendon reflex.

antagonistic r. Two or more reflexes initiated simultaneously in different receptors that involve the same motor center but produce opposite effects.

asymmetrical tonic neck r. In an infant, extension of one or both extremities on the side to which the head is forcibly turned. Flexion of the extremities occurs on the other side.

attention r. Change in the size of the pupil when attention is suddenly fixed. SYN: *Piltz's reflex*.

audito-oculogyric r. The sudden turning of the head and eyes toward an alarming sound.

auditory r. Any reflex produced by stimulation of the auditory nerve, esp. blinking of the eyes at the sudden unexpected production of a sound.

auriculocervical nerve r. Snellen's reflex.

auriculopalpebral r. Kisch's reflex.

autonomic r. Any reflex involving the response of a visceral effector (car-

diac muscle, smooth muscle, or gland). Such reflexes always involve two efferent neurons (preganglionic and postganglionic).

axon r. A reflex that does not involve a complete reflex arc and hence is not a true reflex. Its afferent and efferent limbs are branches of a single nerve fiber, the axon (axon-like dendrite) of a sensory neuron. An example is vasodilation resulting from stimulation of the skin.

Babinski's r. SEE: *Babinski's reflex*.

Bainbridge r. An increase in heart rate caused by an increase in blood pressure or distention of the heart. SYN: *Bainbridge effect*.

Bechterew's r. SEE: *Bechterew's reflex*.

biceps r. Flexion of the forearm on percussion of the tendon of the biceps brachii.

blink r. Sudden closing of the eyelids in response to head turning, loud noises, bright lights, or visual threats. Absence of this reflex occurs in blindness and in injuries to cranial nerves III, V, and VII.

Brain's r. SEE: *Brain's reflex*.

bregmocardiac r. A reduced heart rate following pressure on the anterior fontanel.

Brissaud's r. SEE: *Brissaud's reflex*.

bulbocavernosus r. Contraction of bulbocavernosus muscle on percussing the dorsum of the penis.

bulbomimic r. In coma, contraction of facial muscles following pressure on the eyeball. SYN: *facial reflex*; *Mondonesi's reflex*.

bulbospongiosus r. Contraction of bulbospongiosus muscle on percussing the dorsum of the penis.

cardiac r. An involuntary response consisting of a change in cardiac rate. Stimulation of sensory nerve endings in the wall of the carotid sinus by increased arterial blood pressure reflexively slows the heart (Marey's law). Stimulation of vagus fibers in the right side of the heart by increased venous return reflexively increases the heart rate (Bainbridge's reflex).

cardiovascular r. 1. A sympathetic increase in heart rate when increased pressure in, or distention of, great veins occurs. 2. Reflex vasoconstriction resulting from reduced venous pressure.

carotid sinus r. A slowing of the heart rate along with a fall in blood pressure when the carotid sinus is massaged. Carotid sinus massage may be used therapeutically as a treatment for paroxysmal supraventricular tachycardia.

cat's eye r. In children, an abnormal pupillary flash or reflection from the eye that may be momentary; may be white, yellow, or pink; and is best seen under diminished natural illumination. This

reflex, which may be noticed first by a parent, may be caused by various conditions, the most important of which is retinoblastoma. It is also observed in tuberculous sclerosis, inflammatory eye diseases, and certain congenital malformations of the eye. SEE: *retinoblastoma*.

Chaddock's r. SEE: *Chaddock's reflex*.

chain r. A reflex initiated by several separate serial reflexes, each activated by the preceding one.

chemical r. Chemoreflex.

chin r. A clonic movement resulting from percussion or stroking of the lower jaw. SYN: *jaw jerk*; *jaw reflex*.

ciliary r. The normal contraction of the pupil in accommodation of vision from distant to near.

ciliospinal r. Dilation of the pupil following stimulation of the skin of the neck by pinching or scratching.

clasp-knife r. Quick inhibition of the stretch reflex when extensor muscles are forcibly stretched by flexing the limb.

conditioned r. A reflex acquired as a result of training in which the cerebral cortex plays an essential part. Conditioned reflexes are not inborn or inherited; rather, they are learned. SYN: *acquired reflex*.

conjunctival r. Closure of eyelids when the conjunctiva is touched or threatened.

consensual r. Crossed reflex.

convulsive r. A reflex induced by a weak stimulus and causing widespread uncoordinated and purposeless muscle contractions; seen in strychnine poisoning.

corneal r. Closure of eyelids resulting from direct corneal irritation.

cough r. SEE: *cough reflex*.

cranial r. Any reflex whose origin is in the brain.

cremasteric r. Retraction of the testis when the skin is stroked on the front inner side of the thigh.

crossed r. A reflex in which stimulation of one side of the body results in response on the opposite side. SYN: *consensual reflex*; *indirect reflex*.

crossed extension r. An extension of the lower extremity on the opposite side when a painful stimulus is applied to the skin.

deep r. Deep tendon reflex.

deep tendon r. ABBR: DTR. An automatic motor response elicited by stimulating stretch receptors in subcutaneous tissues surrounding joints and tendons. The assessment of DTRs typically is made by striking a tendon (e.g., Achilles, patellar, biceps, triceps, or brachioradialis tendons) with a weighted hammer. Brisk or hyperactive responses are seen in conditions such as

hyperthyroidism, stroke, pre-eclampsia, or spastic disorders; diminished responses may be seen in patients with hypothyroidism, drug intoxication, and flaccid neuromuscular disorders, among others. SYN: *deep reflex*. SEE: *clonus*; *knee-jerk reflex*.

delayed r. A reflex that does not occur until several seconds after the application of a stimulus.

digital r. Sudden flexion of the terminal phalanx of a finger or thumb when the nail is suddenly tapped.

diving r. Slowing of the heart rate when the head is immersed in water. This reflex helps to protect a person from drowning, esp. during immersion in cold water. SEE: *drowning*.

elbow r. An involuntary response in the elbow region to stimulation of the biceps and triceps muscles. SYN: *elbow jerk*. SEE: *biceps reflex*; *triceps reflex*.

elementary r. A typical reflex common to all vertebrates; includes the postural, flexion, stretch, and extensor thrust reflexes.

embrace r. Moro reflex.

extensor plantar r. Extension of the great toe when the sole of the foot is stimulated. SEE: *Babinski's reflex*.

extensor thrust r. A quick and brief extension of a limb on application of pressure to the plantar surface.

facial reflex Bulbomimic r.

fencing r. Tonic neck r.

flexor withdrawal r. Flexion of a body part in response to a painful stimulus. SYN: *withdrawal reflex*.

gag r. Gagging and vomiting resulting from irritation of the throat or pharynx.

gastrocolic r. Peristaltic wave in the colon induced by entrance of food into the stomach.

gastroileac r. The physiological relaxation of the ileocecal valve resulting from food in the stomach.

Gault's r. SEE: *Gault's reflex*.

Geigel's r. SEE: *Geigel's reflex*.

glabellar r. Blinking of the eyes (contraction of the orbicularis oculi muscle) when the forehead just above the bridge of the nose is tapped. In most people, blinking stops after a few taps on the forehead. If it does not, significant brain disease may be present, e.g., Parkinson's disease or any disease that causes frontal lobe atrophy.

gluteal r. Contraction of the gluteal muscles from stimulation of the overlying skin.

grasp r. The grasping reaction of the fingers and toes when stimulated. This reflex is normal in the newborn but disappears as the nervous system matures. It may reappear later in life if an individual suffers an injury to the frontal lobes of the brain.

Grünfelder's r. SEE: *Grünfelder's reflex*.

heart r. Any reflex in which the stimulation of a sensory nerve causes the heart rate to increase or decrease. An example is the Bainbridge reflex, in which stimulation of sensory receptors in the right atrium by increased venous return results in an increase in heart rate.

Hering-Breuer r. SEE: *Hering-Breuer reflex*.

Hoffmann's r. SEE: *Hoffmann's reflex*.

hung-up r. Slowness of the relaxation phase of deep tendon reflexes; present in hypothyroidism.

hypochondrial r. Sudden inspiration resulting from abrupt pressure below the costal border.

inborn r. An unconditioned reflex; an innate or inherited reflex.

indirect r. Crossed r.

inhibition of r. The prevention of a reflex action, as inhibiting a sneeze by pressure on a facial nerve as it passes just under the upper lip.

interscapular r. A scapular muscular contraction following percussion or stimulus between the scapulae.

intersegmental r. A reflex involving several segments of the spinal cord. SYN: *long reflex*.

intestinal r. Myenteric reflex.

intra-segmental r. Reflex that involves only a single segment of the spinal cord.

irradiation of r. The spreading of reflexes through the central nervous system whereby impulses entering the cord in one segment activate motor neurons located in many segments.

jaw r. Chin reflex.

kinetic r. Labyrinthine righting r.

Kisch's r. SEE: *Kisch's reflex*.

knee-jerk r. Extension of the leg resulting from percussion of the patellar tendon. This is one of the myotatic or stretch reflexes important in maintaining posture. SYN: *patellar reflex*.

labyrinthine righting r. A reflex, esp. a postural reflex, resulting from stimulation of receptors in the semicircular ducts, utricle, and saccule of the inner ear. This reflex helps orient the head in space and to the rest of the body. SYN: *kinetic reflex*; *optical righting reflex*.

lacrimial r. Secretion of fluid resulting from irritation of the corneal conjunctiva.

laryngeal r. Coughing as a result of irritation of the larynx or fauces.

letdown r. The movement of breast milk from the alveoli into the lactiferous ducts in response to oxytocin-stimulated contractions. The reflex may be stimulated by suckling or by infant crying. Stimulation of the nipple increases the secretion of oxytocin and this tech-

nique may be used to stimulate contraction of the postpartum uterus.

lid r. Closure of eyelids resulting from direct corneal stimulation. This reflex is mediated by the fifth cranial nerve. SYN: *corneal reflex*.

light r. Constriction of the pupil when light is flashed into the eye.

lip r. The reflex movement of the lips when the angle of the mouth is suddenly and lightly tapped during sleep.

local r. A reflex that does not involve the central nervous system (e.g., the myenteric reflex, which occurs even when extrinsic nerves to the intestine have been cut).

long r. Intersegmental r.

lumbar r. An irritation of the skin over the erector spinae muscles, causing contraction of the back muscles.

Magnus-de Kleijn r. In decerebrate rigidity, extension of the limbs on the side to which the chin is turned by rotating the head. There is flexion of the limbs on the opposite side.

mandibular r. Clonic movement resulting from percussing or stroking the lower jaw.

mass r. Autonomic dysfunction that may occur as a late consequence of transection of the spinal cord. It is marked by episodes of sweating, bradycardia, hypotension, urinary incontinence, and muscular spasms of the legs.

Mayer's r. Opposition and adduction of the thumb, flexion at the metacarpophalangeal joint, and extension at the interphalangeal joint in response to downward pressure on the index finger.

Mendel-Bekhterev r. Plantar flexion of the toes in response to percussing of the dorsum of the foot.

Mondonesi's reflex Bulbomimic r.

monosynaptic r. A reflex involving only two neurons, an afferent and an efferent.

Moro r. SEE: *Moro reflex*.

myenteric r. Reflex caused by distention of the intestine, resulting in contraction above the point of stimulation and relaxation below it. SYN: *intestinal reflex*.

myotatic r. Stretch r.

near r. Accommodation r.

neck-righting r. In a supine infant, rotation of the trunk in the same direction as that in which the head is turned. This reflex appears at age 4 to 6 months and is no longer obtainable by age 2 years.

nociceptive r. A reflex initiated by a painful stimulus.

obliquus r. Contraction of the entire external obliquus muscle on application of stimulus to the skin of the thigh below Poupart's ligament.

oculocardiac r. SEE: *Aschner's phenomenon*.

oculocephalic r. The deviation of a

person's eyes to the opposite side when the head is rapidly rotated. This is a normal finding in neonates; in adults it is indicative of coma. SYN: *doll's eye movement*.

optical blink r. Involuntary closure of the eyelids after exposure to a bright light source. Shining a bright light at an infant's eyes causes the eyes to blink and the head to flex backward. If this reflex is absent, further testing of cranial nerves II, III, IV, and VI is required.

optical righting r. Labyrinthine righting r.

palatal r. Swallowing induced by stimulation of the soft palate.

palmar grasp r. A normal newborn reflex in which the baby's fingers spontaneously curl around any object placed within them and do not spontaneously let go. This reflex usually diminishes by age 3 to 4 months and disappears before age 6 months. The reflex reappears later in life in diseases that affect the brain's frontal lobes.

palmar r. Swallowing induced by stimulation of the soft palate.

palmomental r. A contraction of the superficial muscles of the eye and chin produced on the same side as the palmar area that is stimulated by an examiner. This is an abnormal finding that indicates frontal disease.

parachute r. (response) Extension of the arms, hands, and fingers when the infant is suspended in the prone position and dropped a short distance onto a soft surface. This reaction appears at age 9 months and persists. An asymmetrical response indicates a motor nerve abnormality.

paradoxical r. A response to a stimulus that is unexpected and may be the opposite of what would be considered normal.

patellar r. Knee-jerk reflex.

pathological r. Any abnormal reflex due to disease.

penile r. 1. Sudden downward movement of the penis when the prepuce or gland of a completely relaxed penis is pulled upward. 2. Contraction of the bulbocavernosus muscle on percussing the dorsum of the penis. 3. Contraction of the bulbocavernosus muscle resulting from compression of the glans penis.

pharyngeal r. An attempt to swallow following any application of stimulus to the pharynx.

pilomotor r. Piloerection when skin is cooled or as a result of emotional reaction.

placing r. Flexion and then extension of an infant's leg that occurs when an infant is held erect and the dorsum of one foot is dragged along the underedge of a table top. This reflex lasts from birth until age 6 weeks.

plantar r. SEE: *plantar grasp*.
plantar grasp r. A grasp reflex resulting from light stimulation of the sole of the foot. This reflex lasts from birth until age 10 months. SYN: *sole r.*

platysmal r. Dilatation of the pupil resulting from sharp pinching of the platysma myoides.

pneocardiac r. A change in the rate and rhythm of the heart and blood pressure when an irritant vapor is inhaled.

pneopneic r. A change in respiratory depth and rate, coughing, suffocation, and pulmonary edema when an irritant vapor is inhaled.

postural r. Any reflex that is concerned with maintaining posture.

pressor r. A reflex in which the response to stimulation is an increase in blood pressure brought about by constriction of arterioles.

proprioceptive r. A reflex initiated by body movement to maintain the position of the moved part; any reflex initiated by stimulation of a proprioceptor.

psychogalvanic r. Decreased electric resistance of the skin in response to emotional stress or stimuli.

pupillary r. 1. Constriction of the pupil upon stimulation of the retina by light. This reflex is mediated by the third cranial nerve. 2. Constriction of the pupil upon accommodation for near vision, and dilatation upon accommodation for far vision. 3. Constriction of the pupil of one eye in response to stimulation of the other by light. 4. Constriction of the pupil upon attempted closure of eyelids that are held apart.

quadriceps r. Knee-jerk r.

quadrupedal extensor r. Brain's reflex.

radial r. Flexion of forearm resulting when the lower end of the radius is percussed.

red r. The red light reflection seen in ophthalmoscopic examination of the eye.

righting r. Any of the reflexes that enable an animal to maintain the body in a definite relationship to the head and thus maintain its body right side up.

rooting r. The turning of an infant's mouth toward the stimulus when the infant's cheek is stroked. This reflex is present at birth; by age 4 months it is gone when the infant is awake; by age 7 months it is gone when the infant is asleep.

Rossolimo's r. SEE: *Rossolimo's reflex*.

scapular r. Muscular contraction following percussion or stimulus between the scapulae.

scapulohumeral r. A reflex in which the upper arm is adducted and rotated outward when the vertebral border of the scapula is percussed.

scrotal r. Slow vermicular contraction of the scrotal muscle when the perineum is stroked or cold is applied.

segmental r. A reflex in which afferent impulses enter the cord in the same segment or segments from which the efferent impulses emerge.

sexual r. A reflex concerned with sexual activities, esp. erection and ejaculation, which results from direct genital stimulation or indirectly from emotion, whether the individual is asleep or awake.

short r. A reflex involving one or a few segments of spinal cord.

simple r. A reflex in which only two or possibly three neurons are interposed between receptor and effector organs.

solar sneeze r. A sneeze that occurs following exposure to bright sunlight. This benign condition may affect a great number of normal people, and it may also be associated with rhinitis. The mechanism of the cause of this type of sneeze reflex is unknown.

sole r. Plantar grasp reflex.

somatic r. A reflex induced by stimulation of somatic sensory nerve endings.

spinal r. A reflex whose center is in the spinal cord.

startle r. Moro reflex.

static r. A reflex concerned with establishing and maintaining posture when the body is at rest.

statokinetic r. A reflex that occurs when the body is moving (e.g., walking or running).

stepping r. Movements of progression elicited by holding an infant upright, inclined forward, and touching the soles of the feet to a flat surface. This reflex lasts from birth to age 6 weeks.

stretch r. The contraction of a muscle as a result of quickly stretching the same muscle. Stretch reflexes are of primary importance in the maintenance of posture. SYN: *myotatic reflex*.

sucking r. A sucking movement of an infant's mouth produced by stroking the lips. A primitive form of this reflex is present in the fetus by the 16th week of gestation; it is fully developed by the time of birth. In adults, the presence of a sucking reflex is an indicator of severe dementia, frontal lobe disease, or extrapyramidal diseases.

superficial r. A cutaneous reflex caused by irritation of the skin or of areas that depend on the spinal cord as a motor center (e.g., the scapular, epigastric, abdominal, cremasteric, gluteal, and plantar reflexes) or on centers in the medulla (e.g., the conjunctival, pupillary, and palatal reflexes). This reflex is induced by a very light stimulus, such as stroking the skin lightly with a soft cotton swab.

supraorbital r. A contraction of the

orbicularis oculi muscle with closure of lids resulting from percussion above the supraorbital nerve.

suprapubic r. Deflection of the linea alba toward the stroked side when the abdomen is stroked above Poupart's ligament.

swallowing r. Involuntary muscular activity in the oropharynx and nasopharynx when foods, tongue depressors, or other objects stimulate the back of the throat. In humans swallowing is mediated by the deglutition center of the medulla oblongata (i.e., by cranial nerves VII, IX, X, and XI).

symmetrical tonic neck r. In an infant, flexion or extension of the arms in response to flexion and extension, respectively, of the neck.

tendon r. A deep reflex obtained by sharply tapping the skin over the tendon of a muscle. It is exaggerated in upper neuron disease and diminished or lost in lower neuron disease.

tonic neck r. The ipsilateral extension and contralateral flexion of the supine infant's extremities when the head is turned to one side. This normal newborn reflex may not be evident immediately after birth; however, once it appears, it persists until about the third postnatal month.

tonic vibration r. ABBR: T.V.R. A polysynaptic reflex believed to depend on spinal and supraspinal pathways.

triceps r. Sharp extension of the forearm resulting from tapping of the triceps tendon while the arm is held loosely in a bent position. SYN: *elbow reflex*.

triceps surae r. Achilles tendon reflex.

true autonomic r. A visceral response in which afferent impulses do not pass through the central nervous system, but instead enter prevertebral ganglia where connections are made with efferent neurons.

unconditioned r. A natural or inherited reflex action; one not acquired.

urinary r. The spinal cord reflex, initiated by accumulated urine stretching the bladder and the resulting contraction of the bladder to expel urine.

vascular r. Vasomotor r.

vasomotor r. The constriction or dilatation of a blood vessel in response to a stimulus, as in becoming pale from fright. SYN: *vascular reflex*.

vestibulocollic r. A reaction that stabilizes the position of the head according to sensory information from the labyrinth of the ear and the nerves in the neck.

visceral r. Any reflex induced by stimulation of the visceral nerves.

visceromotor r. Contraction or tenseness of the skeletal muscles re-

sulting from painful stimuli originating in visceral organs.

viscerosensory r. Pain or tenderness elicited in somatic structures (skin and muscle) caused by visceral disorder. SEE: *pain, referred*.

withdrawal r. Flexor withdrawal reflex.

zygomatic r. The movement of the lower jaw toward the percussed side when the zygomatic bone is percussed.

reflex decay test A test used in audiometry to see how the eardrum responds to a loud tone applied either directly to the ear of interest or to the opposite (contralateral) ear. The sonic stimulus makes the stapedius muscle contract. Data from the test help to determine whether abnormal responses to the tone are the result of damage to the acoustic nerve or to the cochlea.

reflexogenic (rĭ-flĕks'ō-jĕn'ĭk) [L. *reflexus*, bend back, + Gr. *gennan*, to produce] Causing a reflex action.

reflexogenous (rĭ'flĕks-ōj'ĕ-nŭs) Reflexogenic.

reflexograph (rĭ-flĕks'ō-grăf) [r + Gr. *graphein*, to write] A device for recording and graphing a reflex, esp. one produced by muscular activity.

reflexology (rĕ'flĕk-sŏl'ō-jĕ) [r + Gr. *logos*, word, reason] **1.** The study of the anatomy and physiology of reflexes. **2.** A system of massage in which the feet and sometimes the hands are massaged in an attempt to favorably influence other body functions.

reflexometer (rĕ'flĕks-ŏm'ĕ-tĕr) [r + Gr. *metron*, measure] An instrument that measures the force of the tap required to produce a reflex.

reflexophil (rĕ-flĕks'ŏ-fĭl) [r + Gr. *philēin*, to love] Marked by reflex activity or by exaggerated reflexes.

reflexotherapy (rĕ-flĕks'ŏ-thĕr'ă-pĕ) [r + Gr. *therapeia*, treatment] Treatment by manipulating, anesthetizing, or cauterizing an area distant from the location of the disorder. SEE: *spondylotherapy*.

reflex sympathetic dystrophy An abnormal response of the nerves of the face or an extremity, marked by pain, autonomic dysfunction, vasomotor instability, and tissue swelling. Although the precise cause of the syndrome is unknown, it often follows trauma, stroke, neuropathy, or radiculopathy. In about one third of all patients, the onset is insidious. Affected patients often complain of burning pain with any movement of an affected body part, excessive sensitivity to light touch or minor stimulation, temperature changes (heat or cold) in the affected limb, localized sweating, localized changes of skin color, or atrophic changes in the skin, nails, or musculature. SYN: *complex regional pain syndrome, type 1; shoulder-*

hand syndrome; Sudeck's disease. SEE: *Nursing Diagnoses Appendix.*

TREATMENT: Early mobilization of the body part, with multimodality therapy, may improve the symptoms of RSD. Drug therapies often include prednisone or other corticosteroids and narcotic analgesics; transcutaneous electrical stimulation, physical therapy, or nerve blocks may also prove helpful.

reflex testing, reflexive testing A laboratory test that is automatically obtained when the results of a screening test indicate the need for further study. Examples of reflex tests include determination of the antibiotic sensitivity of bacteria that are identified in culture specimens; and determination of an enzyme immunoassay test for HIV when an antibody test for the virus is present in a sample of body fluids.

reflux (rē'flüks) [L. *re*, back, + *fluxus*, flow] A return or backward flow. SEE: *regurgitation.*

cardioesophageal r. SEE: *gastroesophageal reflux disease.*

hepatojugular r. Distention of the veins of the neck when the liver is compressed during physical examination of the abdomen. Neck vein filling during liver examination commonly is seen in patients with congestive heart failure but also may be a normal finding.

vesicoureteral r. The backward flow of urine up the ureter during urination, instead of downward into the bladder. This condition may cause recurrent urinary tract infections in infants and children and may produce kidney scarring and failure if it is untreated. Depending on the underlying cause, treatment may include endoscopic or open surgical procedures.

refluxate (rē-flüks'āt') The acid, gas, and liquid that rise from the upper gastrointestinal tract into the esophagus in gastroesophageal reflux disease. Its components may include gastric acids, bile, and pepsin.

reflux disease Gastroesophageal reflux disease.

refract (rī-frākt') [L. *refractus*, broken off] **1.** To turn back; to deflect. **2.** To detect and correct refractive errors in the eyes.

refraction (rī-frāk'shūn) [LL. *refractio*, break back] **1.** Deflection from a straight path, as of light rays as they pass through media of different densities; the change in direction of a ray when it passes from one medium to another of a different density. **2.** Determination of the amount of ocular refractive errors and their correction.

coefficient of r. The quotient of the sine of the angle of incidence divided by the sine of the angle of refraction.

double r. Possession of more than one refractive index, resulting in a dou-

ble image. SEE: *birefractive; birefringence.*

dynamic r. The static refraction of the eye plus that accomplished by accommodation; the reciprocal of the near-point distance.

error of r. Ametropia.

r. of eye The refraction brought about by the refractive media of the eye (cornea, aqueous humor, crystalline lens, vitreous body). SYN: *ocular refraction.*

index of r. **1.** The ratio of the angle made by the incident ray with the perpendicular (angle of incidence) to that made by the emergent ray (angle of refraction). **2.** The ratio of the speed of light in a vacuum to its speed in another medium. The refractive index of water is 1.33; that of the crystalline lens of the eye is 1.413. SYN: *refractive index.*

ocular r. Refraction of eye.

static r. Refraction of the eye when accommodation is at rest or paralyzed.

refractionist (rī-frāk'shūn-ist) [LL. *refractio*, break back] A person skilled in determining and correcting ocular refractive errors.

refractive (rī-frāk'tiv) [L. *refractus*, broken off] Concerning refraction. SYN: *refrangent.*

refractive media The structures of the eye that deflect light: the cornea, aqueous, crystalline lens, and vitreous.

refractive power The degree to which a transparent body deflects a ray of light from a straight path. SEE: *dioptr.*

refractivity (rē'frāk-tiv'ī-tē) The quality of being refractive; the ability to refract.

refractometer (rē-frāk-tōm'ēt-ēr) [r' + Gr. *metron*, measure] A device for measuring refractive power, as of the eye.

refractometry (rē'frāk-tōm'ē-trē) Measurement of the refractive power of lenses.

refractory (rē-frāk'tō-rē) [L. *refractorius*] **1.** Obstinate; stubborn. **2.** Resistant to ordinary treatment. **3.** Resistant to stimulation; used of muscle or nerve.

refractory cytopenia with multilineage dysplasia ABBR: RCMD. In the World Health Organization classification of myelodysplastic syndromes, a disorder in which two or more blood cell lines form aberrantly. For example, the peripheral blood shows evidence of anemia and leukopenia, or of anemia, leukopenia, and thrombocytopenia; and the bone marrow shows abnormal precursors in two or more mature blood cell precursors.

refractory period, absolute The brief period during depolarization of a neuron or muscle fiber when the cell does not respond to any stimulus, no matter how strong.

refractory period, relative The brief period during repolarization of a neuron or muscle fiber when excitability is de-

pressed. If stimulated, the cell may respond, but a stronger than usual stimulus is required.

refracture (rē-frāk'chūr) [L. *refractus*, broken off] Rebreaking of a fracture united in a malaligned position.

refrangible (rē-frān'jī-bl) [L. *re*, again, + ME. *frangible*, breakable] Capable of being refracted.

refresh (rī-frēsh') [O.Fr. *refreschir*, to renew] **1.** To restore strength; to relieve from fatigue; to renew; to revive. **2.** To scrape epithelial covering from two opposing surfaces of a wound to facilitate healing and joining together.

refrigerant (rī-frīj'ēr-ānt) [L. *refrigerans*, making cold] **1.** Cooling. **2.** An agent that produces coolness or reduces fever. SYN: *algefacient*.

refrigeration (rī-frīj'ēr-ā'shūn) [L. *refrigeratio*, make cold] Cooling; reduction of heat.

refrigent (rē-frīn'jēnt) Refractive.

refuge A shelter; a safe place for persons fleeing danger or distress.

refugee A person fleeing danger or distress, esp. in times of war or political persecution.

refusal of therapy **1.** Denial of treatment to a patient. **2.** Unwillingness of a patient to participate in treatment.

refusal to treat A deliberate, conscious decision to withhold health care services from a patient.

refuse (rēf'yooos) Anything discarded; garbage, trash, waste.

regainer (rē-gān'ēr) **1.** A device that ameliorates or restores something that was lost. **2.** A device that applies pressure between teeth on either side of the space left by a missing tooth. It is used to move teeth away from the edentulous space.

regeneration (rē-jēn'ēr-ā'shūn) [L. *re*, again, + *generare*, to produce] The reconstitution of an injured or missing part of a cell, tissue, organ, or body. Opposite of degeneration.

guided tissue r. ABBR: GTR. Techniques used in periodontics to reconstruct lost or diseased periodontal tissue in people with gingival recession. GTR often involves the use of absorbable barrier membranes or collagen.

regimen (rēj'ī-mēn) [L., rule] A systematic plan of activities, treatments, diet, sleep, and exercise designed to improve, maintain, or restore health.

regio (rē'jē-ō) [L.] Region.

region (rē'jūn) [L. *regio*, boundary] A portion of the body with natural or arbitrary boundaries. SYN: *regio*. **regional** (-āl), *adj.*

chest r. The anterior, posterior, and lateral chest areas. Anterior divisions (right and left) are the clavicular, infraclavicular, and supraclavicular, the mammary and inframammary, and the upper and lower sternal. Posterior di-

visions (right and left) are the scapular, infrascapular, interscapular, and suprascapular. Lateral divisions are the axillary and infra-axillary.

region of interest In radiology the object of a study or a treatment designed to affect a limited part of the body.

register [LL. *regesta*, list] **1.** An official recording of vital statistics, including date and place of birth, marriage(s), and death. Recording these data is a legal requirement in the U.S. **2.** The compass or range of a voice. **3.** A series of tones of like quality or character, as low or high register, chest or head register.

registered physical therapist ABBR: RPT. Physical therapist.

registered pulmonary function technologist An individual who has completed the pulmonary function registry examination administered by the National Board for Respiratory Care.

registered record administrator ABBR: RRA. A person registered by the American Medical Records Association, who plans, supervises, designs, and develops medical records systems for health care facilities.

registrant (rēj'is-trānt) [L. *registrans*, registering] A nurse named on the books of a registry as being "on call" or available to be called for duty.

registrar (rēj'is-trār) [O.Fr. *registreur*] The official manager of a registry.

registration [L. *registratio*] The recording of information such as births or deaths; the recording of those who are registered or licensed to practice within a state.

registry (rēj'is-trē) [LL. *regesta*, list] **1.** An office or book containing a list of nurses ready for duty; a placement bureau for nurses. **2.** Any database that holds the names of patients who share common characteristics, usually diseases.

cancer r. A list of patients diagnosed with cancer, kept to facilitate patient follow-up, as well as research about cancer causes, therapies, and outcomes.

regression (rī-grēsh'ūn) [L. *regressio*, go back] **1.** A turning back or return to a former state. **2.** A return of symptoms. **3.** Retrogression. **4.** In psychology, an abnormal return to an earlier reaction, characterized by a mental state and behavior inappropriate to the situation. Regression may occur as a result of frustration or in states of fatigue, dreams, hypnosis, intoxication, illness, and certain psychoses (e.g., schizophrenia). **5.** In statistics, a procedure used to predict one variable on the basis of data about one or more other variables. **regressive** (-grēs'iv), *adj.*

regular (rēg'ū-lār) [L. *regula*, rule] **1.** Conforming to a rule or custom. **2.** Methodical, steady in course, as a pulse. SEE: *normal*; *typical*.

regulation **1.** The condition of being controlled or directed. **2.** A rule that directs or controls kinds of behavior. **3.** The ability of an organism (e.g., a developing embryo) to develop normally despite experimental modifications. **regulative**, *adj.*

regulation development In embryology, the condition in which a single blastomere or a portion of an embryo can give rise to a whole embryo; the opposite of mosaic development.

regulator **1.** A device for adjusting or controlling the rate of flow or administration of gases (e.g., oxygen) or fluids (including blood). **2.** SEE: under *gene*.

regulatory T cell ABBR: Treg. Suppressor T cells.

regurgitant (rē-gūr'jī-tānt) [L. *re*, again, + *gurgitare*, to flood] Throwing back or flowing in a direction opposite to normal.

regurgitation (rē-gūr'jī-tā'shūn) A backward flowing, as in the return of solids or fluids to the mouth from the stomach or the backflow of blood through a defective heart valve.

aortic r. Aortic insufficiency.

duodenal r. A return flow of chyme from the duodenum to the stomach.

functional r. Regurgitation caused not by valvular disorder but by dilatation of ventricles, the great vessels, or valve rings.



mitral r. ABBR: MR. A backflow of blood from the left ventricle into the left atrium, resulting from imperfect closure of the mitral (bicuspid) valve. It may result from congenital anomalies of the valve, connective tissue disorders (e.g., Marfan's disease), infective endocarditis, ischemic damage to the valve or its supporting chordae, rheumatic valvulitis, or other degenerative conditions.

Congestive heart failure or atrial fibrillation may be complications of severe MR. The degree of regurgitation can be judged by echocardiography or angiography. Valve reconstruction or valve replacement surgeries can be used to repair the defect.

pulmonic r. A backflow of blood from the pulmonary artery into the right ventricle.

tricuspid r. A backflow of blood from the right ventricle into the right atrium.

valvular r. A backflow of blood through a valve, esp. a heart valve, that is not completely closed as it would normally be.

REHABDATA (rē'hāb'dāt'ā) A computerized bibliographical database of rehabilitation information supplied by the National Rehabilitation Information Center (NARIC). Topics included in the REHABDATA database include vocational rehabilitation, the cost of rehabilitation and community-based services; medical rehabilitation and policy issues,

including health care policy and costs as they relate to people with disabilities; and community integration. For information, contact NARIC, 4200 Forbes Blvd., Suite 202, Lanham, MD 20706; (800) 346-2742; (301) 459-5984 (TTY); www.naric.com.

rehabilitation (rē'hā-bīl'i-tā'shūn) [L. *rehabilitare*] **1.** The processes of treatment and education that help disabled individuals to attain maximum function, a sense of well-being, and a personally satisfying level of independence. Rehabilitation may be necessitated by any disease or injury that causes mental or physical impairment serious enough to result in functional limitation or disability. The postmyocardial infarction patient, the posttrauma patient, patients with psychological illnesses, and the postsurgical patient need and can benefit from rehabilitation efforts. The combined efforts of the individual, family, friends, medical, nursing, allied health personnel, and community resources are essential to making rehabilitation possible. SYN: *care*, *restorative*. **2.** In dentistry, the methods used to restore dentition to its optimal functional condition. It may involve restoration of teeth by fillings, crowns, or bridgework; adjustment of occlusal surfaces by selective grinding; orthodontic realignment of teeth; or surgical correction of diseased or malaligned parts. It may be done to improve chewing, to enhance the aesthetic appearance of the face and teeth, to enhance speech, or to preserve the dentition and supporting tissues. Also called *occlusorehabilitation* and *mouth*, or *oral*, *rehabilitation*.

aquatic r. Aquatic therapy.

cardiac r. A structured, interdisciplinary program of progressive exercise, psychological support, nutritional counseling, and patient education to enable attainment of maximum functional capacity by patients who have experienced a myocardial infarction.

cognitive r. Cognitive retraining.

driver r. Specialized assistance provided to individuals who need to increase their skills and abilities to enable greater safety or independence in driving because of physical, cognitive, or perceptual deficits. Services typically include clinical assessment, assistance with seating and positioning, simulated driving practice, on-road evaluation and training, passenger car evaluation, and recommendations for vehicle modifications.

neurological r. A supervised program of formal training to restore function to patients who have neurodegenerative diseases, spinal cord injuries, strokes, or traumatic brain injury.

pool r. Aquatic therapy.

pulmonary r. A structured program

- of activity, progressive breathing and conditioning exercises, and patient education designed to return patients with pulmonary disease to maximum function.
- rehabilitée** (rē'hă-bīl'ī-tē) A person who has been rehabilitated.
- rehearse** To practice or repeat an action, emotion, operation, phrase, or thought to attain mastery of it.
- rehydration** (rē'hī-dră'shūn) [" + Gr. *hydor*, water] The restoration of fluid volume to a dehydrated person, either orally or parenterally. SEE: *oral rehydration therapy*.
- Reichert's cartilage** (rī'kërts) [Karl Bogislau Reichert, Ger. anatomist, 1811–1883] The second branchial arch of the embryo, which gives rise to the stapes, styloid process, stylohyoid ligament, and lesser cornua of the hyoid bone.
- Reid's base line** (rēdz) [Robert William Reid, Scottish anatomist, 1851–1939] The line extending from the lower edge of the orbit to the center of the aperture of the external auditory canal and backward to the center of the occipital bone.
- Reiki** (rī'kē) A system of healing originating in Japanese metaphysics in which practitioners direct the *ch'i* to achieve natural healing.
- Reil's island** (rīlz) Island of Reil.
- reimbursement** (rē-īm-bŭrs'měnt) Payment for health care services.
- reimplantation** (rē'īm-plān-tă'shūn) [L. *re*, again, + *in*, into, + *plantare*, to set] Replantation (2).
- reimportation** (rē'īm-pawr-tă'shūn) The purchase of drugs manufactured in their source nation by another nation to which the drugs are exported. At times it yields significant price advantages to the purchaser. Drugs manufactured in the U.S. are sometimes marketed abroad to other nations at low cost. The purchase of these drugs by American consumers from foreign pharmacies may yield cost savings accompanied by the risk that they may prove to be counterfeit or contaminated versions of the originals.
- reincarnation** (rē-īn-kăr-nă'shūn) [" + incarnation] **1.** The belief held by members of some religious groups that a person returns in physical or spiritual form to live again after death. **2.** A renewal of interest in an old or previously discarded idea. **3.** A psychological or spiritual reawakening of someone who had previously been engaged in a wholly different set of activities or interests.
- reinfarction** (rē'īn-fărk'shīn) [" + "] Repeat infarction (esp. myocardial infarction) after an initial infarct.
- reinfection** (rē'īn-fěk'shūn) [" + ME. *infecten*, infect] A second infection by the same organism. SEE: *superinfection*.
- reinforcement** (rē'īn-fors'měnt) [" +
- inforce*, enforce] **1.** Strengthening; an augmentation of force, e.g. of a reflex. **2.** In educational theory, a reward given for an appropriate or desired response.
- reinforcer** (rē'īn-fors'ēr) Something that produces reinforcement.
- reinfusion** (rē'īn-fŭ'zhūn) [" + *infusio*, to pour in] The reinjection of blood serum or cerebrospinal fluid.
- reinnervation** (rē'īn-ēr-vă'shūn) [" + *in*, into, + *nervus*, nerve] **1.** Anastomosis of a paralyzed part with a living nerve. **2.** Grafting of a fresh nerve for restoration of function in a paralyzed muscle.
- re inoculation** (rē'īn-ök'ŭ-lă'shūn) [" + *in*, into, + *oculus*, bud] A second inoculation with the same organism or its antigens. SEE: *reinfection*.
- reintegration** In psychology, the resumption of normal behavior and mental functioning following disintegration of personality in mental illness.
- reinverson** (rē'īn-vēr'shūn) [" + *in*, into, + *versio*, turning] Correction of an inverted organ.
- Reissner's membrane** (rīs'něrz) [Ernst Reissner, Ger. anatomist, 1824–1878] A delicate membrane separating the cochlear canal from the scala vestibuli.
- Reiter's syndrome** (rī'těrz) [Hans Conrad Julius Reiter, Ger. physician, 1881–1969] ABBR: RS. A syndrome consisting of urethritis, which usually occurs first; then arthritis and conjunctivitis. It occurs mainly in young men. When an organism is implicated, it is most frequently *Chlamydia*. The disease recurs frequently, and can produce debilitating arthritis and skin lesions. The prognosis is generally good; however, recurrences are common.
- TREATMENT: There is no specific therapy. Tetracyclines or erythromycins are used for urethritis. The sexual partner should be treated if RS was transmitted sexually. Arthritis and conjunctivitis are treated symptomatically.
- rejection** [L. *rejicere*, to throw back] **1.** Refusal to accept or to show affection. In animals, for example, the young may be ignored or driven away by their mother. **2.** In tissue and organ transplantation, destruction of transplanted material at the cellular level by the host's immune mechanism. Transplant rejection is controlled primarily by T cells, but macrophages and B lymphocytes are also involved. Maintenance immunosuppressive therapy with cyclosporine, mycophenolate, and tacrolimus, which inhibit or block T-cell activity, has markedly lowered the risk of transplant organ rejection. Monoclonal and polyclonal antibody therapies are saved for acute rejection.
- acute r.** The early destruction of grafted or transplanted material, usually beginning a week after implanta-

tion. Acute rejection is identified clinically by decreased function of the transplanted organ. High-dose corticosteroids are the first treatment of acute rejection; they are typically quite effective. Antilymphocyte globulin (ALG), the monoclonal antibody OKT 3, mycophenolate mofetil, and tacrolimus, among other agents, are used when corticosteroids are not effective. SEE: *suppressive immunotherapy; macrophage processing; major histocompatibility complex; T cell.*

chronic r. Late and ongoing destruction of grafted or transplanted tissue. It most commonly involves vascular changes and interstitial fibrosis. Immunosuppressive therapy with tacrolimus and cyclosporine has significantly reduced this T-cell-mediated rejection process.

hyperacute r. Immediate, intense, and irreversible destruction of grafted material due to preformed antibodies. These antibodies are most common in patients who have rejected a previously transplanted organ or who have received multiple blood transfusions. The risk of hyperacute rejection has been nearly eliminated by testing the recipient's blood for antibodies against donor lymphocytes before surgery.

parental r. The refusal of a parent to accept or show affection for a son or daughter.

rejuvenation (rĭ-jū"vē-nā'shūn) [L. *re*, again, + *juvenis*, young] A return to a youthful condition or to the normal.

rejuvenescence (rĭ-jū"vē-nēs'ēns) [" + *juvenescere*, to become young] The renewal of youth; the return to an earlier stage of existence.

relapse (rē-lāps') [L. *relapsus*] The recurrence of a disease or symptoms after apparent recovery.

relapsing (rē'lāp-sēng) Recurring after apparent recovery.

related identical donor, related HLA-identical donor ABBR: RID. A family member who donates an organ or tissue (e.g., a kidney or bone marrow stem cells) to another family member who shares perfectly matched human leukocyte antigens. Organ transplantations from RIDs have higher success rates than transplants obtained from mismatched related donors (MMRDs) or from matched unrelated donors (MUDs).

relation (rĭ-lā'shūn) [L. *relatio*, a carrying back] The condition, connection, or state of one thing compared with another.

jaw r. Any relation of the position of the maxilla to that of the mandible.

occlusal jaw r. The relation of the mandibular teeth to the maxillary teeth when the teeth are in contact.

unstrained jaw r. The position of the

jaw during normal tonus of all the jaw muscles.

relational disorder Marked impairments in communication or other aspects of interpersonal interactions among family members, spouses, or co-workers.

relative biological effect The effectiveness of types of radiation compared with that of x-rays or gamma rays.

relative dose response ABBR: RDR.

1. A progressively increasing reaction of a cell, tissue, or organism to a stimulus.

2. A test used to estimate liver stores of vitamin A in order to identify those with marginal vitamin A deficiency.

relax [L. *relaxare*, to loosen] To decrease tension or intensity; to be rid of strain, anxiety, and nervousness.

relaxant (rĭ-lāk'sānt) 1. Pert. to or producing relaxation. 2. A drug that reduces tension. 3. A laxative.

muscle r. A drug or therapeutic treatment that specifically relieves muscular tension.

neuromuscular r. A drug (e.g., succinylcholine) that prevents transmission of stimuli to muscle tissue, esp. striated muscle.

smooth muscle r. A drug that reduces the tension of smooth muscles such as those in the intestinal tract or bronchi.

relaxation (rē-lāk-sā'shūn) 1. A lessening of tension or activity in a part. 2. A phase or period in a single muscle twitch following contraction in which tension decreases, fibers lengthen, and the muscle returns to a resting position. 3. In magnetic resonance imaging, the return of an excited atom to alignment with the applied magnetic field.

general r. Relaxation of the entire body.

local r. Relaxation limited to a particular muscle group or to a certain part.

pelvic r. Diminished support of the pelvic tissues and organs, esp. in women; usually due to childbirth or aging. The organs affected and the pathological conditions associated with this condition are the bladder (cystocele), rectum (rectocele), uterus (uterine prolapse), small intestine (enterocele), and urethra (protrusion of the urethra into the vagina). Symptoms are related to the organ(s) affected. Treatment is determined by the severity of the relaxation. Medical treatments, including pelvic muscle exercises, pessaries, prompted voiding regimens, and estrogen therapy, may be helpful to patients; however, many patients require surgery.

relaxation response The physiological responses (slower heart rate, decreased blood pressure, lowered cutaneous resistance) produced by sitting quietly with the eyes closed and breathing slowly and methodically. A brief word or

phrase (in Hindu cultures, this is called a mantra) may be repeated to oneself to help focus the mind or reduce stray thoughts. This approach to meditation or stress reduction may be undertaken once or twice a day, usually for 10 to 30 min. The relaxation response helps reduce anxiety, high blood pressure, pain, postmenopausal symptoms, and medication use.

relaxin (rĭ-lăk'sĭn) A polypeptide hormone related to insulin in women secreted in the corpus luteum during pregnancy and by the prostate in men. It has many effects on breast, uterine, cardiac, and other tissues.

relaxometry (rĕ-lăk-sŏm'ĕ-trĕ) [" + "] In magnetic resonance imaging, the measurement of the time it takes for excited nuclei to return to their basal state.

relearning Acquiring a skill or ability that had been previously present but was lost or removed as a result of physical damage to the muscles or brain.

release **1.** A document that, if signed by the patient or the patient's legal representative, permits the treating health care provider to perform certain procedures (e.g., surgery, anesthesia, blood transfusion, removal of tissues or fluids for analysis). In addition to being signed by the patient, the release should also be signed by a witness. Most releases have a notation indicating the applicable time of the release. **2.** To discharge. **3.** To remove restraints.

myofascial r. ABBR: MFR. The manipulation of soft tissue to facilitate improved posture and range of motion and to decrease pain. SEE: *soft-tissue mobilization*.

sustained r. The delivery of a drug from a tablet or other reservoir over many hours or days (instead of minutes or hours), to provide a durable therapeutic effect.

reliability **1.** Dependability, accuracy or honesty. **2.** In statistics, the ability of a measuring instrument to produce reproducible results.

interrater r. The extent to which two independent parties, each using the same tool or examining the same data, arrive at matching conclusions. It is a measure of the agreement, consensus, or consistency of independent parties in using a common rating scale or instrument.

intrarater r. The extent to which a single individual, reusing the same rating instrument, consistently produces the same results while examining a single set of data.

test-retest r. The ability of a test to produce consistent results when it is used multiple times under nearly equivalent conditions. A test whose results

fluctuate minimally when it is reused is said to have good test-retest reliability.

relief (rĭ-lĕf') [ME.] **1.** The alleviation or removal of a distressing or painful symptom. **2.** Assistance given to the poor, homeless, or those whose lives have been changed by mass casualty incidents or other catastrophes. Relief may be provided in the form of food, clothing, shelter, loans, or cash, as well as other goods and services.

religiosity, impaired Impaired ability to exercise reliance on beliefs and/or participate in rituals of a particular faith tradition. SEE: *Nursing Diagnoses Appendix*.

religiosity, readiness for enhanced Ability to increase reliance on religious beliefs and/or participate in rituals of a particular faith tradition. SEE: *Nursing Diagnoses Appendix*.

religiosity, risk for impaired At risk for an impaired ability to exercise reliance on religious beliefs and/or participate in rituals of a particular faith tradition. SEE: *Nursing Diagnoses Appendix*.

reline (rĕ-lĭn') To replace or resurface the lining of a denture.

relinquishment, infant (rĕ-lĭnk'wĭsh-mĕnt) The psychological process experienced by a birth mother during adoption of her child by others.

relocation stress syndrome Physiological and/or psychosocial disturbances as a result of transfer from one environment to another. SEE: *Nursing Diagnoses Appendix*.

relocation test A clinical test used to identify the presence of anterior glenohumeral instability. The patient is placed supine, the glenohumeral joint abducted to 90 degrees with the elbow flexed to 90 degrees. While maintaining a posteriorly directed pressure on the humeral head, the examiner externally rotates the humerus. Used only following a positive apprehension test for glenohumeral instability, a positive relocation test is marked by decreased apprehension and pain, and increased range of motion relative to the apprehension test.

REM (rĕm) *rapid eye movement*.

rem (rĕm) *roentgen equivalent (in) man*. **Remak's sign** [Ernest Julius Remak, Ger. neurologist, 1849–1911] A sign or symptom pert. to perception of stimuli. It can be one of two types: a single stimulus may be perceived as if it were several stimuli applied in separate locations (polyesthesia), or there may be a delay in perception of stimuli. Both types are seen in *tabes dorsalis*.

REM behavior disorder, rapid eye movement sleep disorder ABBR: RBD. A relatively rare sleep disorder in which people act out their dreams during REM sleep, a phase of sleep during which most people are normally paralyzed. It

is found most often in men over the age of 60. Sudden and potentially dangerous limb movements, grunting vocalizations, and disruption of the normal continuity of sleep are common findings.

remedial (rĭ-mĕ'dĕ-ăl) [L. *remedialis*] Curative; intended as a remedy.

remedy (rĕm'ĕd-ĕ) [L. *remedium*, medicine] **1.** To cure or relieve a disease. **2.** Anything that relieves or cures a disease.

herbal r. Plant leaves, roots, seeds, or extracts used to prevent or treat human ailments.



Herbal remedies of unknown potency should not be taken during pregnancy, while nursing, or in place of other therapies if such therapies are known to be more effective. Patients with complex illnesses should consult licensed health care professionals before initiating, and while undertaking, herbal therapies.

home r. A traditional therapy often utilizing natural products, nutritional supplements, or physical measures. Its effectiveness may be supported by familial, local, or culturally accepted stories or rituals. Also called a folk remedy.

local r. An agent used to relieve a local condition such as a sore.

systemic r. An agent used to relieve or cure a disease affecting the entire organism.

remineralization (rĕ-mĭn'ĕr-ăl-ĭ-ză'shŭn) Therapeutic replacement of the mineral content of the body after it has been disrupted by disease or improper diet. Remineralization of bone, e.g., is accomplished by adding mineral ions to hydroxyapatite in the bony matrix.

reminiscence therapy (rĕm-in-'is'ĕns) A form of supportive psychotherapy for elderly patients experiencing depression or loss. Reminiscence therapy assists patients to review and highlight the meaningful components of their past. This is thought to increase self-esteem and life satisfaction. It can be conducted in groups or individually.

remission (rĭ-mĭsh'ŭn) [L. *remissio*, remit] **1.** A lessening in severity or an abatement of symptoms. **2.** The period during which symptoms abate. **3.** The period when no evidence of underlying disease exists.

remittance (rĕ-mĭt'ĕns) A temporary abatement of symptoms.

remittent (rĕ-mĭt'ĕnt) [L. *remittere*, to send back] **1.** Alternately abating and returning at certain intervals. SEE: *fever*. **2.** Episodic; periodic.

remnant Something that remains or is left over.

remnant removal disease A disorder of lipid metabolism in which the uptake of lipoproteins by the liver is impaired.

The condition increases levels of both cholesterol and triglycerides in the blood, resulting in an increased risk of both coronary and peripheral vascular disease.

remodeling 1. The reshaping or reconstruction of a part of the body, esp. to repair a part that has been injured (e.g., the walls of the heart after myocardial infarction or the airways in patients with asthma). **2.** Bone change or growth that is the net effect of all appositional growth and bone resorption and that continues throughout life to adapt individual bones to the changing forces of growth, muscular activity, gravity, or mechanical pressures.

bone r. The process in which bone is resorbed and new bone formed at the same site. This process keeps the calcium content of bone stable. Bone is a dynamic tissue: it responds continuously to mechanical stress, nutritional status, hormones, and concentrations of circulating calcium.

temporomandibular joint r. The slow changes in the articular surfaces of the temporomandibular joint as it adapts to changing occlusal forces, resulting in shape changes or irregularities of the condyle or articular eminence.

REM sleep behavior disorder A sleep disorder, most often identified in older men, in which there is frequent and sometimes violent motor activity during REM sleep, specifically during dreams. The condition often precedes the development of dementia with Lewy bodies, or other neurodegenerative disorders.

ren (rĕn) *pl.* **renes** [L.] The kidney.

renal (rĕ'năl) [LL. *renalis*, kidney] **1.** Pert. to the kidney. SYN: *nephric*. SEE: *kidney* for illus. **2.** Shaped like a kidney.

renal clearance test One of several kidney function tests based on the kidney's ability to eliminate a given substance in a standard time. Urea, phenolsulfonphthalein (PSP), and other substances are employed.

renal failure, acute ABBR: ARF. A sudden and significant decrease in the kidneys' filtration capabilities and, within hours or days, an increase in the levels of creatinine and other waste products in the systemic circulation. ARF occurs in approximately 5% of all patients admitted to hospitals. It often results from accidents (e.g., severe burns and trauma) that cause large losses in body fluid. A number of drugs can cause ARF. Hospital procedures can also cause ARF, and ARF happens to >25% of those surgical patients who require cardiopulmonary bypass and to almost 30% of patients in intensive care units. When ARF is the result of a decrease in blood volume without kidney damage,

the condition can often be quickly and completely reversed. When the kidneys have been injured, however, they must heal if the ARF is to resolve. SYN: *acute kidney failure*. SEE: *dialysis*; table; *Nursing Diagnoses Appendix*.

ETIOLOGY: *Prerenal:* Most ARF is caused by low perfusion of the kidneys due to problems that do not at first directly damage the kidneys: hypovolemia (e.g., burns, cirrhosis with portal hypertension and ascites, dehydration, diarrhea, excess diuresis hemorrhage, vomiting), low cardiac output (e.g., arrhythmias, cardiac tamponade, massive pulmonary embolus, mechanical ventilation, myocardial diseases, pulmonary hypertension), systemic vasodilation (e.g., anaphylaxis, anesthesia, antihypertensives, sepsis), or bilateral renal vascular blockage (e.g., emboli, stenosis, thrombi).

Intrarenal: A less common ARF is caused from direct damage to the kidneys. Ninety percent of these cases are caused either by ischemia (from prolonged prerenal ARF or from diseases of blood vessel walls, glomerulonephritis, hyperviscosity syndromes, malignant hypertension, thrombotic microangiopathies, or vasculitis) or by nephrotoxins.

Postrenal: The least common ARF (less than 5% of cases) is caused by urinary obstruction that leads to increased back-pressure in the kidney tubules, which, in turn, decreases the GFR. Urinary obstruction most often occurs at the bladder neck (anticholinergic drug therapy, neurogenic bladder, prostatic disease).

TREATMENT: Acute renal failure caused by urinary outlet obstruction (postrenal failure) often completely resolves when urinary flow is restored (i.e., after a urinary catheter is placed or a prostatectomy performed). Renal failure caused by prerenal conditions (i.e., from reduced blood flow to the kidneys [e.g., in dehydration or shock]) sometimes improves with fluid and pressor support but may require other therapies, including dialysis. The resolution of ARF caused by intrarenal diseases (e.g., acute tubular necrosis) and kidney toxins depends on the underly-

ing cause and the duration of the exposure. For example, immunosuppressant drugs may reverse ARF due to glomerulonephritis or renal vasculitis, whereas forced diuresis is the treatment for those whose disease is caused by rhabdomyolysis.

PATIENT CARE: Patients with ARF may stop making urine, have a sudden rise in BUN and creatinine levels, and develop metabolic acidosis and electrolyte imbalances (esp. hyperkalemia). Other complications may follow as uremia develops (e.g., altered mental status, anorexia, arrhythmias, and fluid overload). The specific cause is identified and removed if possible. The nurse instructs the patient regarding dietary and fluid restrictions and implements these restrictions, promotes infection prevention, and advises the patient about activity restrictions due to metabolic alterations.

Neurological status is assessed, and safety measures are instituted. Intake and output and daily weights (measures of fluid status) are monitored. Daily blood tests determine acid-base and electrolyte balance. Hyperkalemia is treated with dialysis, intravenous hypertonic glucose solutions, insulin infusion, sodium bicarbonate, or potassium exchange resins administered orally or by enema, depending on its severity. The nurse should assess the patient for edema in the legs and feet, hands and sacrum, and around the eyes. It is also usual to record urine color and clarity. The patient is assessed for gastrointestinal (GI) and cutaneous bleeding and anemia; blood components are replaced or erythropoietin therapy is administered as prescribed. Blood pressure, pulse, respiratory rate, and heart and lung sounds are regularly assessed (e.g., for evidence of pericarditis or fluid overload). Cardiac monitoring is used to detect changes in cardiac conduction related to hyperkalemia. Anorexia, nausea, and vomiting result from uremia and lead to poor nutrition with loss of body muscle and mass. Nutritional support is critical to combat malnutrition, infection, and to limit electrolyte imbalances. Protein calorie malnutrition is prevalent in ARF. Renal failure

Causes of Acute Renal Failure

Where	What's Responsible	Examples
Prerenal	Inadequate blood flow to the kidney	Severe dehydration; prolonged hypotension; renal ischemia or emboli; septic or cardiogenic shock
Renal	Injury to kidney glomeruli or tubules	Glomerulonephritis; toxic injury to the kidneys (e.g., by drugs or poisons)
Postrenal	Obstruction to urinary outflow	Prostatic hyperplasia; bladder outlet obstruction

diet requires careful management of total calories, protein, electrolytes, minerals, vitamins, and fluid volume. It should provide enough calories (30–35 kcal/kg) through fats and carbohydrates to limit muscle breakdown. At the same time, protein intake should be restricted to about 1.2 to 1.3 g/kg to minimize azotemia. Sodium intake should be limited to 2 to 4 g a day to limit water retention and hypertension. Potassium intake is restricted because, in renal failure, potassium is not excreted by the kidneys, and hyperkalemia may produce muscle weakness and cardiac rhythm disturbances. Oral intake of phosphorus must also be limited as prescribed; alternately, phosphorus-binding medications are taken with meals to prevent hyperphosphatemia. Oral calcium supplements are often used for this purpose. Vitamins B, C, and folate supplements are often given. Fluids are usually limited to the amount of the patient's urine output plus 500 to 700 ml for metabolic needs. Oral hygiene and misting provide relief for dry mucous membranes and help to prevent inflammation and infection. All stools are tested to monitor for GI bleeding. Aseptic technique is used in caring for this patient, who is extremely susceptible to infection. Other therapies include incentive spirometry, coughing, passive range-of-motion exercises, antiembolism stockings or pneumatic leg dressings, and ambulation. Acute renal failure often results in a protracted illness. Many patients with ARF requiring intensive care will die. As a result, the patient and family require continuous emotional support, and education about the treatment regimen (including dialysis if it is employed), nutritional restrictions, and the use of medications. Because some patients will eventually need to have arteriovenous fistula constructed for dialysis, intravenous access should be limited to the dorsal aspects of the hands whenever possible.

If ARF is not reversed but progresses to chronic (end-stage) renal failure, follow-up care with a nephrologist is arranged, and evaluation and teaching are provided for maintenance dialysis and/or possible kidney transplant. Referral is made for vocational or other counseling as needed.

renal papillary necrosis Destruction of the papillae of the kidney, usually as a result of pyelonephritis, diabetes mellitus, sickle cell disease, urinary obstruction, or the toxic effects of nonsteroidal anti-inflammatory drugs. If the necrotic tissue sloughs into the ureters, it may cause renal colic similar to the pain caused by a kidney stone.

renal scanning A scintigraphic method of determining renal function, size, and

shape. A radioactive substance that concentrates in the kidney is given intravenously. The radiation emitted from the substance as it accumulates in the kidneys is recorded on a suitable photographic film.

renal tubular acidosis ABBR: RTA. A group of non-anion gap metabolic acidoses marked by either loss of bicarbonate or failure to excrete hydrogen ions in the urine. Type I (distal RTA) is marked by low serum potassium, elevated serum chloride, a urinary pH greater than 5.5, nephrocalcinosis, and nephrolithiasis. Alkalis such as sodium bicarbonate or Shohl's solution are effective treatments.

Type II (proximal RTA) is caused by impaired reabsorption of bicarbonate by the proximal tubules. Its hallmarks include preserved glomerular filtration, hypokalemia, excessive bicarbonate excretion in the urine during bicarbonate loading, and a urinary pH less than 5.5. Osteopenia and osteomalacia are common clinical consequences. Treatments may include volume restriction and potassium and bicarbonate supplementation.

Type IV (hyperkalemia RTA) usually is associated with hyporeninemic hypoaldosteronism due to diabetic nephropathy, nephrosclerosis associated with hypertension, or chronic nephropathy. Affected patients have high serum potassium levels and low urine ammonia excretion. They do not have renal calculi. The hyperkalemia may be managed by administration of mineralocorticoids in combination with furosemide. Glomerular filtration is reduced in this disorder.

renaturation (rē-nā'chēr-ā'shūn) [*r* + (*de*)*n*aturation] The reassembly of a molecule or of a molecule's shape, e.g., the rejoining of unraveled complementary strands of DNA into a double helix.

rendering, food The conversion of the waste products of animal butchery into feeds, bone meal, tallows, oils, and fertilizer. Consumption of rendered feed products sometimes results in animal and human infections, such as bovine spongiform encephalopathy (mad cow disease).

Rendu-Osler-Weber syndrome (rändyū'ōs'lēr-wē'bēr) Hereditary hemorrhagic telangiectasia.

renin (rēn'in) An enzyme produced by the kidney that splits angiotensinogen to form angiotensin I, which is then transformed to angiotensin II, which stimulates vasoconstriction and secretion of aldosterone. The blood renin level is elevated in some forms of hypertension.

renin substrate Angiotensinogen.

renipuncture (rēn'ī-pūnk'chūr) [*r* +

- punctura*, a piercing] Surgical puncture of the renal capsule.
- rennet** (rĕn'ĕt) [MĒ.] **1.** The lining of the fourth stomach of a calf. **2.** A fluid containing rennin (chymosin), a coagulating enzyme, used for making junket or cheese.
- rennin** (rĕn'in) Chymosin.
- renninogen** (rĕn-in'ō-jĕn) [MĒ. *rennet*, *rennet*, + Gr. *gennan*, to produce] The antecedent or zymogen from which rennin is formed; the inactive form of rennin.
- reno-, ren-** Combining forms meaning *kidney*. SEE: *nephro-*.
- renocutaneous** (rĕ'nō-kū-tā'nĕ-ūs) [r' + *cutis*, skin] Pert. to the kidneys and skin.
- renogastric** (rĕ'nō-gās'trĭk) [L. *ren*, kidney, + Gr. *gaster*, belly] Pert. to the kidneys and stomach.
- renogram** (rĕ'nō-grām) [r' + Gr. *gramma*, something written] A record of the rate of removal of an intravenously injected dose of radioactive iodine (¹³¹I) from the blood by the kidneys.
- renography** (rĕ-nōg'rā-fĕ) [r' + Gr. *graphein*, to write] Radiography of the kidney.
- renointestinal** (rĕ'nō-in-tĕs'tĭn-āl) [r' + *intestinum*, intestine] Pert. to the kidneys and intestine.
- renoprival** (rĕ'nō-prĭ'vāl) Pert. to loss of kidney function.
- renovascular** (rĕ'nō-vās'kū-lār) Pert. to the vascular supply of the kidney.
- Renshaw cell** (rĕn'shaw) [B. Renshaw, U.S. neurophysiologist, 1911–1948] An interneuron of the spinal cord that inhibits motor neurons.
- reocclusion** (rĕ'ō-kloo'zhŭn) Closure of a structure (e.g., a blood vessel) that had been previously stenosed and then unclogged by mechanical dilation or the use of medications.
- Reoviridae** (rĕ'ō-vĭr'ĭ-dĕ) [NL. fr. r(espiratory) + (e)nteric + orphan] A family of double-stranded RNA viruses that includes many members that produce human disease, including the rotaviruses (prominent causes of non-bacterial diarrhea in children) and coltivirus (the cause of Colorado tick fever).
- reovirus** (rĕ'ō-vĭ'rŭs) [*respiratory enteric orphan virus*] A double-stranded RNA virus found in the respiratory and digestive tracts of apparently healthy persons, and occasionally associated with respiratory, digestive, or neurological diseases.
- repackaging** The transfer of specified doses of a medication from a manufacturer's bulk container to smaller containers used by patients and/or dispensing institutions.
- repair** (rĭ-pār') [L. *reparare*, to prepare again] To remedy, replace, or heal, as in a wound or a lost part.

plastic r. Use of plastic surgery to repair tissue.

tooth r. Professional dental care that covers defects in an injured or carious tooth or replaces missing teeth (e.g. with a crown, a bridge, or an implant). This is usually accompanied by improved health of the gingiva and the periodontal ligament.

reparative medicine (rĭ-pār'ĭ-tĭv) [r']

1. Regenerative medicine. **2.** Medicine concerned primarily with repair, such as microsurgery for limb reattachment.

repeat open application test ABBR: ROAT. A skin test used to confirm or rule out the presence of allergic contact dermatitis, used after an initial patch test of a suspected allergen was negative or only weakly positive. The agent suspected of causing the reaction is applied to the skin twice a day for several days, and the skin is examined for eczema. The presence of a rash after ROAT implies the patient is truly allergic to the applied agent.

repellent [L. *repellere*, to drive back] An agent that repels noxious organisms such as insects, ticks, and mites. Repellents may be applied to the surface of the body as a liquid, spray, or dust, or they may be used to impregnate clothing.

insect r. A commercial preparation effective in repelling insects. Many insect repellents contain diethyltoluamide, an effective agent popularly known as DEET.



When applying insect repellent, do not allow it to contact the eyes.

repercolation (rĕ'pĕr-kō-lā'shŭn) [L. *re*, again, + *percolare*, to filter] Repeated percolation using the same materials.

repercussion (rĕ-pĕr-kŭsh'ŭn) [L. *repercussio*, rebound] **1.** A reciprocal action. **2.** An action involved in causing the subsidence of a swelling, tumor, or eruption. **3.** Ballottement.

repercussive (rĕ'pĕr-kŭs'ĭv) **1.** Causing repercussion. **2.** An agent that repels; a repellent.

reperfusion (rĕ-pĕr-fŭ'zhŭn) [L. *re*, back, + *perfundere*, to pour through] **1.** The restoration of blood flow to a part of the body previously deprived of adequate circulation, such as the heart muscle (in myocardial infarction) or the brain (in stroke). This may be accomplished through the use of thrombolytic agents, sometimes called "clot busters" (e.g., streptokinase or tissue plasminogen activator), or mechanical interventions (e.g., balloon angioplasty). The use of these interventions has improved patient outcomes in acute coronary syndromes and patients with stroke who come to medical attention in the first

few hours of their illness. **2.** The re-institution of blood flow to tissues that have been traumatized, esp. by a long period of crushing. SEE: *crush syndrome; rhabdomyolysis.*

r. injury Cellular damage that occurs after blood flow is restored to ischemic tissues.

repetitive motion injury Tissue damage caused by repeated trauma, usually associated with writing, painting, typing, athletic activities, or use of vibrating tools or hand tools. Almost any form of activity that produces repeated trauma to a particular area of soft tissue, including tendons and synovial sheaths, may cause this type of injury. Carpal tunnel syndrome, other nerve compression syndromes, and shin splints are examples of repetitive motion injuries. SYN: *cumulative trauma syndrome; repetitive strain injury; overuse syndrome.*

repetition maximum The greatest amount of weight a person can lift "n" number of times. The amount of weight that can be lifted exactly 10 times is 10 RM. The greatest amount of weight that can be lifted once is 1 RM. Repetition maximum can be used as a comparative measure of strength or as a technique in exercise prescription and strength training. During strength training 8 RM or 10 RM is used to develop strength, power, and muscle mass.

replacement **1.** The restoration of a structure to its original position. **2.** The repletion of lost fluids (e.g., by fluid infusions or blood transfusion).

meal r. A low-calorie snack or drink taken in place of breakfast, lunch, or dinner, often as part of a weight-loss regimen.

orthotopic bladder r. Neobladder.

replacement level fertility **1.** That level of reproduction in which a mother delivers a single daughter. **2.** That level of reproduction in which each mother has enough children to keep the population in which she lives stable.

replacement therapy The therapeutic use of a medicine to substitute for or replenish a natural substance that is either absent or diminished in disease (e.g., insulin in diabetes mellitus or thyroid hormone in hypothyroidism). SYN: *substitution therapy.*

replantation [L. *re*, again, + *planto*, to plant] **1.** Surgical reattachment or reconnection of something removed from the body, esp. the surgical procedure of rejoining a hand, arm, or leg to the body after its accidental detachment. **2.** In dentistry, the replacement of a tooth that has been removed from its socket. SYN: *reimplantation.*

repletion (rē-plē'shūn) [L. *repletio*, a filling up] The condition of being full or satisfied.

replication (rēp'li-kā'shūn) **1.** A dou-

bling back of tissue. **2.** In medical investigations, the repetition of an experiment. **3.** In genetics, the duplication process of genetic material.

replicon (rēp'li-kōn) A segment of DNA that includes the "start" and "stop" nucleotide sequences and can replicate as a unit. Self-replicating units of DNA include, for example, chromosomes, plasmids, and phages.

repolarization (rē'pō'lār-ī-zā'shūn) Restoration of the polarized state at a cell membrane (negative inside in relation to the outside) following depolarization as in muscle or nerve fibers.

report **1.** The account, usually verbal and often tape-recorded, that the nursing staff going off duty gives to the oncoming staff. The purpose is to provide continuity of care despite the change in staff. The information provided is of the utmost importance in caring for critically ill patients. **2.** A record of a drug reaction, illness, medical emergency, or other health-related statistic.

reportable disease Notifiable disease.

reporting (rī-pōrt'ing) Making a record of an observation available for review.

reposition (rē'pō-zish'ūn) [L. *repositio*, a replacing] Restoration of an organ or tissue to its correct or original position.

repositioning (rē'pō-zish'ūn-ing) Replacement of a structure to its original site or a new site.

jaw r. Changing of the position of the mandible in relation to the maxilla by altering the occlusion of the teeth.

muscle r. Surgical placement of a muscle to another attachment point to enhance function.

repositor (rē-pōz'ī-tōr) An instrument for restoring a tissue or an organ to its normal position.

inversion r. An instrument for replacing an inverted uterus.

uterine r. A lever for replacing the uterus when it is out of normal position.

repression (rē-prēsh'ūn) [L. *repressus*, press back] In psychology, the refusal to entertain distressing or painful ideas. In Freudian theory, repression involves the submersion of such thoughts in the unconscious, where they continue to influence the individual. Psychoanalysis seeks to discover and release repressions.

coordinate r. Simultaneous reduction of the enzyme levels of a metabolic pathway.

enzyme r. Interference with enzyme synthesis by a metabolic product.

repressor (rē-prēs'or) [L. *repressus*, press back] Something, esp. an enzyme, that inhibits or interferes with the initiation of protein synthesis by genetic material.

reprocessing Preparation of a dialysis membrane (or other medical device) for reuse with rinses and sterilizing solutions.

reprocessing of endoscopes Preparation of endoscopes for reuse by scrupulous cleaning and sterilization. Antimicrobial agents, such as glutaraldehyde, hydrogen peroxide, orthophthalaldehyde or peracetic acid, may be used.

PATIENT CARE: To protect patients from infections transmitted by reused endoscopes, the following procedure is followed when using glutaraldehyde:

1. The endoscope is manually cleaned externally;
2. Detergent is drawn through the accessory channel;
3. The accessory channel's chamber and valves are carefully brushed;
4. Reusable forceps are sterilized;
5. The endoscope is treated with a 2.4% solution of glutaraldehyde, heated to 25°C for 45 min;
6. The strength of the disinfectant solution is tested daily.

reproducibility (rē-prō-dooos-ī-bīl'ī-tē)

1. The quality of being provable again by repeated experimentation. SEE: *research*. 2. A quality control test of radiographical output for multiple exposures using the same exposure factors. These factors must not vary by more than $\pm 5\%$.

reproduction (rē-prō-dūk'shūn) [L. *re*, again, + *productio*, production]

1. The production of offspring by parents. SEE: *fertilization* for illness; *oogenesis* for illness. 2. The creation of a similar structure or situation; duplication.

asexual r. Reproduction without the union of gametes, as by fission, budding, or spore formation. SYN: *asexual generation*.

cytogenic r. Reproduction by asexual single germ cells.

sexual r. Reproduction by means of the union of germ or sex cells. Usually a male cell (spermatozoon) fuses with a female cell (egg or ovum). SYN: *sexual generation*; *syngamy*.

somatic r. Asexual reproduction by cloning of somatic cells.

reproductive (rē'prō-dūk'tīv) Pert. to or employed in reproduction.

reproductive age In women, those years of life between menarche and menopause, roughly from ages 12 to 49. The term is imprecise, since some women can become pregnant and bear children at younger or older ages. In men, those years between the onset of puberty and loss of fertility.

reproductive system The gonads and their associated structures and ducts. In the female, this system includes the ovaries, uterine tubes (oviducts), uterus, vagina, and vulva. In the male, it includes the testes, efferent ducts, epididymis, ductus deferens, ejaculatory duct, urethra and accessory glands (bulbourethral, prostate, seminal vesicles), and penis. SYN: *genital system*.

SEE: *female genitalia* and *male genitalia* for illness.

reproductive tract infection ABBR: RTI.

An infection of the genital organs as a result of a sexually transmitted disease, a medical error, or overgrowth of the reproductive organs by bacteria or fungi.

reptilase time (rēp'tī-lās") [Fr *reptile*(e)

(the enzyme is a derivative of snake venom) + "] ABBR: RT. A test that is used to identify hypofibrinogenemia or dysfibrinogenemia in plasma.

repulsion (rī-pūl'shūn) [L. *repulsio*, a thrusting back] 1. The act of driving back. 2. The force exerted by one party on another to cause separation; the opposite of attraction.

request for production of documents and things A discovery technique in which the plaintiff or defendant requests in a written form that the other party furnish information pertaining to the issues of the lawsuit.

In medical negligence cases, requests can be for: medical records, office records, facility policies and procedures, staffing schedules, personnel records, ambulance run sheets, and autopsy protocols, in addition to other items.

request for proposal ABBR: RFP. Notifi-

cation by a foundation or government agency that funds are available for research projects and that research sponsors are seeking applicants for those funds.

required service A service that must be included in a health program for it to qualify for federal funds.

rescue 1. To free a person from a hazardous situation such as entrapment in an automobile, trench, cave, or burning building, or from the site of a hazardous material spill. 2. To restore an organ to its normal function after an illness or a treatment that has damaged it.

abdominal r. Emergency cesarean delivery of a fetus jeopardized during labor or failed vaginal birth. Indications for surgical intervention include fetal distress associated with dystocia, arrested descent, abruptio placentae, or umbilical cord prolapse.

rescue tool (rēs'kyū) A piece of equipment used by rescuers in emergency medical service to free trapped victims. Rescue tools include a come-a-long, a hand-operated winch used to gain forceful entry during a rescue; cutting tools, used to cut open vehicles and metal to gain access to a person; a hydraulic jack, a hand-operated jack used to lift objects away from a person; pneumatic air bags, used to lift or spread heavy objects; and a power chisel, a pressure-operated device used to cut into sheet metal.

research (rī-sērč', rē'sērč) [O.Fr. *recherche*, research] Scientific study, investigation, or experimentation to es-

ublish facts and analyze their significance.

clinical r. Research based mainly on bedside observation of the patient rather than on laboratory work.

laboratory r. Research done principally in the laboratory.

medical r. Research concerned with any phase of medical science.

outcomes r. An analysis of the value of provided health care services. SEE: *outcome criteria*.

participatory r. A community process in which a group of people takes an active role in defining its own health needs and devising means to meet them, including setting priorities for public health, controlling health-enhancing techniques, and evaluating results.

preembryo r. Research involving the use of the fertilized egg from its unicellular zygote stage until the embryo stage (i.e., to the 14th day following fertilization), for example, for studies of in vitro fertilization, conception, gene therapy, or studies of cancer.

resect (rĕ-sĕkt') [L. *resectus*, cut off] To cut off or cut out a portion of a structure or organ, as to cut off the end of a bone or to remove a segment of the intestine.

resectable (rĕ-sĕk'tā-bl) Able to be removed surgically; usually used in reference to malignant growths.

resection (rĕ-sĕk'shŭn) [L. *resectio*, a cutting off] Partial excision of a bone or other structure.

gastric r. Surgical resection of all or a part of the stomach.

transurethral r. Surgical removal of the prostate using an instrument introduced through the urethra.

wedge r. Surgical removal of a triangular-shaped piece of tissue (e.g., from the lung, gastrointestinal tract, uterus, ovary, or other organs). Wedge resection is often used to remove malignant tissue.

window r. Resection of a portion of the nasal septum after reflection of a flap of mucous membrane.

resectoscope (rĕ-sĕk'tō-skōp) [L. *resectus*, cut off, + Gr. *skopein*, to examine] An instrument for resection of the prostate gland through the urethra.

resectoscopy (rĕ'sĕk-tōs'kō-pĕ) Resection of the prostate through the urethra.

resedation (rĕ'sĕ-dā'shŭn) [" + "] Succumbing to the effects of a sedative, hypnotic, or anesthetic drug after the drug's action has been reversed with its antagonist. The effect may occur because the half-life of the drug exceeds that of the antagonist (e.g., when the drug re-enters the bloodstream after it is released from storage in fatty tissues).

ter their effects have been temporarily reversed, patients who have received these drugs should be monitored for several hours to ensure that they are maintaining an alert mental status, an open airway, and effective respiration.

reserve (rĕ-zĕrv') [L. *reservare*, to keep back] 1. Something held back for future use. 2. Self-control of one's feelings and thoughts.

alkali r. Alkaline r.

alkaline r. The amount of base in the blood, principally bicarbonates, available for neutralization of fixed acids (acetoacetate, β -hydroxybutyrate, and lactate). A fall in alkaline reserve is called acidosis; a rise, alkalosis. SYN: *alkali reserve*.

cardiac r. The ability of the heart to increase cardiac output to meet the needs of increased energy output.

reservoir (rĕz'ĕr-vvor) [Fr.] A place or cavity for storage.

cardiotomy r. A device used to salvage autologous blood lost by patients as they undergo cardiovascular surgery.

continent urinary r. A pouch made from the intestines used to hold urine in the abdomen, e.g., in patients who have had the urinary bladder removed. This internal pouch is an alternative to an ileostomy. It contains the urine and can be emptied by manual pressure or, more often, by catheterization. SYN: *Indiana continent urinary reservoir*.

Indiana continent urinary r. Continent urinary reservoir.

r. of infectious agents Any person, animal, arthropod, plant, soil, or substance in which an infectious agent normally lives and multiplies, on which it depends primarily for survival, and where it reproduces itself in a way that allows transmission to a susceptible host.

residency A period of at least 1 year and often 3 to 7 years of on-the-job training, usually postgraduate, that is part of the formal educational program for health care professionals.

resident (rĕz'ĭ-dĕnt) A physician obtaining further clinical training after internship, usually as a member of the house staff of a hospital.

residual (ri-zĭd'ū-āl) [L. *residuum*, residue] 1. Pert. to something left as a residue. 2. In psychology, any aftereffect of experience influencing later behavior.

residual function The functional capacity remaining after an illness or injury.

residue (rĕz'ĭ-dū) The remainder of something after a part is removed.

residuum (rĕ-zĭd'ū-ŭm) *pl. residua* [L.] Residue.

resilience (rĕ-zĭl'ĕ-ĕns) [L. *resiliens*, leaping back] 1. Elasticity. 2. The ability to withstand mental or physical stress.



Because many sedative/hypnotic drugs, anesthetics, or narcotic analgesics may redistribute into the blood af-

resilient (rē-zil'ē-ənt) Elastic.

resin (rēz'in) [L. *resina*, fr. Gr. *rhetine*, resin of the pine] **1.** An amorphous, nonvolatile solid or soft-solid substance, which is a natural exudation from plants. It is practically insoluble in water but dissolves in alcohol. SEE: *rosin*. **2.** Any of a class of solid or soft organic compounds of natural or synthetic origin. They are usually of high molecular weight and most are polymers. Included are polyvinyl, polyethylene, and polystyrene. These are combined with chemicals such as epoxides, plasticizers, pigments, fillers, and stabilizers to form plastics.

acrylic r. Quick-cure r.

anion-exchange r. SEE: *ion-exchange r.*

cation-exchange r. SEE: *ion-exchange r.*

cold-cure r. Quick-cure r.

ion-exchange r. An ionizable synthetic substance, which may be acid or basic, used accordingly to remove either acid or basic ions from solutions. Anion-exchange resins are used to absorb acid in the stomach, and cation-exchange resins are used to remove basic (alkaline) ions from solutions.

quick-cure r. An autopolymer resin, used in many dental procedures, that can be polymerized by an activator and catalyst without applying external heat. SYN: *acrylic resin; cold-cure resin; self-curing resin*.

self-curing r. Quick-cure r.

resinoid (rēz'i-noyd) [r' + Gr. *eidōs*, form, shape] Resembling a resin.

resinous (rēz'i-nūs) Having the nature of or pert. to resin.

res ipsa loquitur (rēs-īp-sā-lō-kwī-tōr) [L.] Literally, "the thing speaks for itself." In malpractice this concept is used for cases in which an injury occurs to the plaintiff in a situation solely under the control of the defendant. The injury would not have occurred had the defendant exercised due care. The defendant must then defend his or her actions. In medicine the classic example of this situation is the leaving of an object such as a sponge or clamp in a patient's body after a surgical procedure, or the inadvertent removal of a healthy organ or extremity.

resistance (rī-zis'tāns) [L. *resistens*, standing back] **1.** Opposition to a disease, a toxin, or to a physical force. **2.** The force exerted to penetrate the unconscious or to submerge memories in the unconscious. **3.** In psychoanalysis, a condition in which the ego avoids bringing into consciousness conflicts and unpleasant events responsible for neurosis; the reluctance of a patient to give up old patterns of thought and behavior. It may take various forms such as silence, failure to remember dreams, forgetful-

ness, and undue annoyance with trivial aspects of the treatment situation. **4.** Force applied to a body part by weights, machinery, or another person to load muscles as an exercise to increase muscle strength.

airway r. The impedance to the flow of air into and out of the respiratory tract.

antibiotic r. Antibiotic resistant.

antiviral r. The developed resistance of a virus to specific antiviral therapy.

bacterial r. The ability of bacteria to survive and cause continuous infection in the presence of antibiotics. SEE: *antiviral r.; antibiotic r.; multidrug r.; transfer factor*.

cross r. Multidrug resistance.

drug r. The ability to withstand drug treatment.

expiratory r. The use of a restricted orifice, or flow resistor, during positive-pressure ventilation to retard the flow of exhaled gases.

insulin r. Cellular phenomena that prevent insulin from stimulating the uptake of glucose from the bloodstream and the synthesis of glycogen. Insulin resistance is one of the fundamental metabolic defects found in patients with type 2 diabetes mellitus.

multidrug r. ABBR: MDR. The ability of bacteria, viruses, or cancer cells to live and reproduce despite treatment with more than one drug.

peripheral r. The resistance of the arterial vascular system, esp. the arterioles and capillaries, to the flow of blood.

systemic vascular r. ABBR: SVR. The resistance to the flow of blood through the body's blood vessels. It increases as vessels constrict (e.g., when a drug like norepinephrine is given) and decreases when vessels dilate (e.g., in septic shock). Any change in the diameter, elasticity, or number of vessels recruited can influence the measured amount of resistance to the flow of blood through the body.

threshold r. The amount of pressure necessary in overcoming resistance to flow.

transthoracic r. The amount of resistance to the flow of electrical energy across the chest. This is an important factor to consider when electrical therapies such as defibrillation, cardioversion, and transthoracic pacing are used to treat abnormal cardiac rhythms.

viscous r. Nonelastic opposition of tissue to ventilation due to the energy required to displace the thorax and airways.

resistance exercise Exercise in which a muscle contraction is opposed by an outside force, to increase strength or endurance. If the resistance is applied by using weights, it is called mechanical

resistance; if applied by a clinician, it is called manual resistance.

resistance transfer factor ABBR: R factor. A genetic factor in bacteria that controls resistance to certain antibiotic drugs. The factor may be passed from one bacterium to another. This makes it possible for nonpathogenic bacteria to become resistant to antibiotics and to transfer that resistance to pathogens, thereby establishing a potential source for an epidemic. SEE: *plasmid*.

resistant (rē-zīs'tint, rī-) [L. *resistere*, to stand back, to withstand] A lack of response to, or of influence by, a pathogen, toxin, treatment, or other stressor.

resistin (rē-zīs'tin) A cysteine-rich peptide hormone, secreted by fat, that decreases cell sensitivity to the effects of insulin.

resolution (rēz-ō-lū'shūn) [L. *resolutio*, a relaxing] **1.** Decomposition; absorption or breaking down of the products of inflammation. **2.** Cessation of illness; a return to normal. **3.** The ability of the eye or a series of lenses to distinguish fine detail. **4.** In radiology, the ability to record small images placed very close together as separate images.

alternative dispute r. ABBR: ADR. Any of the methods of dealing with disputes and avoiding trial or litigation that are less threatening, less costly, and less time-consuming. Examples include arbitration, facilitation, negotiation, and mediation.

conflict r. SEE: *conflict resolution*.

resolve (rē-zōlv') [L. *resolvere*, to release] **1.** To return to normal as after a pathological process. **2.** To separate into components.

resonance (rēz'ō-nāns) [L. *resonantia*, resound] **1.** The quality or act of resounding. **2.** The quality of the sound heard on percussion of a hollow structure such as the chest or abdomen. An absence of resonance is termed *flatness*; diminished resonance, *dullness*. **3.** In physics, the modification of sound caused by vibrations of a body that are set up by waves from another vibrating body. **4.** In electricity, a state in which two electrical circuits are in tune with each other.

amphoric r. A sound similar to that produced by blowing across the mouth of an empty bottle.

bandbox r. The pulmonary resonance heard during chest percussion in patients with emphysema.

bell-metal r. The sound heard in pneumothorax on auscultation when a coin is held against the chest wall and struck by another coin.

cracked-pot r. The peculiar clinking sound sometimes heard on chest percussion in cases of advanced tuberculosis when cavities are present.

electron spin r. ABBR: ESR. A tech-

nique used in medical imaging that identifies atoms by their electron spin characteristics.

normal r. Vesicular r.

skodaic r. An increased percussion sound over the upper lung when there is a pleural effusion in the lower part.

tympanic r. A low-pitched, drumlike sound heard on percussion over a large air-containing space.

tympanitic r. The resonance obtained by percussion of a hollow structure, such as the stomach or colon, when it is moderately distended with air.

vesicular r. The resonance obtained by percussion of normal lungs. SYN: *normal resonance*.

vocal r. In auscultation, the vibrations of the voice transmitted to the examiner's ear, normally more marked over the right apex of the lung. These vibrations are abnormally increased in pneumonic consolidation, in lungs infiltrated with tuberculosis, or in cavities that communicate freely with a bronchus.

Vocal resonance is diminished or absent in pleural effusion (air, pus, serum, lymph, or blood); emphysema; pulmonary collapse; pulmonary edema; and egophony, a modified bronchophony characterized by a trembling, bleating sound usually heard above the upper border of dullness of pleural effusions and occasionally heard in beginning pneumonia.

whispering r. The auscultation sound heard when a patient whispers.

resonant (rēz'ō-nānt) Producing a vibrating sound on percussion.

resonating (rēz'ā-nāt'ing) [L. *resonantia*, resound] Vibrating sympathetically with a source of sound or electrical oscillations.

resonator (rēz'ō-nā'tēr) **1.** A structure that can be set into sympathetic vibration when sound waves of the same frequency from another vibrating body strike it. **2.** In electricity, an apparatus consisting of an electric circuit in which oscillations of a certain frequency are set up by oscillations of the same frequency in another circuit.

resorb (rē-sorb', rē-zorb') [L. *resorbere*, to suck in] **1.** To undergo resorption. **2.** To absorb again.

resorbent (rē-sor'bēnt) [L. *resorbens*, sucking in] An agent that promotes the absorption of abnormal matters, as exudates or blood clots (e.g., potassium iodide, ammonium chloride).

resorcin (rē-zor'sīn) Resorcinol.

resorcinol (rē-zor'sī-nōl) An agent with keratolytic, fungicidal, and bactericidal actions, used in treating certain skin diseases. SYN: *resorcin*.

resorption (rē-sorp'shūn) [L. *resorbere*, to suck in] **1.** Removal by absorption, as of an exudate or pus. **2.** The removal of

enamel and other calcific portions of a tooth as a result of lysis and other pathological processes. It often results from pressure or vascular changes as in root resorption of deciduous teeth prior to shedding, or bone resorption on the pressure side during tooth movement.

bone r. The removal of bone by osteoclasts.

resource (rē'sōrs, rē-sōrs') [O. Fr. *resource*, relief, resource] **1.** An asset, valuable commodity, or service. **2.** Anything, e.g., medical supplies, held in reserve.

Resource, Conservation, and Recovery Act ABBR: RCRA. An act passed in 1976 that gave the Environmental Protection Agency the authority to control hazardous waste disposal, including the disposal of infectious and radioactive medical waste products.

resource allocation **1.** The management of economic and administrative reserves by choosing from among competing claims for assets and services. **2.** Health care rationing.

resource-based relative value scale ABBR: RBRVS. A measuring tool developed to increase payment to nonsurgeons for cognitive services (i.e., evaluation and management of patients). The scale is based on the total work required for a given service and on other considerations, including the cost of the physician's practice, the income lost during training, and the relative cost of liability insurance. This method of calculating medical care services was implemented by law in January 1992. SEE: *managed care; managed competition*.

resource depletion The dissipation of assets or reserves, esp. (in health care and the environment) those that affect public health.

respirable (rē-spīr'ā-bl, rēs'pēr-ā-bl) [L. *respirare*, breathe again] Fit or adapted for respiration.

respiration (rēs-pīr-ā'shūn) [L. *respiratio*, breathing] **1.** The interchange of gases between an organism and the medium in which it lives. **2.** The act of breathing (i.e., inhaling and exhaling) during which the lungs are provided with air through inhaling and the carbon dioxide is removed through exhaling. Normal respiratory exchange of oxygen and carbon dioxide in the lungs is impossible unless the pulmonary tissue is adequately perfused with blood. SEE: *diaphragm* for ill; *lung; ventilation*.

abdominal r. Respiration in which chiefly the diaphragm exerts itself while the chest wall muscles are nearly at rest; used in normal, quiet breathing—and in pathological conditions such as pleurisy, pericarditis, and rib fracture. SYN: *diaphragmatic respiration*.

absent r. Respiration in which respiratory sounds are suppressed.

accelerated r. Respiration occurring at a faster rate than normal, considered accelerated when it exceeds 25 per minute in adults. Increased frequency may result from exercise, physical exertion, excitement, fear, exposure to high altitudes, and many metabolic, hematological, cardiac, and pulmonary diseases.

aerobic r. Cellular respiration in which oxygen is used in the production of energy.

amphoric r. Respiration having amphoric resonance. SEE: *resonance, amphoric*.

anaerobic r. The release of energy from the reduction of metals (e.g., iron, manganese, or sulfur) by cells or organisms that do not use oxygen as their primary energy source.

apneustic r. Breathing marked by prolonged inspiration unrelieved by attempts to exhale. It is seen in patients who have had the upper part of the pons of the brain removed or damaged.

artificial r. Maintenance of respiratory movement by artificial means, such as rescue breathing, bag mask, pocket mask, automatic transport ventilator, manual transport ventilator, or a flow-restricted oxygen-powered ventilation device. SEE: *cardiopulmonary resuscitation*.

Biot's r. Biot's breathing.

Bouchut's r. SEE: *Bouchut's respiration*.

cell r. The gradual breakdown of food molecules in the presence of oxygen within cells, resulting in the formation of carbon dioxide and water and the release of energy in the forms of ATP and heat. In many intermediary reactions, substances other than oxygen act as oxidizing agents (i.e., hydrogen or electron acceptors). Reactions are catalyzed by respiratory enzymes, which include the flavoproteins, cytochromes, and other enzymes. Certain vitamins (nicotinamide, riboflavin, thiamine, pyridoxine, and pantothenic acid) are essential in the formation of components of various intracellular enzyme systems.

Cheyne-Stokes r. SEE: *Cheyne-Stokes respiration*.

cogwheel r. Interrupted r.

costal r. Respiration in which the chest cavity expands by raising the ribs.

cutaneous r. The transpiration of gases through the skin.

decreased r. Respiration at less than a normal rate for the individual's age. In adults, a respiratory rate of less than 12 breaths per minute. Slower than normal respiratory rates occur after opiate or sedative use, during sleep, in coma, and many other conditions, and may result in respiratory failure or carbon dioxide retention. SYN: *slow respiration*.

diaphragmatic r. Abdominal r.

direct r. Respiration in which an organism, such as a one-celled amoeba, secures its oxygen and gives up carbon dioxide directly to the surrounding medium.

electrophrenic r. Radiofrequency electrophrenic respiration.



external r. The exchange of gases in the lungs; oxygen diffuses from the air to the blood, and carbon dioxide diffuses from the blood to the air.

fetal r. Gas exchange in the placenta between the fetal and maternal blood. SYN: *placental respiration*.

forced r. Voluntary hyperpnea (increase in rate and depth of breathing).

internal r. The exchange of gases in body tissues; oxygen diffuses from the blood to the cells and carbon dioxide diffuses from the cells to the blood. Oxygen is carried in combination with hemoglobin. Oxyhemoglobin gives arterial blood its red color; reduced hemoglobin gives venous blood its dark red color. Most carbon dioxide is carried in the blood as bicarbonate ions; a small amount is bonded to hemoglobin. Normally the partial pressure of oxygen in the blood is 75 to 100 mm Hg, depending on age; for carbon dioxide it is 35 to 45 mm Hg. SYN: *tissue respiration*.

interrupted r. Respiration in which inspiratory or expiratory sounds are not continuous. SYN: *cogwheel respiration*.

intrauterine r. Respiration by the fetus before birth. SEE: *fetal respiration*.

Kussmaul's r. Kussmaul's breathing.

labored r. Dyspnea or difficult breathing; respiration that involves active participation of accessory inspiratory and expiratory muscles.

mitochondrial r. The stages of cell respiration (citric acid cycle and cytochrome transport system) that take place in the mitochondria. Water is formed from oxygen and hydrogen ions, and energy is released. SEE: *cell r*.

muscles of r. Any of the muscles used in breathing, including the diaphragm, the muscles of the rib cage (parasternal intercostals, scalenes, internal and external intercostals, triangularis sterni, and accessory muscles), and the abdominal muscles. SEE: *diaphragm*; *expiration*; *inspiration*.

The following accessory muscles may assist in depressing the ribs: serratus posterior inferior, quadratus lumborum.

paradoxical r. 1. Respiration occurring in patients with chest trauma and multiple rib fractures in which a portion of the chest wall sinks inward with each spontaneous inspiratory effort. 2. A condition seen in paralysis of the diaphragm in which the diaphragm ascends during inspiration.

periodic r. Periodic breathing.

placental r. Fetal r.

radiofrequency electrophrenic r. A method of stimulating respiration in cases of respiratory paralysis from spinal cord injury at the cervical level. Intermittent electrical stimuli to the phrenic nerves are supplied by a radiofrequency transmitter implanted subcutaneously. The diaphragmatic muscles contract in response to these stimuli.

slow r. Decreased respiration.

stertorous r. Respiration marked by rattling or bubbling sounds.

stridulous r. Respiration marked by high-pitched crowing or barking sound heard on inspiration, caused by an obstruction near the glottis or in the respiratory passageway.

thoracic r. Respiration performed entirely by expansion of the chest when the abdomen does not move. It is seen when the peritoneum or diaphragm is inflamed, when the abdominal cavity is restricted by tight bandages or clothes, or during abdominal surgery.

tissue r. Internal r.

vicarious r. Increased respiration in one lung when respiration in the other is lessened or abolished.

respirator (rēs'pī-rā'tor) [L. *respirare*, to breathe] 1. A mask used to protect the user from a dusty, infectious, toxic, or hypoxic atmosphere. Colloquially, a "gas mask." 2. A machine used to assist ventilation and/or oxygenation.

respiratory (rēs-pīr'ā-tō-rē, rēs'pī-rā-tō'rē) [L. *respiratio*, breathing] Pert. to respiration.

respiratory anemometer An obsolete form of respirometer formerly used in investigating pulmonary function.

respiratory apparatus Respiratory system.

respiratory center SEE: under *center*.

respiratory defense mechanisms Ciliated epithelium, mucus, immunoglobulins, and other devices present in the trachea, bronchi, and lungs, used to defend the respiratory tract against microorganisms and other inhaled particles.

respiratory distress syndrome of the preterm infant ABBR: RDS. Severe impairment of respiratory function in a preterm newborn, caused by immaturity of the lungs. This condition is rarely present in a newborn of more than 37 weeks' gestation or in one weighing at least 2.2 kg (5 lb). RDS is the leading cause of death in prematurely born infants in the U.S. SYN: *hyaline membrane disease*. SEE: *acute respiratory distress syndrome*; *preterm labor*; *Nursing Diagnoses Appendix*.

SYMPTOMS: Shortly after birth the preterm infant with RDS has a low Apgar score and obvious difficulty breathing. Tachypnea, tachycardia, re-

traction of the rib cage during inspiration, cyanosis, nasal flaring, and grunting during expiration are present. Blood gas studies reflect the impaired ventilatory function (abnormally low oxygen levels and respiratory acidosis).

TREATMENT: Preterm infants with RDS require treatment in a specially staffed and equipped neonatal intensive care unit. Therapy is supportive: humidified oxygen is supplied, the airways are ventilated, and adequate hydration and electrolytes are administered. If necessary, assisted ventilation with PEEP or CPAP is used to open alveoli. Care is taken to prevent the barotrauma: traumatic formation of pulmonary air leaks that could cause pulmonary emphysema and tension pneumothorax. Instillation of surfactant into the respiratory tract via an endotracheal tube is essential in managing RDS.

PATIENT CARE: To prevent RDS, as soon after birth as possible (preferably within 15 min), the health care professional administers neonatal lung surfactant intratracheally. The neonate's response to the medication is monitored carefully, and used to guide changes in ventilation (e.g., inspiratory pressures, tidal volume) and oxygenation.

The skin and mucous membranes are frequently inspected and lubricated with a water-soluble lubricant to prevent irritation, inflammation, and perforation.

The newborn is maintained in a thermoneutral environment to stabilize body temperature at 97.6°F (36.5°C). The newborn requires gentle and minimal handling, with assessment and care procedures separated by rest periods. Caloric intake is provided orally or by gavage feeding in quantity to prevent catabolic breakdown.

The neonate also is at risk for multiple complications, including bronchopulmonary dysplasia, intracerebral bleeding, learning disabilities, pneumomediastinum, pneumothorax, retinopathy of prematurity, and sepsis among others. His or her parents require ongoing support of family, friends, or clergy to help them deal with familial, financial, and emotional stresses imposed by the illness. The parents are encouraged to ask questions and raise concerns. The parents' presence at crib-side is encouraged to aid normal parent-infant bonding and they are shown ways to approach and be involved in the care of the infant (maintaining sterile technique) without adding to his or her stress.

respiratory failure, acute Any impairment in oxygenation or ventilation in which the arterial oxygen tension falls below 60 mm Hg, and/or the carbon di-

oxide tension rises above 50 mm Hg, and the pH drops below 7.35.

TREATMENT: In most cases, the patient will need supplemental oxygen therapy. Intubation and mechanical ventilation may be needed if the patient cannot oxygenate and ventilate adequately (i.e., if carbon dioxide retention occurs). Treatment depends on the underlying cause of the respiratory failure (e.g., bronchodilators for asthma, antibiotics for pneumonia, diuretics or vasodilators for congestive heart failure).

PATIENT CARE: Patients with acute respiratory failure are usually admitted to an acute care unit. The patient is positioned for optimal gas exchange, as well as for comfort. Supplemental oxygen is provided, but patients with chronic obstructive lung disease who retain carbon dioxide are closely monitored for adverse effects. A normothermic state is maintained to reduce the patient's oxygen demand. The patient is monitored closely for signs of respiratory arrest; lung sounds are auscultated and any deterioration in oxygen saturation immediately reported. The patient is also watched for adverse drug effects and treatment complications such as oxygen toxicity and acute respiratory distress syndrome. Vital signs are assessed frequently, and fever, tachycardia, tachypnea or bradypnea, and hypotension are reported. The electrocardiogram is monitored for arrhythmias. Serum electrolyte levels and fluid balance are monitored and steps are taken to correct and prevent imbalances. If mechanical ventilation or non-invasive support is needed, ventilator settings and inspired oxygen concentrations are adjusted based on arterial blood gas results. *SEE: ventilation.* To maintain a patent airway, the trachea is suctioned after oxygenation as necessary, and humidification is provided to help loosen and liquefy secretions. Secretions are collected as needed for culture and sensitivity testing. Sterile technique during suctioning and change of ventilator tubing helps to prevent infection. Using the minimal leak technique for endotracheal tube cuff inflation helps to prevent tracheal erosion. Positioning the nasoendotracheal tube midline within the nostril, avoiding excessive tube movement, and providing adequate support for ventilator tubing all help to prevent nasal and endotracheal tissue necrosis. Periodically loosening the securing tapes and supports prevents skin irritation and breakdown. The patient is assessed for complications of mechanical ventilation, including reduced cardiac output, pneumothorax or other barotrauma, increased pulmonary vascular resistance, diminished urine output, in-

creased intracranial pressure, and gastrointestinal bleeding.

All tests, procedures, and treatments should be explained to the patient and family to improve understanding and help reduce anxiety. Rationales for such measures should be presented, and concerns elicited and answered. If the patient is intubated (or has had a tracheostomy), the patient should be told why speech is not possible and should be taught how to use alternative methods to communicate needs, wishes, and concerns to health care staff and family members.

respiratory failure, chronic Chronic inability of the respiratory system to maintain the function of oxygenating blood and remove carbon dioxide from the lungs. Many diseases can cause chronic pulmonary insufficiency, including asthmatic airway obstruction, emphysema, chronic bronchitis, and cystic fibrosis; and chronic pulmonary interstitial tissue diseases such as sarcoidosis, pneumoconiosis, idiopathic pulmonary fibrosis, disseminated carcinoma, radiation injury, and leukemia.

PATIENT CARE: The focus of patient care is on relieving respiratory symptoms, managing hypoxia, conserving energy, and avoiding respiratory irritants and infections. The nurse, respiratory therapist, primary care physician, and pulmonologist carry out the prescribed treatment regimen and teach the patient and family to manage care at home.

Patients may require supplemental oxygen. The patient is taught how to use the equipment and the importance of maintaining an appropriate flow rate. Low flow rates (1–2 L/min) are often best for patients with chronic obstructive lung disease. Drug therapy can include inhaled bronchodilators (if bronchospasm is reversible), oral or inhaled corticosteroids, oral or inhaled sympathomimetics, inhaled mucolytic therapy, and prompt use of oral antibiotics in the presence of respiratory infection. The patient and family are taught the order and spacing for administering these drugs, as well as how to use a metered-dose inhaler (with spacer if necessary). They are taught the desired effects, serious adverse reactions to report, and minor adverse effects and how to deal with them. Patients are taught care of inhalers and other respiratory equipment and are advised to rinse the mouth after using these devices to help limit bad tastes, dryness, and *Candida* infections.

Unless otherwise restricted, the patient will benefit from increased fluid intake (to 3 L/day) to help liquefy secretions and aid in their expectoration. Deep-breathing and coughing tech-

niques are taught to promote ventilation and remove secretions. The patient also may be taught postural drainage and chest physiotherapy to help mobilize secretions and clear airways. Such therapy is to be carried out at least 1 hr before or after meals. Incentive spirometry may help to promote optimal lung expansion. A high-calorie, high-protein diet, offered as small, frequent meals, helps the patient maintain needed nutrition, while conserving energy and reducing fatigue.

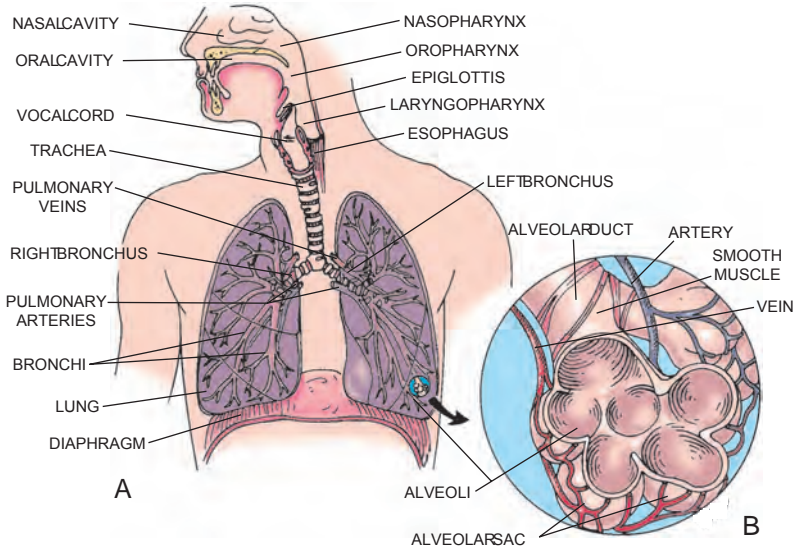
Daily activity is encouraged, alternating with rest to prevent fatigue. Patients may benefit from a planned respiratory rehabilitation program to teach breathing techniques, provide conditioning, and help increase exercise tolerance. Diversional activities also should be provided, based on the patient's interests.

The patient is assessed for changes in baseline respiratory function; restlessness, changes in breath sounds, and tachypnea may signal an exacerbation. Any changes in sputum quality or quantity are noted. The patient is taught to be aware of these changes.

Patients need help in adjusting to lifestyle changes necessitated by this chronic illness. Patients and their families are encouraged to ask questions and voice concerns; answers are provided when possible, and support is given throughout. The patient and family should be included in all care planning and related decisions. The patient also is taught to avoid air pollutants such as automobile exhaust fumes and aerosol sprays, as well as crowds and people with respiratory infections. Patients should obtain influenza immunization annually and pneumonia immunization every 6 years. The patient also may benefit from avoiding exposure to cold air and covering the nose and mouth with a scarf or mask when outdoors in cold, windy weather. Patients who smoke tobacco are advised to abstain, using nicotine replacement therapy, hypnosis, support groups, or other methods.

respiratory frequency to tidal volume ratio ABBR: f/VT. In mechanical ventilation, a measure of the speed and depth of spontaneous breathing, used to gauge a patient's dependency on life support. The higher the ratio, the less likely it is that the patient will be able to breathe without mechanical assistance.

respiratory function monitoring The use of various techniques to provide alarms that alert a patient's attendants to a change in the ability of the lungs to perform their functions. These techniques include noninvasive devices for measuring the oxygen content of the blood (e.g., pulse oximetry); methods of monitoring



RESPIRATORY SYSTEM

(A) anterior view, (B) alveoli and pulmonary capillaries

respiratory muscle function and breathing pattern; or devices for monitoring the carbon dioxide content of expired air (i.e., capnography). SEE: *apnea monitoring*.

respiratory myoclonus Leeuwenhoek's disease.

respiratory pump Those abdominal and thoracic structures that contribute to the expansion and contraction of the lungs. Movement of the chest and abdomen alters central pressures during inspiration and expiration. During inspiration decreases in intrathoracic pressure draw air into the trachea, bronchi, and lungs and blood into the vena cava and right atrium of the heart. During expiration intrathoracic pressures rise, and air is forced out of the lungs.

respiratory pump dysfunction Any disease or condition that impairs ventilation due to failure of the nerves, muscles, or skeleton of the abdomen and thorax to function properly. It may be caused by a variety of purely neurological diseases, such as the polyneuropathy that paralyzes respiration in Guillain-Barré syndrome. Alternatively it may be caused by skeletal conditions, such as multiple rib fractures or ankylosing spondylitis; by excessive adipose tissue, as in obesity/hypoventilation; or by diaphragmatic paralysis from surgical injury to the phrenic nerves.

respiratory system The organs involved in the interchange of gases between an organism and the atmosphere. In humans, this system consists of the air

passageways and organs (nasal cavities, pharynx, larynx, trachea, and lungs, including bronchi, bronchioles, alveolar ducts, and alveoli) and the respiratory muscles. SEE: *illus.*; *lung* for *illus.*

respiratory therapist A person skilled in managing the techniques and equipment used in treating those with acute and chronic respiratory diseases.

respiratory therapy Treatment to preserve or improve pulmonary function.

respiratory therapy technician A technician who routinely treats patients requiring noncritical respiratory care and who recognizes and responds to specified respiratory emergencies.

respiratory triggering In radiology, image acquisition that is synchronized to the patient's breathing, used to minimize motion artifact.

respire (rĕ-spir) To breathe and to consume oxygen and release carbon dioxide.

respirology (rĕs'pir-ol'ō-jĕ) [" + "] The study and treatment of diseases of the lungs and respiratory tract.

respirometer (rĕs'pir-om'ĕt-ēr) [L. *respirare*, to breathe, + Gr. *metron*, a measure] An instrument to ascertain the character of respirations. Several devices are available for measuring specific respiratory qualities such as minute ventilation and tidal volume. SEE: *respiratory anemometer*.

respirophasic (rĕs'pir-ō-fā'zĭk) [" + "] Varying with inspiration and expiration. Pleuritic chest pain is a respirophasic pain.

respice (rēs'pīt) Short-term, intermittent care, often for persons with chronic or debilitating conditions. One of the goals is to provide rest for family members or caregivers from the burden and stress of sustained caregiving.

respondeat superior (rē-spōn-dē-āt) [L., let the master answer] A Latin term meaning "Let the master answer." The "master," or employer, is held liable for negligent or wrongful acts of the "servant," or employee, in causing injury or damage during employed activities.

response [L. *respondere*, to reply] **1.** A reaction, such as contraction of a muscle or secretion of a gland, resulting from a stimulus. SEE: *reaction*. **2.** The sum total of an individual's reactions to specific conditions, such as the response (favorable or unfavorable) of a patient to a certain treatment or to a challenge to the immune system.

acute phase r. Acute phase reaction.

auditory evoked r. Response to auditory stimuli as determined by a method independent of the individual's subjective response. The electroencephalogram has been used to record response to sound. By measuring intensity of sound and presence of response, one can test the acuity of hearing of psychiatric patients, persons who are asleep, and children too young to cooperate in a standard hearing test.

complete r. ABBR: CR. In cancer care, the eradication by treatment of all readily identifiable tumor. A complete response differs from a cure in that microscopic amounts of tumor may remain in the patient and later produce a relapse.

conditioned r. SEE: *reflex, conditioned*.

durable r. In cancer care, a long-lasting positive reaction to tumor therapy, usually lasting at least a year.

duration of r. In cancer care, the time between an initial response to therapy and subsequent disease progression or relapse.

galvanic skin r. The measurement of the change in the electrical resistance of the skin in response to stimuli.

inflammatory r. Inflammation.

minor r. In cancer care, a reduction in tumor size by less than 50%, but more than 25%.

partial r. ABBR: PR. In cancer care, a reduction in the size of readily identifiable tumors by 50% or more.

physiological stress r. Stress r.

reticulocyte r. An increase in reticulocyte production in response to the administration of a hematinic agent.

stress r. The predictable physiological response that occurs in humans as a result of injury, surgery, shock, ischemia, or sepsis. SYN: *physiological stress response*.

This response is hormonally mediated and is divided into three distinct phases:

Ebb phase (lag phase): For 12 to 36 hr after the precipitating event, the body attempts to conserve its resources. Vital signs (heart, respiration, temperature) are less than normal. **Flow phase (hypermetabolic phase):** This stage peaks in 3 to 4 days and lasts 9 to 14 days, depending on the extent of the injury or infection and the person's physical and nutritional status. Carbohydrate, protein, and fat are mobilized from tissue stores and catabolized to meet the energy needs of an increased metabolic rate (hypermetabolism). Serum levels of glucose and electrolytes such as potassium can increase dramatically. If this stage is not controlled by removal of the cause or activator, multiple system organ failure or death can result. **Anabolic phase (recovery):** The anabolic, or healing, phase occurs as the catabolism declines, and electrolyte balances are restored. Often, aggressive nutritional support is necessary to promote a positive nitrogen balance.

triple r. The three phases of vasomotor reactions that occur when a sharp object is drawn across the skin. In order of appearance, these are red reaction, flare or spreading flush, and wheal.

unconditioned r. An inherent response rather than one that is learned. SEE: *reflex, conditioned*.

responsibility (rē-spōn'sī-bī'li-tē) **1.** Accountability. **2.** Trustworthiness.

responsible party The individual whose actions or inactions caused injury, harm, or damage to something or someone.

rest (rĕst) [AS. *raest*] **1.** Repose of the body caused by sleep. **2.** Freedom from activity, as of mind or body. **3.** To lie down; to cease voluntary motion. **4.** A remnant of embryonic tissue that persists in the adult.

restenosis (rĕ'stĕ-nō'sis) [L. *re*, again, + Gr. *stenos*, narrow] The recurrence of a stenotic condition as in a heart valve or vessel.

restiform (rĕs'tī-form) [L. *restis*, rope, + *forma*, shape] Ropelike; rope-shaped.

restiform body One of the inferior cerebellar peduncles of the brain, found along the lateral border of the fourth ventricle. These two bands of fibers, principally ascending, connect the medulla oblongata with the cerebellum.

resting Inactive, motionless, at rest.

resting cell **1.** A cell not in the process of dividing. SEE: *interphase*. **2.** A cell that is not performing its normal function (i.e., a nerve cell that is not conducting an impulse or a muscle cell that is not contracting).

restitutio ad integrum (rĕs'tī-tū'shĕ-ō ād

in-tě'grüm) [L.] Complete restoration to health.

restitution (rěs"tī-tū'shūn) [*L. restitutio*]

1. The return to a former status. 2. The act of making amends. 3. The turning of a fetal head to the right or left after it has completely emerged through the vagina.

restless legs syndrome A condition of unknown cause marked by an intolerable creeping sensation or itching in the lower extremities and causing an almost irresistible urge to move the legs. The symptoms are worse at the end of the day when the patient is seated or in bed and may produce insomnia.

TREATMENT: Treatments include levodopa/carbidopa, benzodiazepines, ropirinoles, and tricyclic antidepressants. **SYN:** *nocturnal myoclonus*.

restoration (rěs"tō-rā'shūn) [*L. restaurare, to fix*] 1. The return of something to its previous state. 2. In dentistry, any treatment, material, or device that restores a tooth surface, or replaces a tooth or all of the teeth and adjacent tissues.

temporary r. A temporary dental filling, bridge, crown or retainer, made, e.g., from zinc oxide, stainless steel, aluminum, resin, or cements. Temporary restorations are designed to last from days to years after placement.

tissue r. Biologically compatible materials used to replace missing body parts or to provide a scaffolding into which cells may grow and regenerate themselves.

vocal r. The technology used to improve speech in a patient who has had a laryngectomy.

restorative (rī-stor'ă-tív) [*L. restaurare, to fix*] 1. Pert. to restoration. 2. An agent that is effective in the regaining of health and strength.

restraint (rī-strānt') [O.Fr. *restrainte*]

1. The process of refraining from any action, mental or physical. 2. The condition of being hindered. 3. In medicine, the use of major tranquilizers or physical means to prevent patients from harming themselves or others.

The Food and Drug Administration, which regulates medical devices, has defined restraint as "a device, usually a wristlet, anklet, or other type of strap intended for medical purposes and that limits a patient's movements to the extent necessary for treatment, examination, or protection of the patient." Protective devices include safety vests, hand mitts, lap and wheelchair belts, body holders, straitjackets, and protection nets.

Restraints should be fitted properly (i.e., neither too loose nor too tight). They should be applied in a manner that will protect the patient from accidental self-injury, such as strangling or

smothering themselves by slipping down in a bed, wheelchair, or chair.

Caregivers are legally and ethically responsible for the safety and well-being of patients in their care; however, when patient protection or achieving the therapeutic goal appears to require physical or pharmacological restraint, health care providers must consider that such action limits the patient's legal rights to autonomy and self-determination. Decisions to institute physical or pharmacological restraint must be based on a clear, identifiable, documented need for their use (i.e., that protecting the patient from harm or achievement of the therapeutic goals cannot be met in any other manner).

With many patients, effective alternatives to physical restraint include providing companionship and close supervision of activities; explaining procedures to reduce anxiety; when possible, removing indwelling tubes, drains, and catheters to reduce discomfort and the potential for displacement; providing good lighting, ensuring that pathways are clear, and that furniture is adequately secured to minimize potential environmental hazards; maintaining beds in low position and using bed alarm systems that signal if the patient's body is not in contact with the mattress; using an alarm system when the patient is in a chair or wheelchair; ensuring that the call button is easily accessible to facilitate patient requests for assistance with ambulation; reducing unwelcome distractions (e.g., background noise) and enabling patient access to diversions such as music and video movies to encourage relaxation; and encouraging ambulation and exercise to meet patient needs for mobility.



Informed consent must be obtained from the patient or guardian prior to use of restraints. Restraints should not be used without a specific order from the treating health care provider. Almost any type of restraint has the potential for harming the patient; thus it is extremely important to monitor use and be certain that it is applied correctly and removed periodically.

PATIENT CARE: The nurse records and reports patient behaviors that demonstrate a need for restraint to ensure safety and achievement of therapeutic goals; describes nursing actions designed to achieve care objectives without resort to restraint and their effects; suggests the minimum amount of restraint required to achieve the objectives of care (i.e., restriction of mobility only to the degree necessary); secures or reviews practitioner orders for specific

types of restraints; validates informed consent; explains the use of the specific type of restraint to the patient and family members as a "reminder" needed for protection; and encourages verbalization of feelings and concerns and provides emotional support.

The nurse follows these general guidelines for application of restraints: the device that is most appropriate for the purpose is selected (e.g., padded mitts protect against patient removal of intravenous or other invasive tubing by limiting the ability to manipulate equipment with fingers but do not elicit the restlessness and frustration that occurs when the hands are tied down with wrist restraints). The status of tissues is assessed and documented before application. Bony prominences that will be in contact with the restraining devices are padded before application of such restraints. Restraints are applied to maintain a comfortable normal anatomic position, and mobility is limited only as much as is necessary to protect the patient (i.e., the nurse may change the position without defeating the objectives of the restraint). The nurse anchors restraint devices securely and ensures that they do not interfere with blood flow to the limbs or trunk; ensures that the restraints can be released quickly in the event of emergency; documents application and evaluation of current status; assesses and records the effects of the restraint on patient behavior and on the neurovascular status distal to the site of the restraint at frequent intervals (e.g., every 30 min); reports signs of increased agitation promptly; releases restraints (one at a time if the patient is unreliable or combative) and allows or provides range-of-motion exercises two to four times each shift; and evaluates the need for continuing restraint at least once each shift, discontinuing the devices as soon as the patient's status permits.

r. in bed The therapeutic use of physical means to prevent limb or body motion in bed. Siderails are placed on the bed full or half-length to prevent a patient from falling out of bed. Beds are maintained in low position to limit falls and injuries. A mattress alarm system may be used to alert nursing personnel if a patient's body is not contacting the mattress or a foot pad alarmed to sound if the patient attempts to stand.

PATIENT CARE: The nurse follows general guidelines for restraint application. The nurse never ties restraints to bed siderails; rather, the restraints are anchored to a part of the bed that moves when the head is lowered or elevated; the nurse uses a clove hitch to secure restraints so they will not tighten if tension is applied and so that they can

be released rapidly if an emergency arises. A simple body restraint can be made by folding a sheet lengthwise to a 1-ft width. This restraint is placed under the patient's back and crossed in front below the armpits. The ends are secured to the side bar of the bed. This prevents some freedom in side-to-side movement.

clove hitch r. A device used to restrain a person's arm or leg. Gauze or other soft material is placed on a flat surface in a figure eight configuration. The loops are then lifted from the underside and the tops brought together. The extremity is placed through both loops at once and the loose ends of the material are tied to an immobile surface. It is important to check circulation regularly in any extremity restrained by this device.

r. of lower extremities The use of physical means to restrict movement of the legs and feet. A sheet is tied across the knees and the feet are tied together with a figure-of-eight bandage. The correct method is to start the loop under the ankles, cross it between the feet, bring the ends around the feet, and tie them on top.



The restraint should not interfere with blood circulation to an extremity and should be padded to prevent soft tissue injury.

mechanical r. Restraint by physical devices.

medicinal r. Anxiolytics, sedatives, or tranquilizers used to subdue combative or violent patients.

restrictive lung disease Any chest disease that results in reduced lung volumes.

resurfacing (rē-sūr'fā-sīng) Repair of damaged body surfaces, such as articular cartilage or skin. In cosmetic surgery, resurfacing of the skin may involve dermabrasion, chemical peels, cutaneous lasers, and other techniques.

laser r. of skin Use of laser treatments to repair wrinkled or photoaged skin for aesthetic purposes. Carbon dioxide and other lasers are used to remove the damaged dermis and repair underlying connective tissues. Whether these treatments have long-term adverse effects is unknown.

radiofrequency r. The treatment of wrinkles, scars, sun damage, and other minor cosmetic skin defects with radiofrequency energy. This method disintegrates tissues without the heat produced by laser resurfacing.

Resusci Anne (rē-sūs'ē) A mannikin used in cardiopulmonary resuscitation training.

resuscitation (rī-sūs'ī-tā'shūn) [L. *resuscitatio*] Revival after apparent

death; also called *anabiosis*. SEE: *cardiopulmonary r.*

active compression decompression cardiopulmonary r. SEE: *active compression decompression cardiopulmonary resuscitation.*

cardiopulmonary r. ABBR: CPR. Basic life support. In emergency cardiac care, CPR involves opening the airway, providing artificial breathing, and assisting circulation until definitive treatments can restore spontaneous cardiac, pulmonary, and cerebral function. When trained providers are available, CPR includes defibrillation with automated external defibrillators. In the U.S., the American Heart Association (AHA) develops and disseminates standard techniques for emergency cardiac care.

The first step in CPR is making certain that an unarousable patient is in need of cardiopulmonary support and not merely asleep or unconscious. If the patient does not respond to a loud voice or a gentle shake, the most important role for the rescuer is to call for skilled assistance, because the likelihood of a successful resuscitation usually depends on the speed with which the patient can be defibrillated.

Before the defibrillator arrives, the rescuer can position the patient and begin rescue breathing. The patient should be placed supine on a firm, flat surface, with care taken to protect his or her cervical spine if traumatic injury is suspected. Kneeling at the level of the patient's shoulder, the rescuer should open the patient's *airway*, either with the jaw-thrust or the head-tilt chin-lift technique. If foreign bodies are present in the airway, they must be removed; dentures are also removed if they interfere with resuscitation. Next *breathing* is assessed by listening for breath sounds at the nose and lips and watching for the rise and fall of the chest. If these signs are not present, the patient is apneic, and rescue breathing must begin.

Rescue breathing can be performed with mouth-to-mouth technique or through a mask with a one-way valve, if one is available. Two deep, slow positive-pressure breaths are given to the patient; the duration of each depends on the patient's age. If supplied breaths meet obvious resistance, an attempt should be made again to reopen the airway, and if this is ineffective, to clear the airway with the Heimlich maneuver in children and adults. Infants should receive chest thrusts and blows to the back instead of the Heimlich maneuver.

After the first two breaths, the American Heart Association formerly suggested checking the victim for a pulse. In guidelines revised in 2000, the pulse

check was eliminated. If the patient is not breathing on his own, rescue breathing continues. If there is no pulse, external chest compression begins and continues, with periodically interposed ventilations, until a defibrillator arrives or the patient revives. The precise number of ventilations and chest compressions per minute depend on the patient's age and the number of rescuers. For a single rescuer caring for an adult patient, two breaths are given for every 15 chest compressions. According to the AHA, for resuscitation purposes, infants are up to a year old, children are from 1 to 8 years old, and adults are over the age of 8.

Compressions are given to adults (the most common victims of cardiac arrest) at the center of the sternum between the nipples, using the heel of one hand below the other hand; the fingers of the two hands are interlaced for support and to minimize the possibility of fracturing the ribs. The elbows of the rescuer should be locked and straight, and the direction of compression should be exactly perpendicular to the patient's chest.

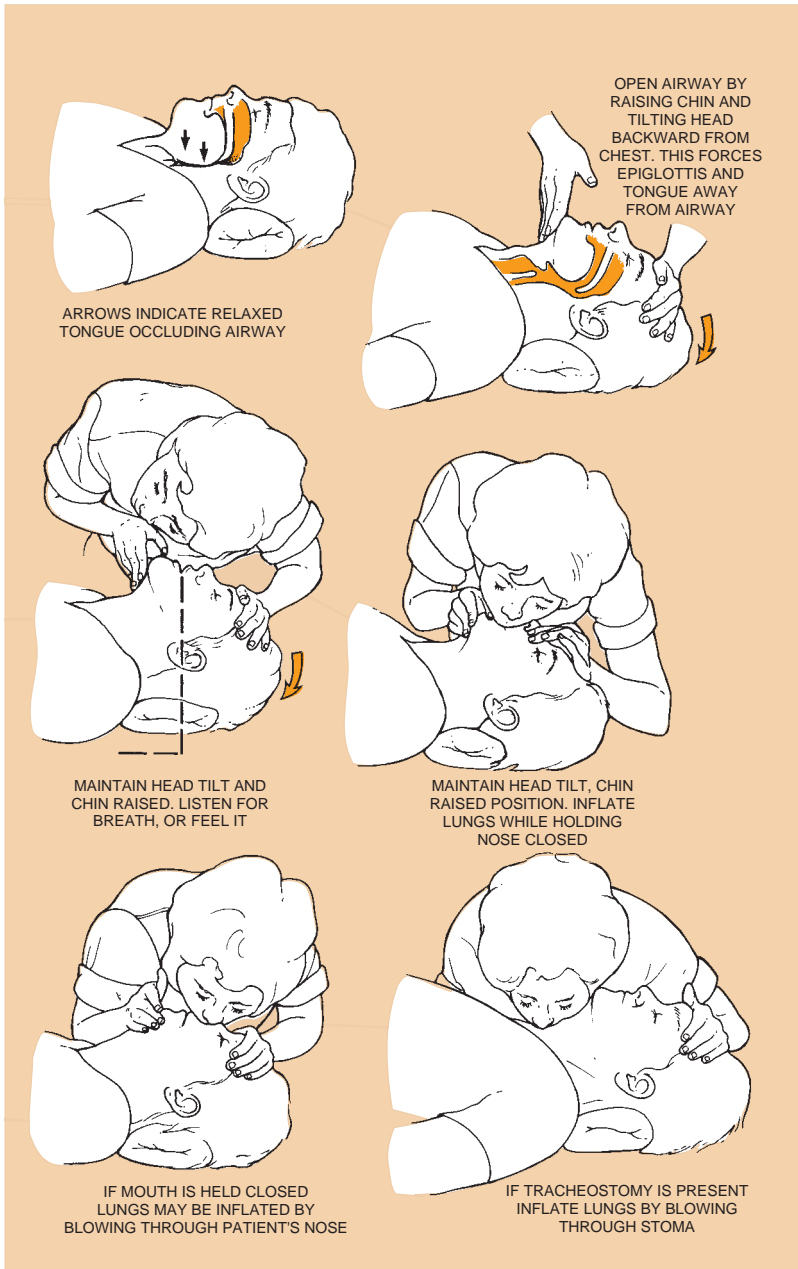
The chest is depressed 1.5 to 2.0 in for a normal-sized adult. For a child, the chest is depressed 1.0 to 1.5 in; for an infant, 0.5 to 1.0 in. The chest should return to its normally inflated position after each compression.

When professional rescuers arrive, the patient should be defibrillated immediately. If a defibrillator is not available, two-person CPR continues; the two rescuers alternate in giving rescue breaths and chest compressions to minimize rescuer fatigue. Ventilation and chest compressions are held for 5 sec at the end of the first minute, and every few minutes thereafter to determine whether the patient has responded. SEE: *illus.; advanced cardiac life support; defibrillation; emergency cardiac care; Standard and Universal Precautions Appendix.*

cerebral r. The restoration of a patient's normal neurological function due to effective revival from cardiopulmonary arrest.

goal-directed r. Making precise adjustments in a septic patient's hemodynamics, oxygenation, and volume status in an attempt to optimize his or her chances of survival.

mouth-to-mouth r. Providing respiratory gases, consisting of approximately 16% oxygen, to a patient in respiratory or cardiopulmonary arrest by exhaling directly into the open mouth of the unconscious victim. Because of potential infectious disease exposure, this technique is used only when a pocket mask or other barrier device is not immediately available. SEE: *artificial res-*

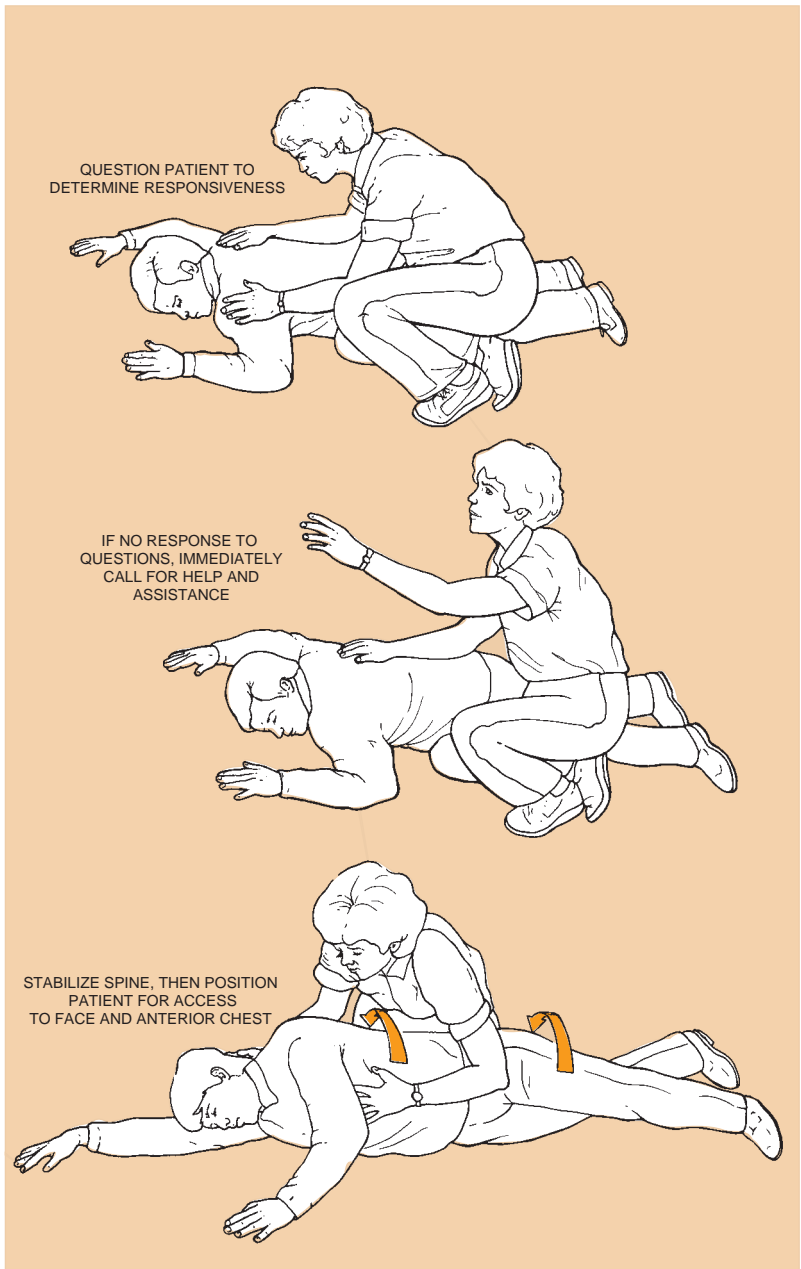


CARDIOPULMONARY RESUSCITATION

piration; cardiopulmonary resuscitation.

neonatal r. The prevention of death or injury to newborn infants with techniques to support the newborn's airway,

breathing, circulation, and body temperature. In the U.S. about 1% of all newborns require intensive resuscitative efforts in the period immediately after birth. The majority are infants born

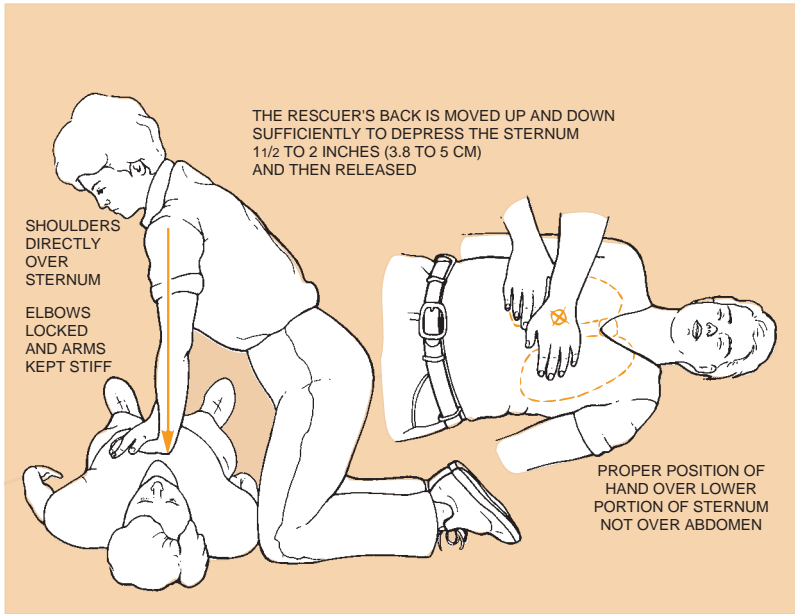


INITIAL APPROACH TO PATIENT WHO MAY NEED CARDIOPULMONARY RESUSCITATION

preterm (before 37 weeks' gestation). Failure to recognize and treat emergencies in the neonatal period may result in inadequate oxygen delivery to the brain, heart, lungs, and other organs. Sei-

zures, cognitive impairment, encephalopathy, or cerebral palsy may result from delayed recognition of asphyxia in the neonatal period.

PATIENT CARE: The cornerstone of



EXTERNAL CHEST COMPRESSION

neonatal resuscitation is the prompt recognition of the newborn who is failing to breathe and perfuse organs effectively. Immediately after birth, the newborn should be dried, gently suctioned, and assessed for 1. adequate respiratory effort (versus apnea); 2. a heart rate above 100 beats/min; 3. good muscle tone (as opposed to flaccidity); 4. skin color that indicates effective cardiac output (rather than cyanosis); 5. evidence of full-term versus pre-term birth.

The neonate who lacks some of these findings should be professionally managed, with warming, gentle stimulation (e.g., its back may be rubbed gently with a towel to stimulate effective breathing) and airway suctioning. When apnea, hypothermia, respiratory distress, bradycardia, or poor skin perfusion is evident, evidenced-based interventions (e.g., those recommended by the Neonatal Resuscitation Program of the American Academy of Pediatrics and the American Heart Association) should be begun immediately.

Positive-pressure ventilation (PPV), with breaths supplied via a bag mask device, effectively resuscitates most infants at risk for neonatal asphyxia. Those who have meconium in the upper airways (a clue is meconium staining of the amniotic fluid), as well as inadequate breathing, slow heart rate, and poor muscle tone, require endotracheal

intubation and suctioning, preferably by an experienced practitioner.

Most neonates respond favorably to airway and ventilatory management, breathe spontaneously, and maintain a heart rate above 100 beats/min. Chest compressions should be initiated only if the heart rate remains below 60 beats/min despite 30 sec of PPV with 100% oxygen. Chest compressions should cease when the heart rate is above 60 beats/min, but PPV should be continued until the heart rate is above 100 beats/min and the newborn has begun to breathe on his or her own. PPV should always accompany chest compressions and be coordinated so that a breath is provided after every third compression. After 30 sec of PPV and chest compressions, the compressions should be stopped and the heart rate evaluated while PPV is continued. If there is no palpable pulse at the base of the umbilical cord, PPV should be stopped and the chest auscultated to determine the heart rate.

Chest compressions are most effective when the sternum is depressed to a depth equal to one third of the antero-posterior chest diameter of the newborn. The preferred technique is to use the thumbs to depress the sternum, with the hands encircling the newborn's thorax. An alternative is to perform compressions with two fingers on the same hand, so that the umbilical vein

can be cannulated by another resuscitator. Ninety compressions a minute should be coordinated with 30 positive-pressure breaths, with care taken to avoid simultaneous compressions and ventilations.

Access to the circulation can be gained through the umbilical vein or intraosseously (into the tibia). Normal saline or lactated Ringer's solution is the preferred fluid. Narcotic antidotes should be given to reverse any depression in respiratory or neurological status from maternal narcotic overdose. Inotropes such as epinephrine should be used when ventilation and chest compressions do not revive the dying infant.

In prolonged resuscitations, blood gases should be drawn to help guide additional therapies.

Resuscitative interventions that have not proved to be helpful include the use of high-dose epinephrine, the induction of cerebral hypothermia, and the use of carbon dioxide detectors on the endotracheal tube.

Resuscitation should not be initiated for children born with severe anomalies incompatible with life (e.g., anencephaly, trisomy 13 or 18, or birth weights of less than 400 g). Resuscitative efforts that do not resolve apnea and pulselessness after more than 10 min are rarely successful in newborns. In these tragic circumstances, efforts may be discontinued.

oral r. SEE: *artificial respiration*.

resuscitator (ri-sūs 'i-tā'tor) [L. *resuscitare*, to revive] A breathing-assist device used to oxygenate and ventilate a patient who can no longer breathe spontaneously. Most resuscitators are portable and capable of delivering high concentrations of oxygen.

manual r. A hand-held mask with an attached self-inflating bag, that permits air to be forced into the lungs each time it is squeezed. Manual resuscitators can be difficult to use properly; complications can arise if the mask does not seal the patient's face properly; excessive pressure is used during ventilation; inadequate supplemental oxygen is provided; or the rate or volume of ventilations is excessive or insufficient to inflate the lungs and remove carbon dioxide.

resveratrol (rēs-vēr'ā-trōl) A plant-derived polyphenol that is structurally related to diethylstilbestrol. It is found in grapes and wine, and is believed to have antioxidant effects.

resynchronization therapy (rē-sīnk'rūn-ī-zā'shīn) The use of left and right ventricular pacemaking in patients with congestive heart failure and bundle branch block to restore the normal timing of ventricular depolarization. Re-

synchronization reduces symptoms of heart failure.

ret (rēt) *roentgen equivalent therapy*. It is analogous to rem, used in describing radiation protection or exposure.

retainer (ri-tān'ēr) **1.** Any device or attachment for keeping something in place. **2.** In dentistry, a fixed or removable appliance used in orthodontia for maintaining the teeth and jaws in position.

retardate (rī-tār'dāt) [L. *retardare*, to delay] One who is mentally retarded.

retardation (rē'tār-dā'shūn) [L. *retardare*, to delay] **1.** A holding back or slowing down; a delay. **2.** Delayed mental or physical response resulting from pathological conditions. SEE: *mental retardation*.

retarded ejaculation The inability of a male to achieve orgasm despite sexual arousal and stimulation, often after 30 min of sexual activity.

retarder (rē-tār'dēr) A biomaterial used in dentistry to slow the rate at which impression materials gel, set, or polymerize.

retch (rēch) [AS. *hraecan*, to cough up phlegm] To make an involuntary attempt to vomit.

retching (rēch'ing) Intense rhythmic contraction of the respiratory and abdominal muscles that may precede or accompany vomiting.

rete (rē'tē) *pl.* **retia** [L.] A network; a plexus of nerves or blood vessels.

arterial r. A vascular arterial network just before the point where arteries become capillaries. SEE: *arterial*.

r. cutaneum A network of blood vessels at the junction of the dermis and superficial fascia.

malpighian r. Stratum germinativum.

r. mirabile A plexus formed by the abrupt division of a vessel into capillaries that reunite to form one vessel, as in the glomeruli of the kidneys.

r. ovarii A layer of cells in the broad ligament and mesovarium of the ovary. It is homologous to rete testes in men.

r. subpapillare A network of vessels between the papillary and reticular layers of the dermis.

r. testis A network of tubules in the mediastinum testis that receives sperm through the tubuli recti from the seminiferous tubules. From the rete testis, efferent ducts convey sperm to the epididymis.

r. venosum Venous network.

vertebral r. One of two plexuses within the vertebral canal that extends from the foramen magnum to the coccyx. These retia lie posteriorly and laterally to the dura and between the dura and the arches of the vertebrae.

retention (ri-tēn'shūn) [L. *retentio*, a holding back] **1.** The act or process of

keeping in possession or of holding in place. **2.** The persistent keeping within the body of materials normally excreted, such as urine, feces, or perspiration. **3.** In dentistry, any of several procedures or materials used to keep a dental device or dentures in place. **4.** Memory or recall. **5.** Heavy sutures used to reinforce wound closures.

urinary r. SEE: *urinary retention*.

retention defect The inability to recall a name, number, or fact shortly after being requested to remember it.

retention with overflow A spasm of the urinary sphincter, causing failure to empty the bladder at one voiding, with only overflow dribbling away. It results from the same causes as urinary retention.

reteplase (rĕ'tĕ-plāz) A thrombolytic drug used to treat acute myocardial infarction.

rete ridge (rĕ'tĕ) One of the downgrowths of epithelium surrounding the connective tissue papillae in the irregular internal surface of the epidermis. Microscopic sections often appear as single downgrowths when in fact the epithelium is in a series of interconnecting ridges at the dermis-epidermis interface. SYN: *peg, rete*.

retia (rĕ'tĕ-ā) [L.] Pl. of rete.

retial (rĕ'tĕ-āl) Pert. to a rete.

reticula (rĕ-tĭk'ū-lā) [L.] Pl. of reticulum.

reticular (rĭ-tĭk'ū-lār) [L. *reticula*, net] Meshed; in the form of a network. SYN: *retiform*.

reticular activating system ABBR: RAS. The alerting system of the brain consisting of the reticular formation, subthalamus, hypothalamus, and medial thalamus. It extends from the central core of the brainstem to all parts of the cerebral cortex. This system is essential in initiating and maintaining wakefulness and introspection and in directing attention. Sedative and tranquilizing drugs may depress the RAS temporarily; some strokes may permanently injure it.

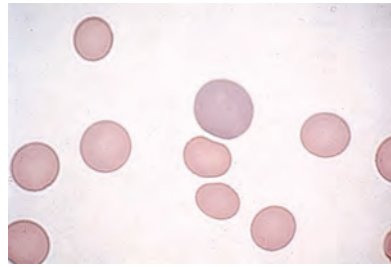
reticular fiber One of the extremely fine argyrophilic (silver-staining) fibers found in reticular tissue.

reticulation (rĕ-tĭk'ū-lā'shŭn) The formation of a network mass.

reticulin (rĕ-tĭk'ū-lĭn) [L. *reticula*, net] An albuminoid or scleroprotein in the connective tissue framework of reticular tissue.

reticulo- Combining form meaning *network*.

reticulocyte (rĕ-tĭk'ū-lō-sĭt) [r + Gr. *kytos*, cell] The last immature stage of a red blood cell. Its darkly staining granules are fragments of the endoplasmic reticulum. Reticulocytes normally constitute about 1% of the circulating red blood cells. SEE: *illus*.



RETICULOCYTE

reticulocyte hemoglobin content The amount of hemoglobin in newly circulating red blood cells. It is an early indicator of functional iron deficiency. SEE: *functional iron deficiency*.

reticulocytopenia (rĕ-tĭk'ū-lō-sĭ'tō-pĕ'nĕ-ā) [r + " + *penia*, poverty] A decreased number of the reticulocytes of the blood. SYN: *reticulopenia*.

reticulocytosis (rĕ-tĭk'ū-lō-sĭ'tō'sĭs) [r + " + *osis*, condition] An increased number of reticulocytes in the circulating blood. This condition indicates active erythropoiesis in the red bone marrow and the need for greater oxygen-carrying capacity of the blood. It occurs after hemorrhage, during acclimatization to high altitude, during any pulmonary disorder that induces hypoxia, and in all types of anemia.

reticuloendothelial (rĕ-tĭk'ū-lō-ĕn'dō-thĕ'lĕ-āl) [r + Gr. *endon*, within, + *thele*, nipple] Pert. to the reticuloendothelial system, which is the old name for the mononuclear phagocytic system.

reticuloendothelial system ABBR: RES. Old name for the system of monocytes, macrophages, and dendritic phagocytes and antigen-presenting cells found in the blood and lymphoid tissues. This system is now called the mononuclear phagocytic system. SEE: *macrophage*.

reticuloendothelioma (rĕ-tĭk'ū-lō-ĕn'dō-thĕ-lĕ-ō'mā) [r + " + " + *oma*, tumor] A neoplasm composed of cells of the mononuclear phagocytic system.

reticuloendotheliosis (rĕ-tĭk'ū-lō-ĕn'dō-thĕ-lĕ-ō'sĭs) [r + " + *thele*, nipple, + *osis*, condition] Hyperplasia of reticuloendothelium.

reticuloendothelium (rĕ-tĭk'ū-lō-ĕn'dō-thĕ'lĕ-ūm) The tissue of the reticuloendothelial system, which is the old name for the mononuclear phagocytic system.

reticulohistiocytoma (rĕ-tĭk'ū-lō-hĭs'tĕ-ō-sĭ-tō'mā) [L. *reticula*, net, + Gr. *histon*, little web, + *kytos*, cell, + *oma*, tumor] A malignant connective tissue tumor composed of multinucleated giant cells in the skin, mucous membranes, or synovium.

reticulohistiocytosis (rĕ-tĭk'ū-lō-hĭs'tĕ-ō-sĭ-tō'sĭs) [r + " + " + *osis*, condition] Reticuloendotheliosis.

reticuloid (rĕ-tĭk'ū-loyd) [r + Gr. *eidōs*, form, shape] Resembling reticulosis.

reticuloma (rĕ-tĭk'ū-lō'mā) [r + Gr. *ōma*, tumor] A neoplasm composed of cells of the mononuclear phagocytic system.

reticulopenia (rĕ-tĭk'ū-lō-pĕ'nĕ-ā) [r + Gr. *penia*, lack] Reticulocytopenia.

reticulopodium (rĕ-tĭk'ū-lō-pō'dē-ūm) A branching pseudopod.

reticulosarcoma (rĕ-tĭk'ū-lō-sār-kō'mā) [r + Gr. *sarx*, flesh, + *ōma*, tumor] A neoplasm composed of large monocyctic cells that originated in the mononuclear phagocyte of the lymph and other glands.

reticulosis (rĕ-tĭk'ū-lō'sīs) [r + Gr. *ōsis*, condition] Reticulocytosis.

histiocytic medullary r. A form of malignant histiocytosis marked by anemia; granulocytopenia; enlargement of the spleen, liver, and lymph nodes; and phagocytosis of red blood cells.

reticulum (rĕ-tĭk'ū-lūm) *pl.* **reticula** [L., a little net] A network. **reticulate**, **reticulated** (-lāt, -lāt'ĕd), *adj.*

endoplasmic r. ABBR: ER. A cell organelle that is a complex network of membranous tubules in the cytoplasm between the nuclear and cell membranes; it is visible only with an electron microscope. One form with ribosomes attached is called *granular* or *rough ER*; another form that is free of ribosomes is called *agranular* or *smooth ER*. Rough ER transports proteins produced on the ribosomes; smooth ER synthesizes lipids. SEE: *cell* for *illus.*

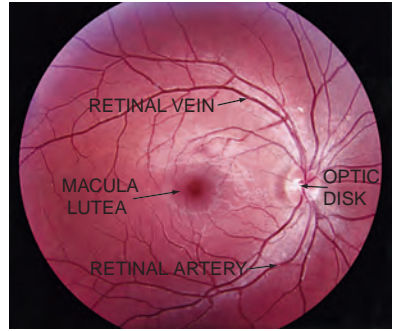
r. of nucleus The netlike contents of a nondividing nucleus of a cell; the chromatin, the long, uncoiled chromosomes.

sarcoplasmic r. The endoplasmic reticulum of striated muscle cells, surrounding the sarcomeres. In response to an action potential, it releases calcium ions to induce contraction, then reabsorbs calcium ions to induce relaxation.

stellate r. The enamel pulp of a developing tooth, consisting of stellate cells lying between the inner and outer epithelial layers of the enamel organ.

retina (rĕt'ī-nā) *pl.* **retinae** [L.] The innermost layer of the eye, which receives images transmitted through the lens and contains the receptors for vision, the rods and cones. SEE: *illus. (Retina of Right Eye)*. **retinal** (-nāl), *adj.*

The retina is a light-sensitive membrane on which light rays are focused. It extends from the entrance point of the optic nerve anteriorly to the margin of the pupil, completely lining the interior of the eye. It consists of three parts. The pars optica, the nervous or sensory portion, extends from the optic disk forward to the ora serrata, a wavy line immediately behind the ciliary process; the pars ciliaris lines the inner surface of the ciliary process; and the pars iri-



RETINA OF THE RIGHT EYE

dica forms the posterior surface of the iris. Slightly lateral to the posterior pole of the eye is a small, oval, yellowish spot, the macula lutea, in the center of which is a depression, the fovea centralis. This region contains only cones and is the region of the most acute vision. About 3.5 mm nasally from the fovea is the optic papilla (optic disk), where nerve fibers from the retina make their exit and form the optic nerve. This region is devoid of rods and cones and is insensitive to light; hence it is named the blind spot.

The layers of the retina, in the order light strikes them, are the optic nerve fiber layer, ganglion cell layer, inner synaptic layer, bipolar cell layer, outer synaptic layer, layer of rods and cones, and pigment epithelium. SEE: *illus. (Retina)*.

COLOR: The retina is normally red, reflecting blood flow, and is pale in anemia or ischemia.

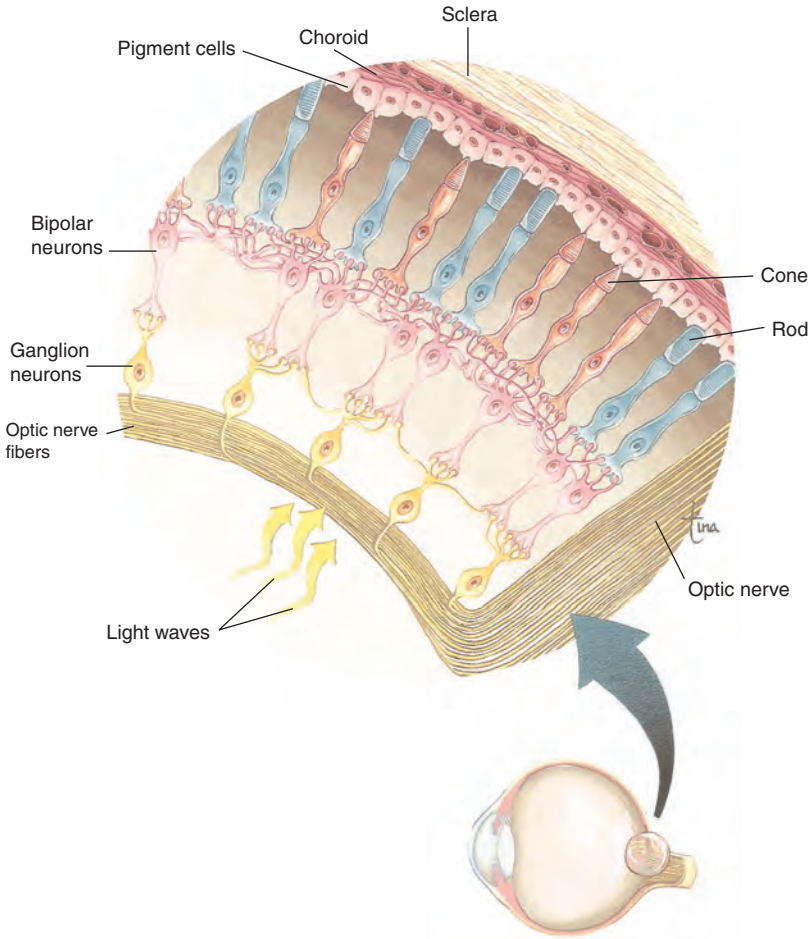
VESSELS: The arteries are branches of a single central artery, which is a branch of the ophthalmic artery. The central artery enters at the center of the optic papilla and supplies the inner layers of the retina. The outer layers, including rods and cones, are nourished by capillaries of the choroid layer. The veins lack muscular coats. They parallel the arteries; blood leaves by a central vein that leads to the superior ophthalmic vein.

coarctate r. A condition in which there is an effusion of fluid between the retina and choroid, giving the retina a funnel shape.

shot-silk r. A retina having an opalescent appearance, sometimes seen in young persons.

tigroid r. A retina having a spotted or striped appearance, seen in retinitis pigmentosa.

retinaculum (rĕt'ī-nāk'ū-lūm) *pl.* **retinacula** [L., halter] A band or membrane holding any organ or part in its place. Thickenings of the deep fascia in



RETINA

Microscopic structure of optic disk area

distal portions of limbs that hold tendons in position when muscles contract are called retinaculum tendinum.

r. cutis A fibrous band connecting the corium with underlying fascia.

extensor r. of ankle **1.** The superior extensor retinaculum, a band crossing the extensor tendons of the foot and attached to the lower portion of the tibia and fibula. **2.** The inferior extensor retinaculum, a band located on the dorsum of the foot. It consists of two limbs having a common origin on the lateral surface of the calcaneus. The upper limb is attached to the medial malleolus; the lower limb curves around the instep and is attached to the fascia of the abductor hallucis on the medial side of the foot.

extensor r. of wrist An oblique band attached medially to the styloid process

of the ulna, the hamate bone, and the medial ligament of the wrist joint. Laterally it is attached to the anterior border of the radius. It contains six separate compartments for passage of the extensor tendons to the hand.

flexor r. of ankle The retinaculum extending from the medial malleolus to the medial tubercle of the calcaneus.

flexor r. of hand The fascial band that holds down the flexor tendons of the digits.

flexor r. of wrist The retinaculum extending from the trapezium and scaphoid bones laterally to the hamate and pisiform bones medially.

r. of hip joint Any of three flat bands lying along the neck of the femur and continuous with the capsule of the hip joint.

r. mammae Strands of connective tissue in the mammary gland extending from glandular tissue through fat toward the skin, where they are attached to the dermis. Over the cephalic portion of the mammae, they are well developed and are called suspensory ligaments of Cooper.

patellar r. One of two fibrous bands (medial and lateral) lying on either side of the knee joint and forming part of the joint capsule. These bands are extensions of the insertions of the medial and lateral vastus muscles of the thigh.

peroneal r. One of two fibrous bands on the lateral side of the foot that contains the tendons of the peroneus longus and brevis muscles. The superior peroneal retinaculum extends from the lateral malleolus to the lateral surface of the calcaneus; the inferior peroneal retinaculum is attached below to the calcaneus and above to the lower border of the inferior extensor retinaculum.

r. tendinum The annular band of the wrist or ankle.

retinal (rĕt'ī-nāl) **1.** Pertaining to the retina. **2.** The light-absorbing portion of a photopigment, a derivative of vitamin A.

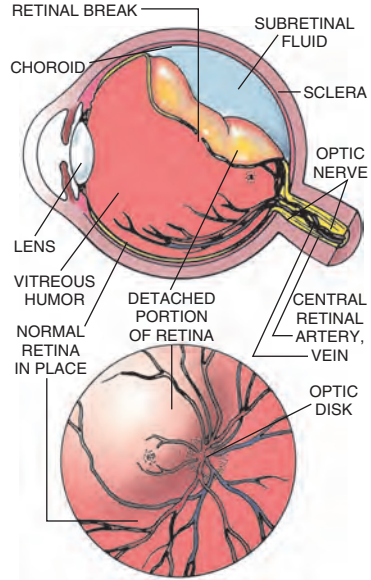
retinal break A break in the continuity of the retina, usually caused by trauma to the eye. Detachment of the retina may follow the appearance of the break.

retinal correspondence A condition in which simultaneous stimulation of points in the retina of each eye results in formation of a single visual sensation. These points, called corresponding points, lie in the foveae of the two retinas, or in the nasal half of one retina and the temporal half of the other. Abnormal correspondence results in double vision (diplopia) and usually is caused by imbalance of the ocular muscles. SEE: *strabismus*.

retinal cryopexy A treatment for a retinal tear in which the retina and choroid surrounding the tear are frozen. This scars the retina around the tear, sealing the defect. Cryopexy is typically used to treat lesions at the retinal periphery, which may be difficult to treat with a laser.

retinal detachment Separation of the inner sensory layer of the retina from the outer pigment epithelium. It is usually caused by a hole or break in the inner sensory layer that permits fluid from the vitreous to leak under the retina and lift off its innermost layer. Causes include trauma and any disease that causes retinopathy, such as diabetes or sickle cell disease. Symptoms are blurred vision, flashes of light, vitreous floaters, and loss of visual acuity. The location of holes must be determined so that they can be repaired by laser ther-

apy (i.e., photocoagulation). SEE: *illus.; Nursing Diagnoses Appendix*.



RETINAL DETACHMENT

TREATMENT: Scleral buckling techniques are used to treat retinal detachment in a large number of patients. Vitrectomy with laser and pneumatic retinopathy are occasionally employed as an alternative treatment.

retinal isomerase The enzyme in rods and cones that converts *trans*-retinal to *cis*-retinal, which then combines with the opsin present to form a photopigment responsive to light.

retinitis (rĕt-i-nī'tis) [L. *retina*, retina, + Gr. *itis*, inflammation] Inflammation of the retina. Symptoms include diminished vision, contractions of fields or scotomata, alteration in the apparent size of objects, and photophobia. SEE: *retinopathy*.

actinic r. Retinitis caused by exposure to intense light or other radiant energy.

albuminuric r. Hypertensive retinopathy.

apoptotic r. Hemorrhagic r.

circinate r. Circinate retinopathy.

circumpapillar r. Retinitis marked by a proliferation of the outer layers of retina about the optic disk.

cytomegalovirus r. ABBR: CMV retinitis. The most common eye infection in patients with acquired immunodeficiency syndrome. This opportunistic infection is responsible for visual impairment and blindness if left untreated.

diabetic r. Diabetic retinopathy.

disciform r. Wet macular degeneration.

exogenous purulent r. Retinitis from the introduction of infectious organisms into the eye as a result of a perforating wound or ulcer.

external exudative r. Retinitis in which large masses of white and yellow crystals occur beneath the retina due to organization of hemorrhages.

exudative r. Chronic retinitis with elevated areas around the optic disk.

hemorrhagic r. Retinitis with pronounced hemorrhage into the retina. SYN: *apoplectic retinitis*.

metastatic r. Acute purulent retinitis resulting from the presence of infective emboli in retinal vessels.

r. pigmentosa A group of hereditary degenerative retinal diseases marked by defective night vision followed by a progressive loss of the field of vision. Rod and cone photoreceptor degeneration is followed by degenerative changes in retinal neurons and the optic blood vessels and nerve head.

TREATMENT: No specific therapy is available, but professional and vocational guidance and genetic counseling can be provided. Family members should be examined to determine whether their vision is affected.

r. of prematurity Retinopathy of prematurity.

r. proliferans Retinitis marked by vascularized masses of connective tissue that project from the retina into the vitreous; the end result of recurrent hemorrhage from the retina into the vitreous.

r. punctata albescens A nonprogressive, degenerative familial disease in which innumerable minute white spots are scattered over the entire retina. There are no pigmentary changes. The disease usually starts early in life.

punctate r. Retinitis marked by numerous white or yellow spots in the fundus of the eye. SEE: *white dot syndrome*.

solar r. Solar retinopathy.

stellate r. Retinitis marked by exudates, hemorrhages, blurring of the optic disk, and formation of a star-shaped figure around the macula.

suppurative r. Retinitis associated with septicemia resulting from pyogenic organisms.

syphilitic r. Retinitis resulting from or associated with syphilis. It may also involve the optic nerve (syphilitic neuroretinitis).

retinoblastoma (rĕt'ī-nō-blās-tō'mă) [L. *retina*, retina, + Gr. *blastos*, germ, + *oma*, tumor] A malignant glioma of the retina, usually unilateral, that occurs in young children and usually is hereditary. One of hundreds of genetic mutations in a tumor regulatory protein (the retinoblastoma protein) may be respon-

sible. The initial diagnostic finding is usually a yellow or white light reflex seen at the pupil (cat's eye reflex). Several treatment options are available depending on the size and extent of the tumor, whether both eyes are involved, and the general health of the patient. Included are enucleation, radiation, scleral plaque irradiation, cryotherapy, photocoagulation, and chemotherapy.

retinochoroid (rĕt'ī-nō-kō'royd) [" + Gr. *chorioeides*, skinlike] Pert. to the retina and choroid. SYN: *chorioretinal*.

retinochoroiditis (rĕt'ī-nō-kō-royd-ī'tis) [" + " + *itis*, inflammation] Inflammation of the retina and choroid. SYN: *chorioretinitis*; *choroidoretinitis*.

r. juxtapapillaris Retinochoroiditis close to the optic nerve.

retinocystoma (rĕt'ī-nō-sīs-tō'mă) [" + Gr. *kysis*, sac, + *oma*, tumor] Glioma of the retina.

retinodialysis (rĕt'ī-nō-dī-ăl'ī-sīs) [" + Gr. *dialysis*, separation] Detachment of the retina at its periphery. SYN: *disinsertion*.

retinoic acid (rĕ-tī-nō-īk) A metabolite of vitamin A used in the treatment of cystic acne.

retinol (rĕt'ī-nōl) One of the active forms of vitamin A; it is stored in the body primarily in the liver and in adipose tissue. Sources of this 20-carbon alcohol include liver, egg yolk, chicken, whole milk, butter, and fortified breakfast cereal. Vitamin A activity in foods is expressed as retinol equivalents (RE), the resulting amount of retinol after conversion in the body.



Excessive consumption of retinol supplements, esp. by the elderly, can produce vitamin A toxicity.

retinopapillitis (rĕt'ī-nō-pă'pīl-ī'tis) [L. *retina*, retina, + *papilla*, nipple, + Gr. *itis*, inflammation] Inflammation of the retina and optic papilla extending to the optic disk. SYN: *papilloretinitis*.

retinopathy (rĕt'in-ōp'ă-thē) [" + Gr. *pathos*, disease, suffering] Any noninflammatory retinal damage or disease. It can cause gradual loss of vision or complete blindness if left untreated. It often results from another, systemic illness (e.g., hypertension or diabetes mellitus). SEE: table.

arteriosclerotic r. Retinopathy accompanying generalized arteriosclerosis and hypertension.

circinate r. A ring of degenerated white exudative area of the retina around the macula. SYN: *circinate retinitis*.

diabetic r. ABBR: DR. Retinal damage marked by microaneurysms, hemorrhage, macular edema or macular ischemia, or retinal exudates in patients

Common Findings on Fundoscopic Examination in Retinopathy

arteriovenous nicking
 blot hemorrhages
 flame-shaped hemorrhages
 focal or generalized arteriolar narrowing
 hard exudates
 macular edema
 microaneurysms
 soft exudates ("cotton-wool") spots

with longstanding diabetes mellitus. This common complication of longstanding diabetes may result in blindness. Strict control of blood sugar levels and of high blood pressure reduces the incidence of the disease. Regular ophthalmological screening helps to detect the disease before it causes irreversible visual loss. Treatment includes retinal laser surgery or vitrectomy.

DR is divided into two groups: non-proliferative diabetic retinopathy (NPDR) consisting of blot, dot hemorrhages, exudate, and macular edema; and proliferative diabetic retinopathy (PDR), consisting of abnormal new vessels and fibrotic tissue. Approximately 50% of patients who have had diabetes for more than 15 years will have some form of diabetic retinopathy. SEE: *visual field* for illus.

hypertensive r. Retinopathy associated with hypertension, toxemia of pregnancy, or glomerulonephritis. Findings on physical examination include a hazy retina, blurred disk margins, distention of retinal arteries, retinal hemorrhages, and white patches in the fundus, esp. surrounding the papilla and at the stellate figure at the macula. SYN: *albuminuric retinopathy*. SEE: *Keith-Wagener-Barker classification*.

r. of prematurity ABBR: ROP. A bilateral disease of the retinal vessels in preterm infants and the most prominent cause of blindness in this population. Its cause remains uncertain despite much research, but oxygen levels and other environmental factors may be factors. The disease is marked by retinal neovascularization in the first weeks of life. Retinal detachment may occur. Cryotherapy or laser photocoagulation can be curative if instituted early in the illness. SYN: *retrolental fibroplasia*.

In treating preterm infants, it is possible to prevent ROP by using only the lowest possible effective oxygen concentration that will not endanger the life of the infant. Monitoring arterial blood oxygen levels is essential in preventing ROP. Too much restriction of oxygen, however, increases the likelihood of hyaline membrane disease and neurological disorders. All preterm infants

treated with supplemental oxygen should be examined carefully by an ophthalmologist before discharge from the hospital. Once blindness develops, there is no effective treatment.

solar r. Pathological changes in the retina after looking directly at the sun. This condition is seen frequently following an eclipse of the sun. SEE: *scotoma*, *eclipse*.

retinopexy (rē-tī-nō-pĕk'sē) [r + Gr. *pexis*, fixation] A procedure involving diathermy, used in the treatment of retinal detachment to create the formation of adhesions between the detached portion and the underlying tissue.

pneumatic r. A treatment for retinal detachment, in which a bubble of gas is instilled into the vitreous. As the bubble attains equilibrium with body gases, it expands and forces the detached area back into place; then, cryotherapy or photocoagulation is used to reattach the retina permanently. SEE: *retinal detachment*.

retinoschisis (rĕt'ī-nōs'kī-sīs) [r + Gr. *schisis*, a splitting] A splitting of the retina into two layers with cyst formation between the layers.

retinoscope (rĕt'ī-nō-skōp) [r + Gr. *skopein*, to examine] An instrument used in performing retinoscopy.

retinoscopy (rĕt'īn-ōs'kō-pē) An objective method of determining refractive errors of the eye. The examiner projects light into the eyes and judges error of refraction by the movement of reflected light rays. SYN: *skiascopy* (1).

retinosis (rĕt'ī-nō'sīs) [r + Gr. *osis*, condition] Any degenerative process of the retina not associated with inflammation.

retinotomy (rĕt'īn-ōt'ā-mē) Surgical incision of the retina, e.g., to remove proliferating blood vessels in age-related macular degeneration.

retire 1. To discontinue formal employment or work at a specific place or task. In the past, in many industries, educational institutions, and public service, retirement was mandated when an employee had attained a specified age. This practice has lost its attractiveness to a large segment of the workforce, esp. among those who enjoy work. SEE: *recreation*. 2. To go to bed.

retort (rĕ-tōrt') [L. *retortus*, bent back] A flasklike, long-necked vessel used in distillation.

retract (rī-trākt') [L. *retractus*] To draw back.

retractile (rī-trākt'īl) [L. *retractilis*] Capable of being drawn back or in.

retraction (rī-trāk'shūn) A shortening; the act of drawing backward or the condition of being drawn back.

clot r. 1. The shrinking of the clot that forms when blood is allowed to stand, due to the fibrin network formed

in the clot. **2.** The platelet-mediated folding of fibrin threads in a formed clot, which diminishes the size of the damaged area.

genital r. Koro.

uterine r. The process by which the muscular fibers of the uterus remain permanently shortened to a small degree following each contraction or labor pain.

retraction ring A ridge sometimes felt on the uterus above the pubes, marking the line of separation between the upper contractile and lower dilatable segments of the uterus. SEE: *Bandl's ring*.

retractor (rē-trāk'tōr) **1.** An instrument for holding back the margins of a wound or structures within the wound. **2.** A muscle that draws in any organ or part.

retrain To instruct a person in a skill or trade different from the person's previous work.

retreat (rī-trēt') [ME. *retret*, draw back] A withdrawal (e.g., in psychology) from difficult life situations. This may be direct, as in physical flight, or indirect, as in malingering, illness, abnormal preoccupation, and self-deception.

retrenchment [Fr. *retrenchier*, to cut back] **1.** A budgetary reduction; a cut-back in the amount of funds allocated for a purpose. **2.** A procedure used in plastic surgery to remove excess tissue.

retrieval (rī-trē'vāl) **1.** In psychology, the process of bringing stored information to the conscious level. **2.** Gathering of an item or items from storage or a repository.

oocyte r. A procedure to collect eggs contained in the ovarian follicles for use in assisted reproduction.

retro- [L.] Prefix meaning *backward, back, behind*.

retroaction (rē'trō-āk'shūn) Action in a reverse direction.

retrobuccal (rēt'rō-būk'āl) [L. *retro*, back, + *bucca*, cheek] Pert. to the back part of the mouth or the area behind the mouth.

retrocecal (rēt'rō-sē'kāl) [L. *retro*, back, + *caecum*, cecum] Behind or pert. to the area posterior to the cecum.

retrocervical (rēt'rō-sēr'vī-kāl) [L. *retro*, back, + *cervix*, neck] Posterior to the cervix uteri.

retrocession (rēt'rō-sēsh'ūn) [L. *retro-cessio*, going back] **1.** A going back; a relapse. **2.** Metastasis from the surface to an internal organ. **3.** Backward displacement of the uterus.

retroclusion (rēt'rō-kloo'zhūn) [" + *claudere*, to close] A method of stopping arterial bleeding. A needle is placed through the tissues over a severed artery and then turned around and down so that it is passed back through the tissues under the artery. This compresses the vessel.

retrocolic (rēt'rō-kōl'īk) [L. *retro*, back,

+ Gr. *kolon*, colon] Posterior to the colon.

retrocollic spasm, retrocollis Torticollis with spasms affecting the posterior neck muscles.

retroconduction (rēt'rō-kōn-dūk'shūn) [" + "] Backward conduction, i.e., a reversed flow of ions or electrical impulses, esp. used when speaking of disturbances in cardiac rhythm.

retrocursive (rēt'rō-kūr'sīv) [L. *retro*, back, + *curro*, to run] Stepping or turning backward.

retrodeviation (rēt'rō-dē'vē-ā'shūn) [" + *deviare*, to turn aside] Backward displacement, as of an organ.

retrodisplacement (rēt'rō-dīs-plās'mēnt) [" + Fr. *desplacer*, displace] Backward displacement of a part.

retroesophageal (rēt'rō-ē-sōf'ā-jē'āl) [L. *retro*, behind, + Gr. *oisophagos*, gullet] Behind the esophagus.

retrofilling (rēt'rō-fil'īng) The placement of filling material in a root canal through an opening made in the apex of the tooth.

retroflexion (rēt'rō-flēk'shūn) A bending or flexing backward. **retroflexed**, *adj.*

r. of uterus A condition in which the body of the uterus is bent backward at an angle with the cervix, whose position usually remains unchanged.

retrognathia (rēt'rō-nāth'ē-ā) [L. *retro*, back, + Gr. *gnathos*, jaw] Location of the mandible behind the frontal plane of the maxilla.

retrognathism (rēt'rō-nāth'īzm) [" + Gr. *gnathos*, jaw] The condition of having retrognathia.

retrograde (rēt'rō-grād) [L. *retro*, backward, + *gradi*, to step] Moving backward; degenerating from a better to a worse state.

retrograde flow The flow of fluid in a direction opposite to that considered normal.

retrograde pyelography A surgical procedure used to visualize the renal pelvis and ureter in which an endoscope is placed through the urethra into the urinary bladder and a catheter is placed into the ureter to instill a contrast medium.

retrography (rēt'rōg'rā-fē) [" + Gr. *graphein*, to write] Mirror writing, a symptom of certain brain diseases. It also may be present in persons with dyslexia.

retrogression (rēt'rō-grēsh'ūn) [L. *retrogressus*, go backward] A going backward, as in the involution, degeneration, or atrophy of a tissue or structure.

retrojection (rēt'rō-jēk'shūn) [" + *jacio*, throw] Washing out a cavity from within by injection of a fluid.

retrolabyrinthine (rēt'rō-lāb'ī-rīn'thīn) [L. *retro*, behind + Gr. *labyrinthos*, a maze] Located behind the labyrinth of the ear.

retrolental (rèt-rō-lèn'täl) Behind the crystalline lens. SYN: *retrolenticular*.

retrolenticular (rèt'rō-lèn-tik'ū-lär) Retrolental.

retromammary (rèt'rō-mäm'mä-rē) [" + *mamma*, breast] Behind the mammary gland.

retromandibular (rèt'rō-män-dib'ū-lär) [" + *mandibulum*, jaw] Behind the lower jaw.

retro nasal (rèt'rō-nä'zäl) [L. *retro*, back, + *nasus*, nose] Pert. to or situated at the back part of the nose.

retro-ocular (rèt'rō-ök'ū-lar) [L. *retro*, behind, + *oculus*, eye] Behind the eye.

retroperitoneal (rèt'rō-pēr'tī-tō-nē'äl) [" + Gr. *peritonaion*, peritoneum] Behind the peritoneum and outside the peritoneal cavity (e.g., the kidneys).

retroperitoneal fibrosis Development of a mass of scar tissue in the retroperitoneal space. This may lead to physical compression of the ureters, vena cava, or aorta. This disease may be associated with taking methysergide for migraine, and with other drugs. SYN: *Ormond's disease*.

retroperitonitis (rèt'rō-pēr'tī-tō-nī'tis) Inflammation behind the peritoneum.

retropharyngeal (rèt'rō-fär-in'jē-äl) [L. *retro*, behind, + Gr. *pharynx*, throat] Behind the pharynx.

retropharyngitis (rèt'rō-fär-in'jī'tis) [" + " + *itis*, inflammation] Inflammation of the retropharyngeal tissue.

retropharynx (rèt'rō-fär'in'ks) [" + Gr. *pharynx*, throat] The posterior portion of the pharynx.

retroplacental (rèt'rō-plä-sèn'täl) [" + *placenta*, a flat cake] Behind the placenta, or between the placenta and the uterine wall.

retroplasia (rèt'rō-plä'zē-ä) [" + Gr. *plassein*, to form] The changing of a cell or tissue into a less specialized form.

retroposed (rèt-rō-pōsd') [L. *retro*, backward, + *positus*, placed] Displaced backward.

retroposition (rèt'rō-pō-zish'ün) The backward displacement of a tissue or organ.

retropubic (rèt'rō-pū'bīk) [" + "] Located behind the pubic bone.

retropubic prostatectomy The removal of a diseased prostate gland through an incision made in the lower abdomen just above the pubic symphysis.

retropulsion (rèt'rō-pül'shün) [" + *pulsio*, a thrusting] **1.** The pushing back of any part, as of the fetal head in labor. **2.** A gait disturbance in which patients involuntarily walk backward, seen in some diseases of the central nervous system, including Parkinson's disease. SYN: *retropulsive gait*. **3.** Movement of intestinal contents backward (i.e., toward the mouth instead of the anus).

retrorunning (rèt-rō-rün'ēng) The act of

running backwards, esp. for conditioning of the hamstring muscle groups for sport-specific training. [Because of the risk of falling, retrorunning regimens should be performed with close supervision when dealing with a nonathletic population.]

retrospective (rèt-rō-spèk'tiv) Looking backward.

retrospective study A clinical study in which patients or their records are investigated after the patients have experienced the disease, condition, or treatment. SEE: *prospective study*.

retrospodylolisthesis (rèt'rō-spōn'dī-lō-lis-thē'sis) [L. *retro*, behind + Gr. *spondylos*, vertebra, + *olisthesis*, a slipping] The posterior displacement of a vertebra.

retrosternal (rèt'rō-stēr'näl) [" + Gr. *sternon*, chest] Behind the sternum.

retrosternal pulse A venous pulse felt over the suprasternal notch.

retrotarsal (rèt'rō-tär'säl) [" + Gr. *tarsos*, a broad, flat surface] Behind the tarsus of the eyelid.

retrouterine (rèt'rō-ū'tēr-in) [L. *retro*, backward, + *uterus*, womb] Behind the uterus.

retroversion of flexion (rèt'rō-vēr'sē-ō-flèk'shün) [" + *versio*, a turning, + *flexio*, flexion] Retroversion and retroflexion of the uterus.

retroversion (rèt'rō-vēr'shün) [L. *retro*, back, + *versio*, a turning] A turning, or a state of being turned back; esp., the tipping of an entire organ.

femoral r. A decrease in the head-neck angle of the femur, causing outward rotation of the shaft of the bone when the person is standing.

r. of uterus Backward displacement of the uterus with the cervix pointing forward toward the symphysis pubis. Normally the cervix points toward the lower end of the sacrum with the fundus toward the suprapubic region.

retroviruses (rèt'rō-vī'rūs-ēs) The common name for the family of Retroviridae. Some of these RNA-containing tumor viruses are oncogenic and induce sarcomas, leukemias, lymphomas, and mammary carcinomas in lower animals. These viruses contain reverse transcriptase, an enzyme essential for reverse transcription (i.e., the production of a DNA molecule from an RNA model).

retrude (ri-trood') [L. *re*, back, + *trudere*, to shove] In dentistry, to force backward.

retrotrusion (ri-troo'shün) **1.** The process of forcing backward, esp. with reference to the teeth. **2.** A condition in which teeth are retrotruded.

Rett's syndrome (rèts) [Andreas Rett, contemporary Austrian physician] A multiple-deficit X-linked developmental disorder marked by mental retardation, impaired language use, breath holding

and hyperventilation, seizures, loss of communication skills, tremors of the trunk, difficulties walking, and abnormally small development of the head, among other clinical findings. It occurs almost exclusively in girls, after the age of 6 to 18 months, in about one of every 10,000 to 15,000 female children.

return of spontaneous circulation ABBR: ROSC. In cardiopulmonary resuscitation (CPR), the resumption of a normal heart rhythm with a perceptible pulse. ROSC differs from the ultimate goal of CPR, which is the survival of the patient, without injury to his or her brain, heart, kidneys, lungs, or other organs.

RET-Y (rèt'wí") A measure of the size and contents of the reticulocyte. It is used as an early indicator of iron deficiency.

Retzius, lines of (rèt'zē-ūs) [Gustav Magnus Retzius, Swedish anatomist, 1842–1919] Brownish incremental lines seen in microscopic sections of tooth enamel. They appear as concentric lines in transverse sections through the enamel crown.

revaccination (rē'vāk-sī-nā'shūn) An inoculation against a disease to sustain a passive immune response (protective antibodies) against a potentially infectious organism.

revascularization (rē-vās'kū-lār-ī-zā'shūn) Restoration of blood flow to a part. This may be done surgically or by removing or dissolving thrombi occluding arteries, esp. coronary or renal arteries.

cerebral r. The surgical restoration of blood flow to the brain (e.g., with an operation to bypass a blockage in the carotid or cerebral arteries).

transmyocardial r. ABBR: TMR. The use of a laser to bore tiny channels directly through the wall of the heart in an attempt to bring oxygen-rich blood from the left ventricular cavity to areas where the heart muscle is oxygen-deprived, or ischemic. TMR is a potential alternative to coronary bypass surgery or angioplasty, esp. in patients with complex plaques that would be difficult to reach with standard interventions or in patients who have already undergone many other procedures without effect. A variant of TMR is percutaneous myocardial revascularization.

reverberation (rī'vēr-bēr-ā'shūn) [L. *reverberare*, to cause to rebound] **1.** The process by which closed chains of neurons, when excited by a single impulse, continue to discharge impulses from collaterals of their cells. **2.** The repeated echoing of a sound.

Reverdin's needle (rā-vēr-dānz') [Jacques L. Reverdin, Swiss surgeon, 1842–1929] A needle with an eye at the tip that can be opened and closed by a lever.

reversal (rī-vēr'sāl) [L. *reversus*, revert] **1.** A change or turning in the opposite direction. **2.** In psychology, a change in an instinct or emotion to its opposite, as from love to hate.

sex r. The changing of an individual's sexual phenotype to that of the opposite sex. SEE: *sexual reassignment*.

reverse anorexia Muscle dysmorphia.

reverse herbology The study of the interactions between herbal and allopathic medications.

reverse PRN dosing A form of administration of medication in which dosages are given every few hours or *less often*.

reversible (rī-vēr'sī-bl) Able to change back and forth.

reversible ischemic neurological deficit ABBR: RIND. A transient stroke resulting from a decrease in cerebral blood flow. Symptoms typically last longer than 24 hr but less than 1 week.

reversion (rī-vēr'zhūn) **1.** A return to a previously existing condition. **2.** In genetics, the appearance of traits possessed by a remote ancestor. SEE: *atavism*.

revert (rē-věrt') [L. *revertere*, to turn back] To return to an earlier state or condition. SEE: *reversion*; *revertant*.

revertant (rē-vēr'tānt) An organism that has reverted to a previous phenotype by mutation.

review, chart A method of quality assurance (and sometimes clinical research) that relies on the systematic analysis of individual patient records. Data may be used to determine the incidence of adverse events, the allocation of resources, the employment of specific therapies, or the degree of compliance with specified standards of care.

review of systems ABBR: ROS. A series of questions concerning each organ system and region of the body, asked of the patient during history taking and physical examination for the purpose of gaining an optimal understanding of the patient's presenting illness and medical history.

An example of ROS follows: *General*. The examiner should determine any history of fatigue, travel to other climates or countries, recent weight change, chills, fever, and lifestyle change in the patient. How many persons occupy the patient's dwelling? What is the patient's relationship to the persons with whom he or she lives? Is it a happy home? What are the patient's hobbies and outside interests? How does the patient usually exercise? Does the patient have pets? Any history of military service? Any job-related illnesses? Any sexual partners? Any use of injected drugs? Any recent hospitalizations or illnesses?

Skin. Is the patient experiencing any

rash, itching, sunburn, change in the size of moles, vesicles, or hair loss?

Head, face, and neck. Does the patient have headaches, migraine, vertigo, stiffness, pain, or swelling? Has there been trauma to this area?

Eyes. Are glasses worn and when were the eyes last examined for visual acuity and glaucoma? Is the patient experiencing pain, diplopia, scotomata, itch, discharge, redness, or infection?

Ears. Does the patient have acute or chronic hearing loss, pain, discharge, tinnitus, or vertigo? Is there a history of failure to adjust to descent from a high altitude?

Nose. Is there any dryness, crust formation, bleeding, pain, discharge, obstruction, malodor, or sneezing? How acute is the patient's sense of smell?

Mouth and teeth. The patient should be asked about any soreness, ulcers, pain, dryness, infection, hoarseness, bleeding gums, swallowing difficulty, bruxism, or temporomandibular syndrome. What is the condition of the patient's teeth (real or false)?

Breasts. Has the patient had any pain, swelling, tenderness, lumps, bleeding from the nipple, infection, or change in the ability of the nipples to become erect? Has plastic surgery been done, and if so, were implants used?

Respiratory. Has there been any cough, pain, wheezing, sputum production (including character of sputum), hemoptysis, or exposure to persons with contagious diseases such as tuberculosis? Is there a history of occupational or other exposure to asbestos, silica, chickens, parrots, or a dusty environment? The presence of dyspnea, cyanosis, tuberculosis, pneumonia, and pleurisy should be determined. If pulmonary function tests were done, the date or dates should be recorded. The extent and duration of all forms of tobacco use should be determined.

Cardiac. The following should be determined: angina, dyspnea, orthopnea, palpitations, heart murmur, heart failure, myocardial infarction, surgical procedures on coronary arteries or heart valves, history of stress tests or angiography, hypertension, rheumatic fever, cardiac arrhythmias, exercise tolerance, history of athletic participation (including jogging and running) and if these are current activities, the dates of electrocardiograms if they were ever taken.

Vascular. Has the patient experienced claudication, cold intolerance (esp. of the extremities), frostbite, phlebitis, or ulcers (esp. of the extremities) due to poor blood supply?

Gastrointestinal. The examiner should assess the patient's appetite, history of recent weight gain or loss, and

whether the patient has been following a particular diet for gaining or losing weight. Is the patient a vegetarian? Has he or she had any difficulty in swallowing? Anorexia, nausea, vomiting (including the character of the vomitus), diarrhea and its possible explanation (such as foreign travel or food poisoning), belching, constipation, change in bowel habits, melena, hemorrhoids and history of surgery for this condition, use of laxatives or antacids, jaundice, hepatitis, and other liver disease should be determined.

Renal; urinary and genital tract. The examiner should take a history of kidney or bladder stones and date of last occurrence, dysuria, hematuria, pyuria, nocturia, incontinence, urgency, antibiotics used for urinary tract infections, bedwetting, sexually transmitted diseases, libido, sexual partners, penile or urethral discharge, and frequency of sexual activity.

Women should be questioned regarding any vulvar pruritus, vaginal discharge, vaginal malodor, history of menarche, frequency and duration of menstrual periods, amount of flow, type of menstrual protection used, type or types of contraception and douches used, and the total number of pregnancies, abortions, miscarriages, and normal deliveries. The number, sex, age, and health status of living children, and the cause of death of children who died, should be determined. Vaginal, cervical, and uterine infections; pelvic inflammatory disease; tubal ligation; dilation and curettement; hysterectomy; and dyspareunia should be recorded. Any history of the mother's use of diethylstilbestrol while pregnant with the patient should be determined.

Men should be asked about vasectomy, scrotal pain or swelling, and urinary hesitancy or double voiding.

Musculoskeletal. The examiner should ask about muscle twitches, pain, heat, tenderness, swelling, loss of range of motion or strength, cramps, sprains, strains, trauma, fractures, stiffness, back pain, osteoporosis, and character regarding time of day of onset and duration (esp. with respect to the effect of exercise, back pain, and osteoporosis).

Hematological. A history of anemia, bleeding, bruising, hemarthrosis, hemophilia, sickle cell disease or trait, recent blood loss, transfusions received, and blood donation should be recorded. Was a transfusion received at a time when blood was not being screened for hepatitis or AIDS? Was the patient ever turned down as a blood donor?

Endocrine. The patient should be questioned about sexual maturation and development, weight change, tolerance to heat or cold (esp. with respect to

other persons in the same environment), dryness of hair and skin, hair loss, and voice change. Any change in the rate of beard growth in men, development of facial hair in women, increase in or loss of libido, polyuria, polydipsia, polyphagia, pruritus, diabetes, exophthalmos, goiter, unexplained flushing, and sweating should be noted.

Nervous system. Has the patient experienced any recent change in ability to control muscular activity, or any syncope, stroke ("shock"), seizures, tremor, coordination, sensory disturbance, falls, pain, change in memory, dizziness, or head trauma?

Emotional and psychological status. Has there been a history of psychiatric illness, anxiety, depression, overactivity, mania, lassitude, change in sleep pattern, insomnia, hypersomnia, nightmares, sleepwalking, hallucinations, feeling of unreality, paranoia, phobias, obsessions, compulsions, criminal behavior, increase in or loss of libido, or suicidal thoughts? Is the patient satisfied with his or her occupation and life in general? What is his or her marital and divorce record? Has there been family discord? Does the patient attend church? The patient's employment history and any recent job changes, educational history and achievement, and self-image should be assessed.

Révilliod sign SEE: *wink*.

revised trauma score ABBR: RTS. Pediatric trauma score.

revivification (rē-viv'ī-fi-kā'shūn) [L. *re*, again, + *vivere*, to live, + *facere*, to make] **1.** An attempt to restore life to those apparently dead; restoration to life or consciousness; also the restoration of life in local parts, as a limb after freezing. **2.** The pairing of surfaces to facilitate healing, as in a wound.

revulsant (rī-vūl'sānt) [L. *revulsio*, pulling back] **1.** Causing transfer of disease or blood from one part of the body to another. **2.** A counterirritant that increases blood flow to an inflamed part.

revulsion (rī-vūl'shūn) **1.** Repugnance, hostility, or extreme distaste for a person or thing. **2.** The act of driving backward, as diverting disease from one part to another by a quick withdrawal of blood from that part—a treatment that has its origins in ancient medical care. **3.** Circulatory changes obtained by sudden and intense reactions to heat and cold. SEE: *counterirritation*.

revulsive (rī-vūl'siv) **1.** Causing revulsion. **2.** A counterirritant.

reward **1.** In behavioral science, a positive reinforcement. **2.** Something valuable given to recognize achievement, competence, or performance.

rewarming Restoring a hypothermic patient's body temperature to normal. Techniques used include removing wet

clothing; wrapping patients in blankets, hotpacks, or foils; infusing intravenous, nasogastric, or intraperitoneal fluids warmed to about 40°C; increasing the temperature of the patient's blood with extracorporeal bypass machines, or, rarely, immersing the patient in warm water.

Rey Auditory Verbal Learning Test (rā)

A neuropsychiatric test used to measure the ability to recall a list of heard words. The test is sometimes used to evaluate the memory of patients with dementia.

Reye's syndrome (rīz) [R. D. K. Reye, Australian pathologist, 1912–1977] A syndrome marked by acute encephalopathy and fatty infiltration of the liver and often of the pancreas, heart, kidney, spleen, and lymph nodes. It is seen primarily in children under age 18, after an acute viral infection such as chickenpox or influenza. The mortality rate depends on the severity of the central nervous system involvement but may be as high as 80%. Fortunately, the disease occurs rarely. The cause of the disease is unknown, but association with increased use of aspirin and other salicylates is evident from epidemiological studies. SEE: *Nursing Diagnostics Appendix*.

SYMPTOMS: The patient experiences a viral infection with a brief recovery period, followed in about 1 to 3 days by severe nausea and vomiting, a change in mental status (disorientation, agitation, coma, seizures), and hepatomegaly without jaundice in 40% of cases. The disease should be suspected in any child with acute onset of encephalopathy, nausea and vomiting, or altered liver function, esp. after a recent illness. The severity of the syndrome depends on how badly the brain swells during the illness, reflected in increased intracranial pressure (ICP).



Aspirin and other salicylates should not be used for any reason in treating children under age 18 with viral infections.

TREATMENT: Supportive care includes intravenous administration of fluids and electrolytes, administration of corticosteroids, and ventilatory assistance. Electrolytes should be controlled carefully, along with serum glucose and ammonia levels, and neurological status.

PATIENT CARE: Increased ICP resulting from increased cerebral blood volume results in intracranial hypertension. To decrease intracranial pressure and cerebral edema, fluids are provided at 2/3 maintenance level and an osmotic diuretic or furosemide is prescribed. The head of the bed is kept at a 30-degree angle. Fluid intake should

maintain urine output at 1.0 ml/kg/hour, plasma osmolality at 290 mOsm (normal to high), and blood glucose at 150 mg/ml (high), while preventing fluid overload. Proteins are restricted to keep ammonia levels low. Hypoprotrombinemia (resulting from liver injury) is treated with vitamin K, or fresh frozen plasma if needed. Temperature is monitored, and prescribed measures to alleviate hyperthermia are instituted. Seizure precautions are also instituted. Intake and output are monitored carefully. The patient is observed for evidence of impaired hepatic function, such as signs of bleeding or encephalopathy. All treatments are explained to parents and support is provided to them. The National Reye's Syndrome Foundation provides information and support.

RF, RF *rheumatoid factor*.

R.F.A. *right frontoanterior fetal position*.

R factor *resistance transfer factor*.

R.F.P. *right frontoposterior fetal position*.

R.F.T. *right frontotransverse fetal position*.

RH *releasing hormone*. SEE: under *hormone*.

Rh 1. Symbol for the element rhodium.

2. *Rhesus*, a monkey (*Macaca rhesus*) in which the Rh factor was first identified.

Rhabditiis (răb-dī'tis) [Gr. *rhabdos*, rod] A genus of small nematode worms, some of which are parasitic.

rhabdo- Combining form meaning *rod*.

rhabdoid (răb'doyd) [Gr. *rhabdos*, rod, + *eidōs*, form, shape] Resembling a rod.

rhabdomyoblastoma (răb'dō-mī'ō-blăs-tō'mă) Rhabdomyosarcoma.

rhabdomyolysis (răb'dō-mī-ōl'i-sis) [" + " + *lysis*, dissolution] An acute, sometimes fatal disease in which the by-products of skeletal muscle destruction accumulate in the renal tubules and produce acute renal failure. Rhabdomyolysis may result from crush injuries, the toxic effect of drugs or chemicals on skeletal muscle, extremes of exertion, sepsis, shock, electric shock, and severe hyponatremia. Lipid-lowering drugs such as statins (pravastatin, simvastatin) and/or fibrates (gemfibrozil) are among the commonly prescribed drugs that put patients at risk for rhabdomyolysis. Kidney failure caused by "rhabdo" may produce life-threatening hyperkalemia and metabolic acidosis. The diagnosis is made in patients with appropriate histories or exposures who have elevated levels of serum or urine myoglobin or creatine kinase (CK). Management may include the infusion of bicarbonate-containing fluids (to enhance urinary secretion of myoglobin) or hemodialysis. SEE: *reperfusion*.

PATIENT CARE: The goals of treatment are to

1. prevent and treat renal dysfunction,

2. reverse electrolyte abnormalities, and

3. correct the underlying cause.

Patients are hydrated aggressively with a goal of achieving urine output between 200 and 300 ml/hr. If urine output does not increase with hydration, loop and osmotic diuretics are prescribed to promote diuresis. Dialysis may be needed for the 10% to 20% of patients with rhabdomyolysis who develop renal failure. Urinary alkalization (e.g., with sodium bicarbonate) increases myoglobin solubility in the urine and thus its elimination from the body. The patient with rhabdomyolysis should also be monitored closely for electrolyte disturbances (hypocalcemia, hyperkalemia) and dysrhythmias and corrections made as quickly as possible. When localized muscle injuries are present (e.g., after trauma) and compartment syndrome is suspected, direct measurement of compartment pressures is used to diagnose the need for fasciotomy. Bedrest is maintained throughout the acute illness phase. As the patient recovers, physical therapy will help maintain range of motion and prevent other complications of immobilization in hospital.

traumatic r. SEE: *crush syndrome; reperfusion* (2).

rhabdomyoma (răb'dō-mī-ō'mă) [" + " + *oma*, tumor] A striated muscular tissue tumor. SYN: *myoma striocellulare*.

rhabdomyosarcoma (răb'dō-mī-ō-săr-kō'mă) [" + " + *sarx*, flesh, + *oma*, tumor] A malignant neoplasm originating in skeletal muscle. SYN: *rhabdomyoblastoma*.

rhabdosarcoma, embryonal (răb'dō-săr-kō'mă) Botryoid sarcoma.

rhabdovirus (răb'dō-vī'rūs) [" + *L. virus*, poison] Any of a group of rod-shaped RNA viruses with one important member, the rabies virus, being pathogenic to humans. The virus has a predilection for the tissue of mucus-secreting glands and the central nervous system. All warm-blooded animals are susceptible to infection with these viruses.

rhachialgia (ră'kē-ăl'jē-ă) [Gr. *rhachis*, spine, + *algos*, pain] Pain in the spine.

rhachiocampsis (ră'kē-ō-kămp'sis) [" + *kampsis*, a bending] Curvature of the spine.

rhachioptegia (ră'kē-ō-plē'jē-ă) [" + *ptegē*, stroke] Spinal paralysis.

rhachioscoliosis (ră'kē-ō-skō'lē-ō'sis) [" + *skoliosis*, curvature] Curvature of the spine laterally.

rhachis (ră'kis) [Gr.] The spinal column.

rhabdomyolysis (ră-kis'kī-sis) [" + *schisis*, a splitting] A congenital cleft in

the spinal column. SYN: *spondyloschisis*.

Rhadinovirus (ră"đi-nō-vī'rūs) [Gr. *rhadinos*, fragile + ""] A genus of herpesviruses that includes human herpes virus 8.

rhagades (răg'ă-dēz) [Gr., tears] Linear fissures appearing in the skin, esp. at the corner of the mouth or anus, causing pain. If due to syphilis, they form a radiating scar on healing.

rhagadiform (ră-găd'ī-form) [Gr. *rhagas*, tear, + L. *forma*, shape] Fisured; having cracks.

-rhage, -rhagia SEE: *-rrhage; -rrhagia*.

Rh antiserum Human serum that contains antibodies to the Rh factor. SEE: *Rh_s(D) immune globulin*.

Rh blood group A group of antigens on the surface of red blood cells present to a variable degree in human populations. When the Rh factor (an antigen often called D) is present, an individual's blood type is designated Rh⁺ (Rh positive); when the Rh antigen is absent, the blood type is Rh⁻ (Rh negative). If an individual with Rh⁻ blood receives a transfusion of Rh⁺ blood, anti-Rh antibodies form. Subsequent transfusions of Rh⁺ blood may result in serious transfusion reactions (agglutination and hemolysis of red blood cells). A pregnant woman who is Rh⁻ may become sensitized by entry of red blood cells from an Rh⁺ fetus into the maternal circulation after abortion, ectopic pregnancy, or delivery. In subsequent pregnancies, if the fetus is Rh⁺, Rh antibodies produced in maternal blood may cross the placenta and destroy fetal cells, causing erythroblastosis fetalis. SEE: *Rh immune globulin*.

-rhea SEE: *-rrhea*.

rhegmatogenous (rĕg"mă-tō'jĕ-nus) [Gr. *rhegma*, a breaking, + *gen*, producing, forming] **1.** Caused by or pert. to a tear. **2.** Torn. The term refers almost exclusively to retinal detachment.

rhodium (rĕ'nĕ-ūm) SYMB: Re. A silvery-white polyvalent transition metal similar to manganese; atomic weight 186.2, atomic number 75. It is used as a radiopharmaceutical.

rheo- [Gr. *rheos*, current] Combining form meaning *current, stream, flow*.

rheobase (rĕ'ō-bās) [" + *basis*, base] In unipolar testing with the galvanic current using the negative as the active pole, the minimal voltage required to produce a stimulated response. Also called *threshold of excitation*. SEE: *chronaxie*.

rheobasic (rĕ"ō-bā'sĭk) Concerning the rheobase.

rheology (rĕ-ōl'ō-jĕ) [" + *logos*, word, reason] The study of the deformation and flow of materials.

rheophoresis, rheopheresis (rĕ"ō-fōr-ĕ'sĭs) [Gr. *rheos*, current, + *phoresis*,

a bearing] Membrane differential filtration.

rheostat (rĕ'ō-stăt) [" + *statos*, standing] A device maintaining fixed or variable resistance for controlling the amount of electric current entering a circuit.

rheostosis (rĕ-ōs-tō'sĭs) [" + *osteon*, bone] A hypertrophy and condensing osteitis occurring in streaks, involving the long bones; also known as melo-rheostosis.

rheotaxis (rĕ"ō-tăk'sĭs) [" + *taxis*, arrangement] A reaction to a current of fluid, in which an organism orients itself with the current.

rheumatic (roo-măt'ĭk) [Gr. *rheumatikos*] Pert. to connective tissue disease.

rheumatic disease, functional class Classifications created by the American Rheumatism Association (now the American College of Rheumatology) that define the capacity level at which a patient with rheumatic disease is capable of functioning. Class I is complete functional capacity with ability to carry on all usual duties without handicaps; class II is functional capacity adequate to conduct normal activities despite handicap or discomfort or limited mobility of one or more joints; class III is functional capacity adequate to perform only a few or none of the duties of usual occupations or of self-care; and class IV indicates a patient who is largely or wholly incapacitated and is bedridden or confined to a wheelchair, permitting little or no self-care.

rheumatic fever A multisystem, febrile inflammatory disease that is a delayed complication of untreated group A streptococcal pharyngitis. It is believed to be caused by an autoimmune response to bacterial antigens in the streptococci, although the precise mechanism responsible for the illness has not been identified. Primarily seen in children between ages 5 and 15, the disease is now uncommon in Western societies because of effective and prompt treatment for strep throat, but it remains a major cause of morbidity in the developing world. SEE: *illius; Nursing Diagnoses Appendix*.



RHEUMATIC FEVER
Erythema marginatum

SYMPTOMS: Following a pharyngeal infection with group A streptococci, some patients experience sudden fever and joint pain. Other symptoms include migratory joint pains, pain on motion, abdominal pain, chorea, and cardiac involvement (pericarditis, myocarditis, and endocarditis). Precordial discomfort and heart murmurs develop suddenly. Skin manifestations include erythema marginatum or circinatum and the development of subcutaneous nodules.

Rheumatic fever may occur without any sign or symptom of joint involvement. Two major manifestations (carditis, polyarthritides, chorea, erythema marginatum, subcutaneous nodules) or one major and two minor criteria (fever of at least 100.4°F [38°C], arthralgia, previous rheumatic fever, elevated erythrocyte sedimentation rate or positive C-reactive protein, prolonged P-R interval) are required to establish the diagnosis of acute rheumatic fever.

PROPHYLAXIS: Prompt and adequate treatment of streptococcal infections with oral penicillin or cephalosporin is given for at least 10 days. Erythromycin or sulfa drugs are substituted in patients with penicillin allergy.

To prevent recurrence of rheumatic fever in a patient who has already been affected by the disease, benzathine benzylpenicillin is given intramuscularly every 3 or 4 weeks. Low-dose oral penicillin, erythromycin, or sulfa drugs are alternatives for compliant patients.

TREATMENT: Salicylates, acetaminophen, and NSAIDs are used to lower fever, reduce inflammation, and alleviate pain. Corticosteroids may be needed if these do not relieve inflammation in patients with carditis. Diuretics and other cardiac medications are prescribed as necessary to treat heart failure. Severe heart valve dysfunction requires surgical correction, but usually not until late adolescence or adulthood. Patients known to have carditis who must undergo dental or surgical procedures (esp. those involving instrumentation of the urinary tract, rectum, or colon) should receive additional antibiotic coverage on the day of the procedure and for several days thereafter.

PATIENT CARE: During the acute phase, diversional activities that are not physically demanding are employed, family and friends are encouraged to visit, and a tutor provided to help the child stay current in school requirements. The child and family are taught about the disease and treatment, and all diagnostic measures are described. They also are taught about signs and symptoms of recurrent streptococcal infection and of heart failure, which require immediate reporting and treatment. Health care professionals advise

the patient about lifestyle and activity modifications, as well as the importance of taking prescribed antibiotics for the full course of treatment and prophylaxis. They also are informed about symptoms of hypersensitivity reaction to the antibiotic, and advised to stop the drug and immediately notify the primary care provider if a rash, fever, chills, or other signs of allergy develop anytime during the course of therapy. The importance of maintaining a salt-restricted diet and of adhering to treatment with diuretics, digoxin, or afterload-reducing drugs is emphasized for patients with congestive heart failure. The American Heart Association provides educational materials and current protocol for prevention of bacterial endocarditis, which is different from the RF regimen used to prevent recurrence. (800-AHA-USA1; www.americanheart.org).

rheumatid (roo'mā-tīd) A skin lesion associated with rheumatic disease.

rheumatism (roo'mā-tizm) [Gr. *rheumatismos*] A general, but somewhat archaic term for acute and chronic conditions marked by inflammation, muscle soreness and stiffness, and pain in joints and associated structures. It includes inflammatory arthritis (infectious, rheumatoid, gouty), arthritis due to rheumatic fever or trauma, degenerative joint disease, neurogenic arthropathy, hydroarthrosis, myositis, bursitis, fibromyalgia, and many other conditions. SEE: *arthritis; rheumatic fever*.

inflammatory r. An old term for any form of arthritis in which there is significant joint inflammation (e.g., gouty, infectious, or rheumatoid arthritis).

palindromic r. Intermittent migrating joint pain with tenderness, heat, and swelling that lasts from a few hours to as long as a week. The knee is most often involved, but each recurrence often involves a different joint. Between attacks there is no evidence of joint disease. The cause is unknown, and there is no specific treatment.

soft tissue r. Any of several localized or generalized conditions that cause pain around joints but are not related to or caused by joint disease (e.g., bursitis, tennis elbow, tendinitis, perichondritis, stiff man syndrome, Tietze's disease).

rheumatoid (roo'mā-toyd) [Gr. *rheuma*, discharge, + *eidōs*, form, shape] Of, or relating to, arthritis or connective tissue disease.

rheumatoid factor Antibodies raised by the body against immunoglobulins. They are present in roughly 80% of patients with rheumatoid arthritis and in many patients with other rheumatological and infectious illnesses. This factor is used, with other clinical indicators, in



the diagnosis and management of rheumatoid arthritis.

rheumatologist (roo"mă-tōl'ō-jīst) A physician who specializes in rheumatic diseases.

rheumatology (roo"mă-tōl'ō-jē) The study and treatment of connective tissue and joint diseases.

rhexis (rèk'sis) [Gr., rupture] The rupture of any organ, blood vessel, or tissue.

Rh factor SEE: under *factor*.

Rh gene Any of eight allelic genes that are responsible for the various Rh blood types. They have been designated as R¹, R², R⁰, R^c, r, r', r", and r_y. Genes represented by small r's are responsible for the Rh-negative (Rh⁻) blood type; those by capital R's, for the Rh-positive (Rh⁺) blood type.

rhigosis (rī-gō'sis) [Gr., shivering] Perception of cold.

rhinal (rī-nāl) Nasal.

rhinalgia (rī-nāl'jē-ă) [" + *algos*, pain] Pain in the nose; nasal neuralgia.

rhinedema (rī'nē-dē'mă) [" + *oidema*, swelling] Edema of the nose.

rhinencephalon (rī-nēn-sēf'ă-lōn) [" + *enkephalos*, brain] The portion of brain concerned with receiving and integrating olfactory impulses. It includes the olfactory bulb, olfactory tract and striae, intermediate olfactory area, pyriform area, paraterminal area, hippocampal formation, and fornix, and constitutes the paleoallium and archipallium.

rhinitis (rī-nī'tis) [" + *itis*, inflammation] Inflammation or irritation of the nasal passages, resulting in runny nose, nasal congestion, and/or postnasal drainage. SEE: *hay fever*.

acute r. Acute nasal congestion with increased mucus secretion. It is the usual manifestation of the common cold. SEE: *coryza*.

TREATMENT: General measures include rest, adequate fluids, and a well-balanced diet. Analgesics and antipyretics may be used to make the patient comfortable. Antibiotics are of no value and should not be administered. Antihistamines may relieve early symptoms but do not end or change the course. Inhaled ipratropium lessens secretions. Vasoconstrictors in the form of inhalants, nasal sprays, or drops may give temporary relief. Their use helps prevent the development of middle ear infections by helping to maintain the patency of the eustachian tubes.

allergic r. Hay fever.

atrophic r. Chronic inflammation with marked atrophy of the mucous membrane and disturbance in the sense of smell; usually accompanied by *ozena*. The throat is dry and usually contains crusts. A husky voice or hoarseness is common.

TREATMENT: The nose should be irrigated using warm alkalized saline

solution twice daily. Surgery is seldom helpful.

r. caseosa Rhinitis characterized by the accumulation of offensive cheese-like masses in the nose and sinuses and accompanied by a seropurulent discharge.

chronic hyperplastic r. Chronic inflammation of the nasal mucous membrane accompanied by polypoid formation and underlying sinus pathology. SEE: *sinus*.

chronic hypertrophic r. Inflammation of the nasal mucous membrane marked by hypertrophy of the mucous membrane of the turbinates and the septum. The symptoms are those of nasal obstruction, postnasal discharge, and recurrent head colds. The treatment is surgical removal of the hypertrophic or mulberry ends of the inferior turbinates and cauterization of the mucosa of the inferior turbinates and septum.

fibrinous r. Rhinitis marked by the formation of a false membrane in the nasal cavities. SYN: *pseudomembranous rhinitis*.

hypertrophic r. Rhinitis marked by thickening and swelling of the nasal mucosa.

infectious r. Rhinitis due to infections of the nasal mucosa.

membranous r. Chronic rhinitis accompanied by a fibrinous exudate, as was sometimes seen in patients with diphtheria.

perennial r. Year-round, rather than seasonal, rhinitis.

pseudomembranous r. Fibrinous r.

purulent r. Chronic rhinitis accompanied by pus formation.

vasomotor r. Nonallergic rhinitis.

rhino- [Gr. *rhis*] Combining form meaning nose. SEE: *naso-*.

rhinoantritis (rī'nō-ăn-trī'tis) [" + *antron*, cavity, + *itis*, inflammation] Inflammation of the nasal cavities and one or both maxillary sinuses (antra).

rhinocanthectomy (rī'nō-kăn-thèk'tō-mē) [Gr. *rhis*, nose, + *kanthos*, canthus, + *ektome*, excision] Surgical excision of the inner corner of the eye.

rhinocephalus (rī'nō-sēf'ă-lūs) [" + *kephale*, head] An individual with rhinocephaly. SYN: *rhinencephalus*.

rhinocephaly (rī'nō-sēf'ă-lē) [" + *kephale*, head] A congenital deformity in which the eyes are fused and the nose is present as a fleshy protuberance above the eyes.

rhinocheiloplasty (rī'nō-kī'lō-plās'tē) [" + *cheilos*, lip, + *plastos*, formed] Plastic surgery of the nose and upper lip.

rhinodacryolith (rī'nō-dāk'rē-ō-lith) [" + *dakryon*, tear, + *lithos*, stone] A stone in the nasolacrimal duct.

Rhinoestrus (rī-nēs'trūs) A genus of flies

belonging to the family Oestridae. Larvae may be deposited in the eye or in the nasal or buccal cavity of mammals.

R. purpureus The Russian gadfly, whose larvae sometimes cause nasomyiasis and ophthalmomyiasis in humans.

rhinogenous (rī'nōj'ēn-ūs) [" + *gennan*, to produce] Originating in the nose.

rhinokypnosis (rī'nō-kī-fō'sis) [" + *kypnos*, hump, + *osis*, condition] A deformity of the bridge of the nose.

rhinolalia (rī'nō-lā'lē-ā) [" + *lalia*, speech] A nasal quality of the voice.

r. aperta Rhinolalia caused by undue patency of the posterior nares.

r. clausa Rhinolalia caused by closure of the nasal passages.

rhinolaryngitis (rī'nō-lār'in-jī'tis) [" + *larynx*, larynx, + *itis*, inflammation] Simultaneous inflammation of the mucosa of the nose and larynx.

rhinolith (rī'nō-lith) [" + *lithos*, stone] A nasal stone.

rhinolithiasis (rī'nō-lith-i'ā-sīs) The formation of nasal stones.

rhinologist (rī-nōl'ō-jīst) [" + *logos*, word, reason] A specialist in diseases of the nose.

rhinology (rī-nōl'ō-jē) The science of the nose and its diseases.

rhinomanometry (rī'nō-mā-nōm'ē-trē) The measurement of air flow through and air pressure in the nose.

rhinometer (rī-nōm'ēt-ēr) A device for measuring the nose or its cavities.

rhinomycosis (rī'nō-mī-kō'sis) [" + *mykes*, fungus, + *osis*, condition] Fungi in the mucous membranes and secretions of the nose.

rhinonecrosis (rī'nō-nē-krō'sīs) [" + *nekrosis*, state of death] Necrosis of the nasal bones.

rhinopathy (rī-nōp'ā-thē) [" + *pathos*, disease] Any nasal disease.

rhinopharyngeal (rī'nō-fār-in'jē-āl) Pert. to the nasopharynx.

rhinopharyngitis (rī'nō-fār-in-jī'tis) [" + *pharynx*, throat, + *itis*, inflammation] Inflammation of the nasopharynx.

rhinopharyngocele (rī'nō-fār-in'gō-sēl) [" + " + *kele*, tumor, swelling] A nasopharyngeal tumor.

rhinopharyngolith (rī'nō-fār-in'gō-lith) [" + " + *lithos*, stone] A stone in the nasopharynx.

rhinopharynx (rī'nō-fār'inks) Nasopharynx.

rhinophonia (rī'nō-fō'nē-ā) Rhinolalia.

rhinophycomycosis (rī'nō-fī'kō-mī-kō'sīs) [" + *phykos*, seaweed, + *mykes*, fungus, + *osis*, condition] A fungal infection that may occur in humans or animals. It affects the nasal and paranasal sinuses and may spread to the brain. It is caused by the phycomycete *Entomophthora coronata*.

rhinophyma (rī'nō-fī'mā) [" + *phyma*, growth] Nodular swelling and conges-

tion of the nose associated with acne rosacea.

rhinoplasty (rī'nō-plās'tē) [" + *plastos*, formed] Plastic surgery of the nose.

rhinopneumonitis (rī'nō-nū'mō-nī'tis) [Gr. *rhis*, nose, + *pneumon*, lung, + *itis*, inflammation] Inflammation of the nasal and pulmonary mucous membranes.

rhinorrhagia (rī'nō-rā'jē-ā) Epistaxis.

rhinorrhea (rī'nō-rē-ā) [" + *rhoia*, flow] A thin watery discharge from the nose.

cerebrospinal r. A discharge of spinal fluid from the nose caused by a defect in or trauma to the cribriform plate.

gustatory r. A flow of thin watery material from the nose while one is eating.

rhinosalpingitis (rī'nō-sāl'pin-jī'tis) [" + *salpinx*, tube, + *itis*, inflammation] Inflammation of the mucosa of the nose and eustachian tube.

rhinoscleroma (rī'nō-sklē-rō'mā) [" + *skleros*, hard, + *oma*, tumor] A chronic, recurring granulomatous infection of the nasal passages and surrounding structures, sometimes leading to marked deformity of the nasal cavity, nasopharynx, paranasal sinuses, or eyes. The disease is caused by *Klebsiella rhinoscleromatis*, a gram-negative encapsulated bacillus.

TREATMENT: Surgical débridement is combined with prolonged antimicrobial therapy.

SYMPTOMS: The disease presents a hard, nodular growth, which usually begins at the anterior end of the nose and spreads to the lower respiratory tract. There usually is no pain and no tendency to ulceration.

rhinoscope (rī'nō-skōp) [" + *skopein*, to examine] An instrument for examining the interior of the nose.

rhinoscopy (rī-nōs'kō-pē) Examination of nasal passages. **rhinoscopic** (rī'nō-skōp'ik), *adj.*

anterior r. Examination through the anterior nares.

posterior r. Examination through the posterior nares, usually with a small mirror in the nasopharynx.

rhinosporidiosis (rī'nō-spō-rīd'ē-ō'sīs) [" + *sporidion*, little seed, + *osis*, condition] A condition caused by *Rhinosporidium seeberi*, and marked by development of pedunculated polyps on the mucous membranes of the nose, larynx, eyes, penis, vagina, and sometimes skin of various parts of the body. The disease is contracted from cattle and is found in India, Sri Lanka, and other parts of the world.

Rhinosporidium (rī'nō-spō-rīd'ē-ūm) A genus of pathogenic Mesomycetozoea closely related to protists and fungi but not classed in either category.

R. seeberi The causative agent of rhinosporidiosis.

rhinostenosis (rī'nō-stēn-ō'sīs) [" +

stenos, narrow, + *osis*, condition] Obstruction of the nasal passages.

rhinotomy (rī-nōt'ō-mē) [ʹ + *tome*, incision] Incision of the nose for drainage purposes.

rhinotracheitis (rī-nō-trā'kē-ī'tīs) [ʹ + *tracheia*, rough, + *itis*, inflammation] Inflammation of the nasal mucous membranes and the trachea.

rhinovirus (rī-nō-vī'rūs) One of hundreds of species of picornaviruses that are responsible for upper respiratory infections ("common cold") in humans. Rhinoviruses commonly produce runny nose and congestion, postnasal drainage, cough, malaise, and, in some cases, exacerbations of asthma. The symptoms of rhinoviral infection are treatable, through the use of oxymetazoline nasal spray, pseudoephedrine, or inhaled ipratropium bromide.

Rhipicephalus (rī'pī-sēf'ā-lūs) [Gr. *rhipis*, fan, + *kephale*, head] A genus of ticks belonging to the family Ixodidae. Several species, esp. *R. sanguineus*, are vectors for the organisms of spotted fever, boutonneuse fever, and other rickettsial diseases.

rhitidectomy (rīt'ī-dēk'tō-mē) Rhytidectomy.

rhitidosis (rīt-ī-dō'sīs) Rhytidosis.

rhizo- [Gr. *rhiza*] Combining form meaning *root*.

Rhizobium radiobacter (rī-zō'bē-ūm rā'dē-ō-bāk'tēr) [ʹ + " ; " + "] A gram-negative rod that is a rare cause of infection in hospitalized patients, esp. those treated with plastic tubes or catheters. It has long been recognized as a plant pathogen. It has been identified as a human pathogen only in patients with cancers, critical illness, or immunosuppressing illnesses. It was formerly known as *Agrobacterium radiobacter*.

rhizoid (rī'zoyd) [ʹ + *eidōs*, form, shape] **1.** Rootlike. **2.** A rootlike structure, usually one-celled, occurring in lower forms of plant life. **3.** In bacteriology, a colony showing an irregular rootlike system of branching.

rhizome (rī'zōm) [Gr. *rhizoma*, mass of roots] A rootlike stem growing horizontally along or below the ground and sending out roots and shoots.

rhizomelic (rī'zō-mēl'īk) [Gr. *rhiza*, root, + *melos*, limb] Concerning the hip joint and the shoulder joint.

rhizomeningomyelitis (rī'zō-mē-nīn'gō-mī'ē-lī'tīs) Radiculomeningomyelitis.

Rhizopoda (rī-zōp'ō-dā) [ʹ + *pous*, foot] A phylum of the kingdom Protista; unicellular amebas with pseudopod locomotion. It includes free-living and pathogenic species such as *Entamoeba histolytica*.

Rhizopus A genus of fungi, a mold that is usually saprophytic, but may be an opportunistic; a common cause of mucormycosis.

rhizotomy (rī-zōt'ō-mē) [ʹ + *tome*, incision] Surgical section of a nerve root (e.g., the root of a spinal or dental nerve) to relieve pain or reduce spasticity.

anterior r. Surgical section of the ventral root of the spinal nerve.

posterior r. Surgical section of the dorsal root of the spinal nerve.

rhodium (rō'dē-ūm) SYMB: Rh. A rare silvery-white transition metal; atomic weight 102.905, atomic number 45. It is used in alloys with platinum and as a catalyst.

Rhodnius prolixus (rōd'nē-ūs prō-lik'sūs) [L. *prolixus*, extended] The bloodsucking insect that transmits South American trypanosomiasis to humans; colloquially called the "kissing bug." SEE: *trypanosomiasis*.

rhodo- (rō'dō) Combining form meaning *red*.

rhodogenesis (rō'dō-jēn'ē-sīs) [Gr. *rhodon*, rose, + *genesis*, generation, birth] Regeneration of rhodopsin that has been bleached by light.

rhodophylaxis (rō'dō-fī-lāk'sīs) [ʹ + *phylaxis*, protection] The ability of the retinal epithelium to regenerate rhodopsin that has been bleached by light.

rhodopsin (rō-dōp'sīn) [ʹ + *opsis*, vision] The glycoprotein opsin of the rods of the retina; combines with retinal to form a functional photopigment responsive to light. Formerly called visual purple.

Rhodotorula (rō'dō-tōr'ū-lā) [NL] A genus of yeasts that do not ferment carbohydrates. The yeasts are widely distributed in air, dairy products, soil, and water. They have been occasionally identified as a cause of opportunistic infection in compromised hosts.

rhombencephalitis, rhombencephalitis (rōmb'ēn-sēf-ā-lī'tīs, rōm'bō-ēn-sēf-ā-lī'tīs) Brainstem infection, a disease that is most often caused by the bacterium *Listeria monocytogenes* or by West Nile virus, Nipah viruses, or enteroviruses. The infection is often characterized by symptoms such as fever, malaise, headache, nausea, vomiting, altered mental status, ataxia, and stroke-like impairment of cranial nerves.

rhombencephalon (rōm'bēn-sēf'ā-lōn) Hindbrain.

rhomboid (rōm'boyd) [ʹ + *eidōs*, form, shape] An oblique parallelogram.

rhomboideus (rōm-boyd'ē-ūs) [L.] One of two muscles beneath the trapezius muscle. SEE: *muscle* for illus.

rhombomere (rōm'bō-mēr) Neuromere.

rhoncal, rhonchial (rōng'kāl, rōng'kē-āl) [Gr. *rhonchos*, a snore] Pert. to or produced by a rattle in the throat.

rhonchi (rōng'kē) Pl. of rhonchus.

rhonchus (rōng'kūs) *pl.* **rhonchi** A low-pitched wheezing, snoring, or squeaking sound heard during auscultation of the

chest of a person with partial airway obstruction. Mucus or other secretions in the airway, bronchial hyperreactivity, or tumors that occlude respiratory passages can all cause rhonchi.

rhopheocytosis (rō'fē-ō-sī-tō'sīs) [Gr. *rhophein*, gulp down, + *kytos*, cell, + *osis*, condition] The mechanism by which ferritin is transferred from macrophages in the bone marrow to normoblasts. SEE: *pinocytosis*.

rhotacism (rō'tā-sīzm) [Gr. *rhotakizein*, to overuse letter "r"] Overuse or improper utterance of "r" sounds. SYN: *pararhotacism*.

rHu- (ār'hū') Abbreviation for *recombinant human* proteins or peptides formed by recombinant genetic technologies. Such proteins or peptides are produced by inserting a segment of human DNA into the genetic code of other organisms, e.g., bacteria or yeasts.

rhubarb (roo'bārb) [ME. *rubarbe*] An extract made from the roots and rhizome of *Rheum officinale*, *R. palmatum*, and other species, used as a cathartic and astringent. It is high in oxalic acid. The stems are used as food.

rHuEPO *recombinant human erythropoietin*.

Rhus (roos) [L.] Former name for the genus *Toxicodendron*, which includes poison ivy, poison oak, and poison sumac.

rhythm (rīth'ūm) [Gr. *rhythmos*, measured motion] **1.** A measured time or movement; regularity of occurrence of action or function. **2.** In electroencephalography, the regular occurrence of an impulse. **rhythmic** (-mīk), *adj.*

accelerated idioventricular r. ABBR: AIVR. An abnormal ectopic cardiac rhythm originating in the ventricular conducting system. This may occur intermittently after myocardial infarction at a rate of 60 to 100 beats per minute.

alpha r. In electroencephalography, oscillations in electric potential occurring at a rate of 8½ to 12 per second.

atrioventricular r. The rhythmic discharges of impulses from the atrioventricular node that occur when the activity of the sinoatrial node is depressed or abolished. SYN: *nodal rhythm*.

beta r. In electroencephalography, waves ranging in frequency from 15 to 30 per second and of lower voltage than alpha waves. This rhythm is more pronounced in the frontomotor leads.

bigeminal r. The coupling of extrasystoles with previously normal beats of the heart. SEE: *bigeminal pulse*.

biological r. The regular occurrence of certain phenomena in living organisms. SEE: *circadian r.*; *clock, biological*.

cantering r. Gallop.

cardiac r. The predominant electrical activity of the heart. It may be determined by recording an electrocardio-

gram or by evaluating tracings made by a cardiac monitor. SEE: *cardiac cycle*; *electrocardiogram*; *conduction system of the heart*.

circadian r. Diverse yet predictable changes in physiological variables, including sleep, appetite, temperature, and hormone secretion, over a 24-hr period. SYN: *diurnal rhythm*.

coupled r. A rhythm in which every other heartbeat produces no pulse at the wrist.

delta r. In electroencephalography, slow waves with a frequency of 4 or fewer per second and of relatively high voltage (20 to 200 μV). It may be found over the area of a gross lesion such as a tumor or hemorrhage.

diurnal r. Circadian r.

ectopic r. A heart rhythm originating outside the sinoatrial node.

escape r. A heart rhythm that arises from a junctional or ventricular source when impulses from the atria or atrioventricular node are blocked.

gamma r. The 50-per-second rhythm seen in the electroencephalogram.

idioventricular r. A cardiac rhythm that arises from pacemakers in ventricular muscle.

junctional r. An electrocardiographic rhythm arising in the atrioventricular junction. It appears as an electrocardiogram as a narrow QRS complex that lacks an upright P wave preceding it.

normal sinus r. The normal heart rhythm whose pacemaker is in the sinoatrial node and whose conduction through the atria, atrioventricular node, and ventricles is unimpaired. The interval between complexes is regular, the ventricular rate is 60 to 100, there are upright P waves in leads I and II, a negative P wave in lead AVR, a P-R interval of 0.12 to 0.20 sec, and one P wave preceding each QRS complex. SYN: *sinus rhythm*.

nyctohemeral r. Day and night rhythm.

sinus r. Normal sinus rhythm.

theta r. The 4- to 7-per-second rhythm seen in the electroencephalogram.

ventricular r. **1.** The pace and synchrony of ventricular depolarization. **2.** An escape rhythm that arises in the ventricles, typically with wide QRS complexes and a rate of 30 to 40 beats per minute.

rhythmicity (rīth-mīs'ī-tē) The condition of being rhythmic.

rhythm method of birth control A method preventing pregnancy that uses abstinence from sexual relations around the time of ovulation. SEE: *contraception*.

rhytide (rī'tīd) Wrinkle.

rhytidectomy (rīt'ī-dēk'tō-mē) [Gr. *rhytis*, wrinkle, + *ektome*, excision] The excision of wrinkles by plastic surgery;



often called a "face-lift." SYN: *rhytidectomy*.

rhytidoplasty (rīt'ī-dō-plās'tē) [" + *plassein*, to form] The elimination of facial wrinkles by plastic surgery.

rhytidosis (rīt'ī-dō'sīs) [" + *osis*, condition] Wrinkling of the cornea, which occurs when tension in the eyeball is greatly diminished, particularly after the escape of aqueous or vitreous humor; usually a sign of impending death. SYN: *rhytidosis*.

RIA *radioimmunoassay*.

rib (rīb) [AS. *ribb*] One of a series of 12 pairs of narrow, curved bones extending laterally and anteriorly from the sides of the thoracic vertebrae and forming a part of the skeletal thorax. With the exception of the vertebral ribs, they are connected to the sternum by costal cartilages. SEE: *illus*.

bicipital r. An irregular condition resulting from the fusion of two ribs, usually involving the first rib.

cervical r. A supernumerary rib sometimes developing in connection with a cervical vertebra, usually the lowest.

false r. One of the lower ribs (8, 9, and 10) that do not join the sternum directly. Their cartilage connects to the cartilage of the seventh rib. The varia-

tion in the anatomy of the lower ribs may be considerable (i.e., there may be only two false ribs). SYN: *vertebrochondral rib*.

lumbar r. A rudimentary rib that develops in relation to a lumbar vertebra.

slipping r. A rib in which the costal cartilage dislocates repeatedly.

sternovertebral r. True r.

true r. Any of ribs 1–7, which articulate directly with the sternum. SYN: *sternal rib*; *sternovertebral rib*.

vertebral r. Any of ribs 1–7, which articulate directly with the sternum.

vertebrochondral r. False rib.

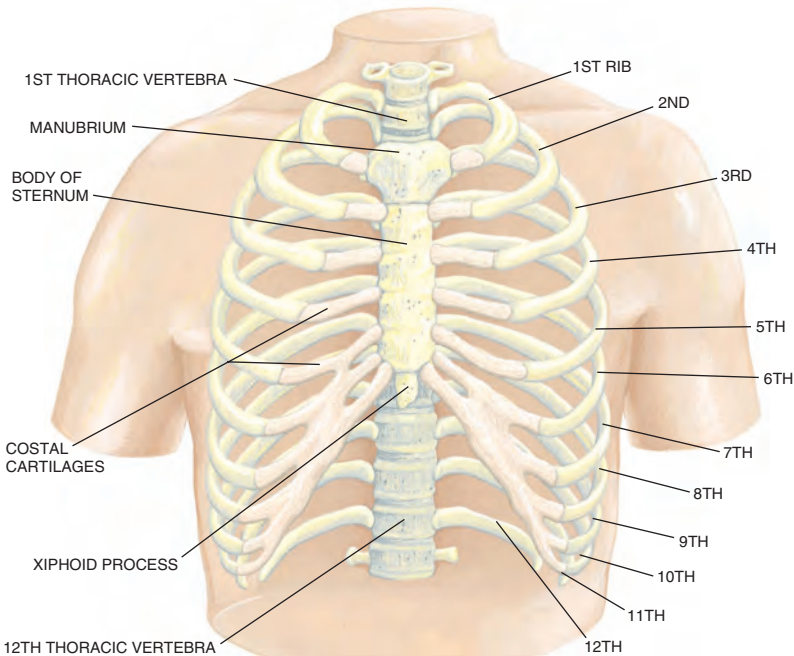
vertebrocostal r. Any of the three false ribs on each side.

ribbon (rīb'ūn) A long, thin, band-shaped structure.

riboflavin (rīb'ō-flā'vīn) $C_{17}H_{20}N_4O_6$; a water-soluble vitamin of the B complex group. It is an orange-yellow crystalline powder. Symptoms of riboflavin deficiency are photophobia, cheilosis, glossitis, and seborrheic dermatitis, esp. of the face and scalp. SYN: *vitamin B₂*.

FUNCTION: Riboflavin is a constituent of certain flavoproteins that function as coenzymes in cellular oxidation. It is essential for tissue repair.

SOURCES: Riboflavin is found in milk and milk products, leafy green vegeta-



RIB CAGE

Anterior view

bles, liver, beef, fish, and dry yeast. It is also synthesized by bacteria in the body.

DAILY REQUIREMENT: Adults require 0.6 mg/1000 kcal of food intake. Infants, children, and pregnant and lactating women require increased amounts.

ribonuclease (rī'bō-nū'klē-ās) **ABBR:** RNase. An enzyme that catalyzes the depolymerization of ribonucleic acid (RNA) with formation of mononucleotides.

ribonucleoprotein (rī'bō-nū'klē-ō-prō'tē-in) A compound containing both protein and ribonucleic acid.

ribonucleotide (rī'bō-nū'klē-ō-tīd) A nucleotide in which the sugar ribose is combined with the purine or pyrimidine base.

ribose (rī'bōs) C₅H₁₀O₅, a pentose sugar present in ribonucleic acids, riboflavin, and some nucleotides.

ribosome (rī'bō-sōm) A cell organelle made of ribosomal RNA and protein. Ribosomes may exist singly, in clusters called polyribosomes, or on the surface of rough endoplasmic reticulum. In protein synthesis, they are the site of messenger RNA attachment and amino acid assembly in the sequence ordered by the genetic code carried by mRNA.

ribosyl (rī'bō-sīl) The compound glycosyl, C₅H₉O₄, formed from ribose.

ribozyme (rī'bō-zīm) An RNA (ribonucleic acid) molecule that functions as an enzyme (catalyst) and either cleaves (breaks down) other forms of RNA or catalyzes other biochemical reactions occurring within cells. **SYN:** *catalytic RNA*.

RICE (rīs) Acronym for rest, ice, compression, and elevation, the elements of management of soft tissue stress or trauma, esp. sports injuries.

rice, polished Rice that has been milled to produce the commercially available white product commonly consumed in Western countries. This treatment removes most of the protein and vitamin B₁, thiamine, from the grain. When polished rice is the major source of calories in the diet, it is associated with the deficiency disease beriberi.

rice water, boiled The water remaining after rice has been cooked in it and removed; formerly used as an oral rehydration agent, esp. for children with diarrhea. The use of oral rehydration solutions, however, has provided a better supply of fluids and electrolytes and has replaced the practice of using boiled rice water for rehydration. **SEE:** *oral rehydration therapy*.

ricin (rī'sīn) A white, amorphous, highly toxic protein present in the seed of the castor bean, *Ricinus communis*. It has been used as a biological weapon.

ricinine (rīs'in-ēn, -īn) A poisonous alkaloid present in the leaves and seeds of the castor bean plant, *Ricinus communis*.

ricinoleic acid (rī-sēn-ō-lē'īk) C₁₉H₃₄O₃, 12-hydroxy-9-octadecanoic acid; an un-


saturated hydroxy acid comprising about 80% of fatty acids in the glycerides of castor oil. It has a strong laxative action.

rickets (rīk'ěts) A disease of bone formation in children, most commonly the result of vitamin D deficiency, marked by inadequate mineralization of developing cartilage and newly formed bone, causing abnormalities in the shape, structure, and strength of the skeleton. This condition may be prevented by exposure to ultraviolet light (sunlight or artificial light) and administration of vitamin D in quantities that provide 400 I.U. of vitamin D activity per day. Vitamin D deficiency disease in adults is known as osteomalacia. **SYN:** *rachitis* (2). **SEE:** *osteomalacia*; *Nursing Diagnoses Appendix*.

ETIOLOGY: Rickets has many causes, including diseases that affect vitamin D or phosphorus intake, absorption, and metabolism; renal tubular disorders; and diseases in which the child is chronically acidotic, among others.

FINDINGS: Affected children are often lethargic, and may have flaccid musculature and decreased muscular strength. On physical examination, multiple bony abnormalities are present, including frontal bossing, bowing of the long bones, flattening of the sides of the thoracic cavity, kyphosis, scoliosis, or lordosis.

TREATMENT: Treatment and prognosis depend on the correction of the underlying cause. Supplemental vitamin D therapy is appropriate for some patients.

 Excessive use of vitamin D (in infants, more than 20,000 I.U. daily; in adults, more than 100,000 I.U. daily) should be avoided because of the risk of hypervitaminosis D.

adult r. Osteomalacia.

late r. Rickets that has its onset in older children.

renal r. A disturbance in epiphyseal growth during childhood due to severe chronic renal insufficiency resulting in persistent acidosis. Dwarfism and failure of gonadal development result. The prognosis is poor.

TREATMENT: Renal rickets is treated with a diet low in meat, milk, cheese, and egg yolk. Calcium lactate or calcium gluconate is given in large doses.

vitamin D refractory r. A rare form of rickets that is not caused by vitamin D deficiency and is thus not responsive to vitamin D treatment. It is caused by a defect in renal tubular function that results in excessive loss of phosphorus.

Rickettsia (rī-kět'sē-ā) [Howard T. Ricketts, U.S. pathologist, 1871–1910] A

genus of bacteria of the family Rickettsiaceae, order Rickettsiales. They are obligate intracellular parasites (must be in living cells to reproduce) and are the causative agents of many diseases. Their vectors are arthropods such as fleas, ticks, mites, and lice. SEE: *rickettsial disease*; *rickettsialpox*; *rickettsiosis*; *tick-borne rickettsiosis*.

R. africanae The causative agent of African tick bite fever, usually found only in sub-Saharan Africa.

R. akari The causative agent of rickettsialpox. The animal reservoir is the house mouse and the vector is a mite.

R. conorii The causative agent of boutonneuse fever found in the Mediterranean, parts of Africa, and India. The animal reservoirs are rodents and dogs and the vectors are ticks of several genera.

R. honei The causative agent of a spotted fever that clinically resembles Rocky Mountain spotted fever. It is found only in Australia and neighboring islands.

R. prowazekii The causative agent of epidemic typhus, spread by the human body louse. Unlike most other Rickettsia, humans are the primary reservoir for *R. prowazekii*, which was once thought to be a strictly human pathogen. Flying squirrels may be animal reservoirs, and humans acquire infection from their lice or fleas. SYN: *louse-borne typhus*.

R. rickettsii The causative agent of Rocky Mountain spotted fever. The animal reservoirs are rodents and dogs and the vectors are ticks of several genera.

R. typhi The agent that causes flea-borne murine (endemic) typhus.

rickettsia (rĭ-kĕt'sĕ-ă) *pl.* **rickettsiae** Term applied to any of the bacteria belonging to the family Rickettsiaceae.

rickettsial disease (rĭ-kĕt'sĕ-ăl) A disease caused by an organism of the family Rickettsiaceae. The most common types are the spotted-fever group (Rocky Mountain spotted fever and rickettsialpox), epidemic typhus, endemic typhus, Brill's disease, Q fever, scrub typhus, and trench fever.

rickettsialpox (rĭ-kĕt'sĕ-ăl-pŏks") An acute, febrile, self-limited disease caused by *Rickettsia akari*. It is transmitted from the house mouse to humans by a small colorless mite, *Allodermatys sanguineus*.

rickettsicidal (rĭ-kĕt'sĭ-sĭ-dăl) Lethal to rickettsiae.

rickettsiosis (rĭ-kĕt'sĕ-ŏ'sis) Infection with rickettsiae.

rickettsiostatic (rĭ-kĕt'sĕ-ŏ-stăt'ĭk) Preventing or slowing the growth of rickettsiae.

RID *related identical donor*.

ridge (rĭj) [ME. *rigge*] An elongated projecting structure or crest.

alveolar r. The bony process of the maxilla or mandible that contains the alveoli or tooth sockets; the alveolar process without teeth present.

basal r. An eminence on the lingual surface of the incisor teeth, esp. the upper ones. It is situated near the gum. SYN: *cingulum* (2).

carotid r. The sharp ridge between the carotid canal and the jugular fossa.

dental r. The raised junction between two planes meeting on the surface of a tooth.

dermal r. One of the ridges on the surface of the fingers that make up the fingerprints; also called *crista cutis*.

epicondylar r. One of two ridges for muscular attachments on the humerus.

external oblique r. An anatomical landmark that is a continuation of the anterior border of the mandibular ramus and extends obliquely to the region of the first molar. It serves as an attachment of the buccinator muscle and appears superior to the mylohyoid ridge on a dental radiograph.

genital r. A ridge that develops on the ventromedial surface of the urogenital ridge and gives rise to the gonads.

gluteal r. A ridge extending obliquely downward from the greater trochanter of the femur for attachment of the gluteus maximus muscle.

interosseous r. A ridge on the fibula for attachment of the interosseous membrane.

interureteric r. A ridge between the openings of the ureters in the bladder.

mammary r. In mammal embryos, a ridge extending from the axilla to the groin. The breasts arise from this ridge. In humans, only one breast normally remains on each side. SYN: *milk line*.

marginal r. Any elevation on the mesial or distal surface or the occlusal surface of a posterior tooth. These ridges resist occlusal loading.

mesonephric r. A ridge that develops on the lateral surface of the urogenital ridge and gives rise to the mesonephros.

mylohyoid r. The line of attachment on the medial aspect of the body of the mandible for the mylohyoid muscle, which forms the floor of the mouth.

superciliary r. Superciliary arch.

urogenital r. A ridge on the dorsal wall of the coelom that gives rise to the genital and mesonephric ridges. SYN: *urogenital fold*. SEE: *genital r.*; *mesonephric r.*

Rieder cell (rĕ'dĕr) A white blood cell with radially segmented nucleus, found in some T cells in patients with lymphoproliferative disorders.

Rift Valley virus (rĭft) SEE: *under virus*.

RIG *rabies immune globulin*.

Riga-Fede's disease (rĕ'gă fă'dăz) [An-

tonio Riga, It. physician, 1832–1919; Francesco Fede, It. physician, 1832–1913] Ulceration of the frenum of the tongue with membrane formation. It occurs after abrasion by the lower central incisors.

Riggs' disease (rĭgz) [John M. Riggs, U.S. dentist, 1810–1885] Periodontitis.

right (rīt) [AS. *riht*] ABBR: R; rt.

1. Pert. to the dextral side of the body (the side away from the heart), which in most persons is the stronger or preferred. SYN: *dexter*. 2. Legal authority to supervise and control one's own actions or the actions of others.

right-handedness The condition of greater adeptness in using the right hand. This characteristic is found in about 93% of the population. SYN: *dextrality*. SEE: *left-handedness*.

right to die The freedom to choose one's own end-of-life care by specifying, for example, whether one would permit or want life-prolonging treatments (e.g., intubation and mechanical ventilation); intravenous or enteral feedings; antibiotics (if infected); narcotic analgesics (if in pain); or medications to hasten death (e.g., in assisted suicide or euthanasia). The moral, ethical, or legal authority to make decisions about many of these issues is a topic of considerable controversy and confusion. Contemporary health care techniques often permit the prolongation of a patient's life, when, in the natural course of biological events, that life might have ended. The ability to postpone death, and the difficulty that health care providers have in predicting when death will occur, has generated many questions about the meaning of care and well-being at the margins of existence. Who should make decisions for patients when they cannot speak for themselves? How should one's wishes be expressed or codified? Who should carry them out if the patient cannot act on his or her own? When must a person's stated wishes be followed precisely, and when should they be factored in with the wishes of loved ones or of those acting on behalf of the patient? Should they ever be ignored or overruled? When does the aid given to a dying person compromise the moral or professional values of others or jeopardize the legal standing of the patient's caregiver? Many of these challenging questions remain unresolved. SEE: *advance directive*; *assisted suicide*; *care*; *end-of-life*; *euthanasia*; *suicide*.

rigid (rĭ'jĭd) [L. *rigidus*] Stiff, hard, unyielding.

rigidity (rĭ-jĭd'ĭ-tē) 1. Tenseness; immovability; stiffness; inability to bend or be bent. 2. In psychiatry, an excessive resistance to change.

cadaveric r. Rigor mortis.

cerebellar r. Stiffness of the body and extremities resulting from a lesion of the middle lobe of the cerebellum.

clasp-knife r. A condition in which passive flexion of the joint causes increased resistance of the extensors. This gives way abruptly if the pressure to produce flexion is continued.

cogwheel r. The condition that occurs when tremor coexists with rigidity as in Parkinson's syndrome. In this condition, manually manipulated body parts may take on the feel of a cogwheel. This can occur also as an extrapyramidal side effect of antipsychotic drug therapy.

decerebrate r. Sustained contraction of the extensor muscles of the limbs resulting from a lesion in the brainstem between the superior colliculi and the vestibular nuclei.

decorticate r. Decorticate posture.

lead-pipe r. Increased muscular tone in an extremity in which (as opposed to cogwheel rigidity) the affected muscle does not move in a discontinuous or jerking fashion as it is pulled back and forth. SEE: *cogwheel r.*

nuchal r. Inflexibility of the neck movement, esp. forward flexion of the neck. It is a sign of meningeal irritation.

penile r. The ability of the erect penis to resist bending or buckling forces applied to its long axis. The greater its resistance, the more effectively the penis can penetrate during intercourse.

rigid spine syndrome A rare form of muscular dystrophy in which the disease is limited to the paraspinal muscles of the neck and back. Unlike other forms of muscular dystrophy, the weakness and stiffness characteristic of this condition are not progressive.

rigor (rĭg'or) [L. *rigor*, stiffness] 1. A sudden paroxysmal shaking chill occurring during a febrile illness. Onset of rigors often corresponds to bacteremia. 2. A state of hardness and stiffness, as in a muscle.

r. mortis The stiffness that occurs in dead bodies. SYN: *cadaveric rigidity*. SEE: *Nysten's law*.

rim An edge or border.

alar r. The tissue at the nostrils that constitutes the external nasal valve.

bite r. Occlusion rim.

hypoechoic r. In ultrasonography, a thin border (2 mm or less) around a body part that produces few echoes. The rim is sometimes seen around abscesses, other inflamed structures, structures with many blood vessels at their edges, or the normal fetal heart.

occlusion r. The biting surfaces built on denture bases to make maxillomandibular relation records and to arrange teeth. SYN: *bite rim*.

orbital r. The anterior edge of the bony orbit, or eye socket, formed by the

maxilla and zygomatic bone inferiorly and the frontal bone superiorly.

rima (rī'mă) *pl.* **rimae** [L., a slit] A slit, fissure, or crack.

r. glottidis An elongated slit between the vocal folds. SYN: *rima vocalis*.

r. vestibuli The space between the false vocal cords.

r. vocalis *Rima glottidis*.

rimose (rī'mōs, rī-mōs') [L. *rimosus*] Fissured or marked by cracks.

rimula (rīm'ū-lă) *pl.* **rimulae** [L.] A minute fissure or slit, esp. of the spinal cord or brain.

RIND (rīnd) *Reversible ischemic neurological deficit*, a stroke whose clinical presentation lasts for a short time and then resolves. Despite the short duration of symptoms or signs, images of the brain taken after RIND often reveal infarction.

rind (rīnd) [AS.] A thick or firm outer coating of an organ, plant, or animal.

ring (rīng) [AS. *hring*] **1.** Any round area, organ, or band around a circular opening. SEE: *annulus*. **2.** In chemistry, a collection of atoms chemically bound in a circle.

abdominal inguinal r. The internal opening of the inguinal canal.

Albl's r. A curved thin shadow seen on a radiographic image of an intracranial aneurysm.

Bandl's r. SEE: *Bandl's ring*.

benzene r. The closed ring of six carbon atoms.

Cabot's r. SEE: *Cabot's rings*.

Cannon's r. A contracted band of muscles in the transverse colon near the hepatic flexure.

capsular tension r. A ring inserted into the capsule of the eye to maintain its shape or integrity, e.g., to compensate for zonular weakness or defects.

ciliary r. *Orbicular ciliaris*.

conjunctival r. A narrow ring at the junction of the edge of the cornea with the conjunctiva; also called *anulus conjunctiva*.

constriction r. A stricture of the body of the uterus; a circular area of the uterus that contracts around a part of the fetus.

deep inguinal r. The opening of the inguinal canal deep inside the abdominal wall.

femoral r. The superior aperture of the femoral canal, approx. 1 cm in diameter.

lymphoid r. of the pharynx A ring-like arrangement of lymphoid tonsillar tissue around the oronasal region of the pharynx. It consists of the palatine, pharyngeal, and lingual tonsils and provides protection against invading bacteria, viruses, and other foreign antigens.

pathologic retraction r. During delivery, a prolonged contraction of the

ring formed by the junction of the body and isthmus of the uterus. SYN: *Bandl's ring*.

physiologic retraction r. A normal contraction of the ring formed by the junction of the body and isthmus of the uterus.

Schatzki r. SEE: *Schatzki ring*.

subcutaneous inguinal r. Superficial inguinal ring.

superficial inguinal r. The opening of the inguinal canal that is just below the skin. SYN: *subcutaneous inguinal ring*. SEE: *abdominal ring*.

teething r. Any relatively soft object on which an infant may chew to relieve discomfort during the eruption of teeth. Teething rings and other teething devices small enough to be inhaled by an infant should never be used.

umbilical r. The opening in the linea alba of the embryo through which the umbilical vessels pass.

vaginal r. **1.** A flexible polymer impregnated with contraceptive hormones which a woman places inside her vagina and leaves in place for 21 or more days. When it is removed, withdrawal bleeding occurs. Side effects can include vaginitis or vaginal irritation. Like other forms of contraception, the ring increases a woman's risk of blood clotting. It should be avoided by smokers. It does not provide protection against sexually transmitted diseases. **2.** A similar device, impregnated with menopausal hormones and used to treat hot flashes, night sweats, and other menopausal symptoms. Like other forms of menopausal hormone replacement, it increases the risk of stroke, heart attack, deep venous thrombosis, breast, and uterine cancers.

vascular r. A congenital abnormality in which an arterial ring encircles the trachea and esophagus. This causes signs of compression of their structures. Surgery may be required to relieve the symptoms.

Ringer, Sydney (rīng'ēr) British physiologist, 1835–1910.

lactated R.'s solution A crystalloid electrolyte sterile solution of specified amounts of calcium chloride, potassium chloride, sodium chloride, and sodium lactate in water for injection. It is used intravenously to replace electrolytes.

R.'s solution A physiologic solution of distilled water containing 8.6 g sodium chloride, 0.3 g potassium chloride, and 0.33 g calcium chloride per liter; for topical (Ringer's irrigation) or intravenous use.

ring removal from swollen finger A technique for the removal of a ring from an injured or swollen finger. One method is described here: One end of a length of string is passed under the ring. The ring is pushed as far from the swollen area

toward the hand as possible; the string is wrapped on the side of the swollen area around the finger for about a dozen turns. The end of the string that extends under the ring is grasped. While being held firmly, the string is unwound from the hand side of the ring. This moves the ring toward the free end of the finger. This procedure should be continued until the ring is free. If this technique fails, the ring may have to be cut from the finger.

ringworm (rīng'wŭrm) The popular term for any contagious skin infection caused by fungi of the genera *Microsporum* or *Trichophyton*. The hallmark of these conditions is a well-defined red rash, with an elevated, wavy, or worm-shaped border. Ringworm of the scalp is called tinea capitis; of the body, tinea corporis; of the groin, tinea cruris; of the hand, tinea manus; of the beard, tinea barbae; of the nails, tinea unguium; and of the feet, tinea pedis or athlete's foot. **SEE:** *illus.*; *Nursing Diagnoses Appendix*.



RINGWORM

Rinne test (rīn'nē) [Heinrich Adolf Rinne, Ger. otologist, 1819–1868] The use of a tuning fork to compare bone conduction hearing with air conduction. The vibrating fork is held by its stem on the mastoid process of the ear until the patient no longer hears it. Then it is held close to the external auditory meatus. If the subject still hears the vibrations, air conduction exceeds bone conduction (this is the normal finding). **SEE:** *Weber test*.

rinse **1.** To wash lightly. **2.** A solution used for irrigation or bathing.

mouth r. A flavored or medicated solution swirled in the mouth, used to treat halitosis, oral infections, aphthous ulcers, stomatitis, or dental biofilm (plaque).



Some alcoholics may occasionally abuse alcohol-based mouth rinses.

sodium fluoride r. A 0.05% aqueous solution of sodium fluoride also containing coloring and flavoring agents, used as a mouth rinse to help prevent dental caries.

ripening **1.** Softening, effacement, and dilation before labor. **SEE:** *Bishop's score*; *prostaglandin*. **2.** Maturation of a cataract.

cervical r. The biochemical changes in the cervix that take place gradually over the last few weeks of gestation in preparation for childbirth. The cervix softens, and its potential for stretching increases. Normally this occurs naturally, but in postterm pregnancies it may be necessary to use mechanical dilators or drugs. Placement of *Laminaria digitata* or prostaglandin E analogs (e.g., misoprostol) in the vagina or cervical canal promotes cervical ripening and onset of labor but does not reduce the rate of cesarean deliveries.

PATIENT CARE: Fetal status is assessed by monitoring the heart rate for 30 min before gel insertion and for approx. 1 hr after the procedure. The woman is assessed for uterine contractions and signs of hyperstimulation, nausea, or vomiting. If hyperstimulation occurs, the gel is removed, and the primary health care provider is notified.

rippling muscle disease A rare autosomal dominant muscle disease whose symptoms include spontaneous muscle contraction when muscles are stimulated by stretching, percussion, or squeezing. Affected patients are usually recognized during childhood. They may demonstrate weakness of facial muscles, frequent falls, or difficulty walking on their heels or toes as a result of calf muscle weakness.

risk [origin obscure] The probability that a loss or something dangerous or harmful will occur.

acceptable r. A tolerable level of harm or potential harm.

r. assessment Quantitation of the risks to which people are exposed by compilation of morbidity and mortality data over specified periods of time.

attributable r. Attributable fraction.

material r. A significant potential for harm that a reasonable person would want to consider when making a decision about undergoing a medical or surgical treatment.

relative r. In epidemiological studies, the relative amount of disease occurring in different populations; the ratio of incidence rate in the exposed group to that in the unexposed group. **SEE:** *ratio*, *odds*.

risk-benefit analysis Examination of the

potential positive and negative results of undertaking a specific therapeutic course of action. For example, a man with a slowly growing, localized prostate cancer might want to know whether it is better to undergo surgery (and risk urinary incontinence and erectile dysfunction) or to manage his disease conservatively (and risk the spread of the disease). Factors influencing his decision include:

- 1 financial cost of the operation;
- 2 likelihood of disease spread;
- 3 likelihood of complications with or without the operation;
- 4 life expectancy;
- 5 overall state of health; and
- 6 alternative treatments for his disease.

risk factor An environmental, chemical, psychological, physiological, or genetic element that predisposes an individual to the development of a disease. For example, risk factors for coronary artery disease include hypertension, high circulating blood lipids and cholesterol, obesity, cigarette smoking, diabetes mellitus, physical inactivity, microalbuminuria, chronic kidney disease, and an early family history of atherosclerosis. SEE: *ratio, odds; risk, relative.*

risk for posttrauma syndrome A risk for sustained maladaptive response to a traumatic, overwhelming event. It is a nursing diagnosis accepted at the NANDA 13th Conference (1998).

risk management The methods used by health care organizations to defend their assets against the threats posed by legal liability. It includes

1. the identification of health care delivery problems in an institution (as evidenced by previous lawsuits, allegations, and patient or staff complaints);
2. the anticipation of problems that may arise in the future;
3. the development of standards and guidelines to enhance the quality of care.
4. Several of the most important issues in risk management for health care institutions are listed in the table. SEE: table.

risk perception Concern about the probability of succumbing to a potential illness.

risk ratio ABBR: RR. The probability of the occurrence of a disease in a group that has been exposed to some environmental, medicinal, microbial, or toxic influence, relative to its probability in a randomly selected population.

risk-taker An individual who willfully exposes himself or herself to activities that others regard as hazardous.

risorius (rī-sō'rē-ūs) [L., laughing] The muscular fibrous band arising over the masseter muscle and inserted into the tissues at the corner of the mouth.

Prominent Issues in Hospital Risk Management

Anesthesia	Intubation errors; medication side effects
Childbirth	Infant trauma or death; delayed responsiveness of staff
Confidentiality Consent	Breaches of privacy Failure to disclose risks of and alternatives to treatment
Death	Wrongful or unexpected deaths

Risperdal Risperidone.

risperidone (rīs-pēr'ī-dōn") A benzisoxazole administered orally to manage psychotic disorders. Its therapeutic class is antipsychotic.

RIST (rīst) *radioimmunosorbent test.*

ristocetin (rīs'tō-sē'tīn) An antibiotic obtained from cultures of *Nocardia lurida*.

risus (rī'sūs) [L.] Laughter; a laugh.

r. sardonius A peculiar grin, as seen in tetanus, caused by acute facial spasm.

Ritgen's maneuver (rīt'jēnz) [A. M. F. von Ritgen, German obstetrician, 1787–1867] A manual method of controlling the delivery of the fetal head. The non-dominant hand exerts pressure against the fetal chin through the perineum. At the same time, the dominant hand exerts pressure against the fetal occiput. The maneuver should be performed slowly and between contractions to avoid perineal lacerations.

Ritter's disease (rīt'ērz) [Gottfried Ritter von Rittershain, Ger. physician, 1820–1883] A generalized form of impetigo of the newborn.

ritual (rīch'ū-äl) **1.** A customary or prescribed procedure of special, often social or religious, significance. **2.** In psychiatry, any activity performed compulsively to relieve anxiety.

ritualistic surgery Surgical procedures without scientific justification, performed in primitive societies without the purpose of treating or preventing disease. Included are alterations of the skin, ears, lips, teeth, genitalia, and head. In some cases, even in nonprimitive societies, surgical procedures without rational justification are considered ritualistic.

rivalry (rī'vāl-rē) Competition between two or more individuals, groups, or systems seeking to attain the same goal.

binocular r. The continuous alternation in the conscious perception of visual stimuli to the two eyes.

gender r. Competition between the

sexes for status and compensation, esp. in business, politics, and sports.

perceptual r. The conflicting perception of ambiguous sensory data, e.g., of light and dark interlocking images. The viewer sees first the light and then the dark parts of the image as dominant.

retinal r. Binocular rivalry.

sibling r. The competition between children for attention and affection from others, esp. their parents.

rivalry strife Alternate sensations of color and shape when the fields of vision of the two eyes cannot combine in one visual image.

Rivermead Motor Assessment (rĭv'ēr-mēd") An instrument used to assess the mobility of patients following a stroke. It includes assessments of gross motor function, fine motor function, and postural control.

Rivinus, August Quirinus (rĭ-vē'nūs) German anatomist, 1652–1723.

R.'s gland A sublingual gland.

rivus lacrimalis (rĭ'vūs) [L. *rivus*, little stream, + *lacrima*, tear] The pathway under the eyelids through which tears travel from their source in the lacrimal glands to the punctum lacrimale.

riziform (rĭz'ĭ-form) [Fr. *riz*, rice, + L. *forma*, form] Resembling rice grains.

RLE *right lower extremity*.

RLF *retrolental fibroplasia*.

RLL *right lower lobe* of the lung.

RLQ *right lower quadrant* (of abdomen).

RMA *right mentoanterior presentation* (of the fetal face).

RML *right middle lobe* (of the lung).

RMP *right mentoposterior presentation* (of the fetal face).

RMS *rhabdomyosarcoma*.

RMT *right mentotransverse* (fetal position).

Rn Symbol for the element radon.

RNA *ribonucleic acid*.

HIV RNA The genetic material of the human immunodeficiency virus. Its quantity in the bloodstream correlates with the severity and prognosis of the acquired immunodeficiency syndrome. Drug regimens for AIDS, esp. those that use a combination of protease inhibitors and reverse transcriptase inhibitors, aim to decrease the amount of HIV RNA in the blood to undetectable levels.

RNAi *RNA interference*.

RNA interference ABBR: RNAi. The blocking of gene expression by disrupting the translation of messenger RNA into proteins. SYN: *posttranscriptional gene silencing*.

RNase *ribonuclease*.

RNC *registered nurse certified*.

ROA *right occipitoanterior* (fetal position).

ROAT *repeat open application test*.

Robertson's pupil (rōb'ĕrt-sĭnz pū'pĭl) Argyll Robertson pupil.

robotics (rō-bō' tĭks) [Czech robot, robot]

1. The science and technology of using computerized or automated devices to perform functions that are either too difficult or too repetitive to perform manually. Robotics has numerous applications in health care. Surgeons use automated devices to improve control of their instruments, including scalpels and laparoscopes. Researchers use robots in experiments requiring repetitive tasks (e.g., sample analysis for the presence of minute concentrations of drugs or toxins). 2. The design, manufacture, and use of robots.

Rochalimaea (rō'chā-li-mē'ă) Former name for the genus *Bartonella*.

R. quintana SEE: *Bartonella quintana*.

Rocio (rō'syō) [Brazilian Portuguese] A mosquito-borne viral encephalitis found in Brazil.

rocker board A board with rockers or a partial sphere on the undersurface so that a rocking motion occurs when a person stands on it. It is used for proprioception and balance training, esp. in lower-extremity injuries and central nervous system disturbances. Also called *balance board*; *wobble board*.

rocker knife An assistive device for persons with limited upper-extremity function. It allows one-handed stabilization and cutting of food.

rocking A technique in neurodevelopmental rehabilitation for increasing muscle tone in hypotonic patients through vestibular stimulation.

body r. Rhythmic movements seen esp. in the bored, lonely, cognitively impaired, visually impaired, or disturbed.

Rocky Mountain spotted fever (rōk'ē mōwn'tĭn spōt'id fē'vēr) An infectious disease caused by the bacterium *Rickettsia rickettsii* and transmitted by the wood tick *Dermacentor andersoni* or *D. variabilis*. Originally thought to exist only in the western U.S., it can occur anywhere that the tick vector is present.

SEE: *illus*.



ROCKY MOUNTAIN SPOTTED FEVER

The organism causes fever, headache, myalgia, and a characteristic vasculitic rash. The rash appears several days af-

ter the other symptoms, first erupting on the wrists and ankles, then on the palms and soles. It is nonpruritic and macular and spreads to the legs, arms, trunk, and face. Disseminated intravascular coagulation or pneumonia may be serious complications. Tetracyclines are the drug of choice for treating this disease, but their use in pregnant women is not advised. Chloramphenicol may be substituted.

Persons living in areas with wood ticks should wear clothing that covers much of their bodies, including the neck, to prevent ticks carrying the disease from attaching to the skin. People who live in or travel to areas where ticks flourish should examine their scalps, skin, and clothing daily. Ticks should be grasped close to the mouthparts (not on the tick's body), as close to their point of attachment to their human host as possible. Pets should be examined regularly for ticks.

rod (rōd) [AS. *rodd*, club] **1.** A slender, straight bar. **2.** One of the sensory receptors in the retina that detects light. **3.** A bacterium shaped like a rod, a bacillus.

enamel r. One of the minute calcium-rich rods or prisms laid down by ameloblasts and forming tooth enamel. SYN: *enamel prism*.

retinal r. A receptor in the retina that responds to the presence of light. SEE: *retina* for illus.

rodent Any mammal of the Rodentia order, such as mice, rats, and squirrels.

rods and cones The photoreceptor cells of the retina. They are between the pigment epithelium and the bipolar layer of neurons. The rods contain rhodopsin, which is stimulated by light; the cones contain one of three other photopigments, which are stimulated by various wavelengths of visible light (colors). SEE: *cone* (2); *night vision*; *rod*.

Roentgen, Wilhelm Konrad (rĕnt'gĕn) German physicist, 1845–1923, who discovered roentgen rays (x-rays) in 1895. He won the Nobel Prize in physics in 1901.

roentgen (rĕnt'gĕn) [Wilhelm Konrad Roentgen, Ger. physicist, 1845–1923] ABBR: R. A unit for describing the exposure dose of x-rays or gamma rays. One unit can liberate enough electrons and positrons to produce emissions of either charge of one electrostatic unit of electricity per 0.001293 g of air (the weight of 1 cm³ of dry air at 0°C and at 760 mm Hg).

roentgen equivalent (in) man ABBR: rem. A measure of the effect that a specific dose of radiation has on human cells. It is expressed numerically as the product of the radiation absorbed dose (rad) and a quality factor (QF) specific for the type of radiation. The SI unit

equivalent to the rem is the sievert (Sv). One rem is equal to 0.01 sievert.

Roentgenium ABBR: Rg. A synthetic radioactive metal with a short-half life (formerly, Ununonium; the symbol was Uuu); atomic number 111.

roentgenogram (rĕnt'gĕn'ō-grām, rĕnt'gĕn-ō-grām") Radiograph.

roentgenography (rĕnt'gĕn-ōg'rā-fĕ) Radiography.

body section r. Tomography.

mucosal relief r. An x-ray examination of the intestinal mucosa after ingested barium has been removed and air under slight pressure has been injected. This leaves a light coat of barium on the mucosa and permits x-ray pictures of the fine detail of the mucosa.

serial r. Repeated x-ray pictures taken of an area at defined but arbitrary intervals.

roentgenology (rĕnt'gĕn-ōl'ō-jĕ) Radiology.

roentgenometer (rĕnt'gĕ-nōm'ĕ-tĕr) Radiometer.

roentgenotherapy, roentgentherapy (rĕnt'gĕn-ō-thĕr'āp-ĕ) Radiotherapy.

Roger's disease (rō-zhāz') [Henri L. Roger, Fr. physician, 1809–1891] Ventricular septal defect.

Rogers, Martha (rōj'ĕrz) A nursing educator, 1914–1994, who developed the Science of Unitary Human Beings. SEE: *Nursing Theory Appendix*.

Rokitansky's disease (rō'kī-tān'skĕz) [Karl Freiherr von Rokitansky, Austrian pathologist, 1804–1878] Fulminant hepatitis.

Rolando's area (rō-lān'dōz) [Luigi Rolando, It. anatomist, 1773–1831] A motor area in the cerebral cortex, situated in the anterior central convolution in front of Rolando's fissure in each hemisphere.

Rolando's fissure The furrow between the frontal and parietal lobes of a cerebral hemisphere. SYN: *sulcus centralis*.

Rolando fracture A comminuted intra-articular fracture of the base of the first metacarpal with distal fragment subluxation. This fracture is similar to a Bennett's fracture but with more comminution.

role (rōl) [O.Fr. *rolle*, roll of paper on which a part is written] The characteristic social behavior of an individual in relationship to the group.

gender r. The characteristic lifestyle and behavior pattern of a person with respect to sexual and social conditions associated with being of a particular sex. Usually this behavior represents how the individual feels about his or her own sexual preference; it may not coincide with the true chromosomal and anatomical sexual differentiation of the person.

sick r. A dependent affect or behav-

ior, or both, associated with physical or mental illness.

role competence The ability to effectively and satisfactorily perform as expected within one's life roles. SEE: *occupational performance*.

role model One who serves as an example for others by demonstrating the behavior associated with a particular social position or profession.

role performance, ineffective A change in patterns of behavior and self-expression that do not match the environmental context, norms, and expectations. SEE: *Nursing Diagnoses Appendix*.

role playing The assignment and acting out of a role in a treatment setting to provide individuals an opportunity to explore the behavior and feelings of others or to see themselves as others see them. It is also used to teach such skills as interviewing, history taking, and doing a physical examination.

Rolfing (rɒl'fɛŋ) [Ida P. Rolf, U.S. biochemist, 1897–1979] A therapy designed to realign the body with gravity through fascial manipulation. SYN: *structural integration*.

roll A usually solid, cylindrical structure.

cotton r. A cylindrical mass of purified and sterilized cotton used as packing or absorbent material in various dental procedures.

iliac r. A sausage-shaped mass in the left iliac fossa. It is due to a collection of feces in or induration of the walls of the sigmoid colon.

lumbar r. A cushion placed behind and supporting the lower back, enabling a person with sciatica or other spinal problems to sit comfortably.

scleral r. SEE: *spur*, *scleral*.

roller (rɒl'ɛr) [O.Fr., roll] **1.** A strip of muslin or other cloth rolled up in cylinder form for surgical use. **2.** A roller bandage.

bandage r. A device for rolling bandages.

rolling timeframe In modular education, an approach to learning in which students complete objectives at their own pace and advance to new objectives (and ultimately, to graduation) only after demonstrating mastery of each prerequisite.

ROM (rɒm) *read-only memory; rupture of membranes*.

R.O.M., ROM *range of motion*.

Roman numeral (rɒ'mæn) One of the letters used by the ancient Romans for numeration, as distinct from the arabic numerals that we now use. In Roman notation, values are changed either by adding one or more symbols to the initial symbol or by subtracting a symbol to the right of it. For example, V is 5, IV is 4, and VI is 6. Hence, because X is 10, IX is 9 and XI is 11. SEE: Roman nu-

merals in *Latin and Greek Nomenclature Appendix*.

rombergism (rɒm'bɛrg-izm) The tendency to fall from a standing position when the eyes are closed and the feet are close together. SEE: *Romberg's sign*.

Romberg's sign (rɒm'bɛrgs) [Moritz Heinrich Romberg, Ger. physician, 1795–1873] The inability to maintain body balance when the eyes are shut and the feet are close together. The sign is positive if the patient sways and falls when the eyes are closed. This is seen in sensory ataxia and following traumatic brain injury.

rongeur (rɒn-zhūr') [Fr., to gnaw] An instrument for removing small amounts of tissue, particularly bone; also called *bone nippers*. A rongeur is a spring-loaded forceps with a sharp blade that may be either end cutting or side cutting.

roofer's knee SEE: under *knee*.

room [AS. *rum*] An area or space in a building, partitioned off for occupancy or available for specific procedures.

anechoic r. A room in which the boundaries are made so that all sound produced in the room is absorbed (i.e., not reflected).

clean r. A controlled environment facility in which all incoming air passes through a filter capable of removing 99.97% of all particles 0.3μ m and larger. The temperature, pressure, and humidity in the room are controlled. Clean rooms are used in research and in controlling infections, esp. for persons who may not have normally functioning immune systems (e.g., individuals who have been treated with immunosuppressive drugs in preparation for organ transplantation).

In very rare instances a child is born without the ability to develop an immune system. Such children are kept in a clean room while waiting for specific therapy such as bone marrow transplantation.

delivery r. A room to which an obstetrical patient may be taken for childbirth.

dust-free r. A type of room designed to eliminate or reduce circulating particulate matter, including airborne microorganisms. This kind of room is useful for housing burn patients, removing allergens from the air, providing an environment for transplantation surgery, and preparing drugs and solutions for intravenous use.

labor r. A room in which an obstetrical mother may be placed during the first stage of labor.

operating r. A room used and equipped for surgical procedures (e.g., in a hospital, surgicenter, or doctor's office).

recovery r. An area provided with

equipment and nurses needed to care for patients who have just come from surgery. Patients remain there until they regain consciousness, are no longer drowsy and stuporous from the effects of the anesthesia, and have stable vital signs. Patients who are being discharged from a short stay recovery area should also be able to tolerate oral fluids and void without difficulty.

rooming-in The practice of placing an infant in the same hospital room as the mother, beginning immediately after birth.

root (rüt) [AS. *rot*] **1.** The underground part of a plant. **2.** A bundle of pia-covered axons that emerges from or enters into the brain or spinal cord inside the dura; the central-most end of a peripheral nerve, inside the dura. **3.** A portion of an organ implanted in tissues. SYN: *radix*. **4.** The part of the human tooth covered by cementum; designated by location (mesial, distal, buccal, lingual). **5.** A hex or spell, esp. one that relies on herbal rituals to produce or heal disease; sorcery; voodoo. In the coastal regions of the southeastern U.S., esp. among those of Caribbean or African descent, "rootwork" is relied on as a traditional form of healing and hexing.

anterior r. One of the two roots by which a spinal nerve is attached to the spinal cord; contains efferent nerve fibers.

dorsal r. The *radix dorsalis* or sensory root of each spinal nerve. SYN: *sensory root*.

r. of mesentery The origin of the mesentery of the small intestine along the back wall of the abdomen.

motor r. The anterior root of a spinal nerve. SYN: *ventral root*.

r. of nose The top of the nose where it meets and makes an angle with the base of the forehead between the eyes.

posterior r. One of the two roots by which a spinal nerve is attached to the spinal cord; contains afferent nerve fibers.

sensory r. Dorsal r.

ventral r. Motor r.

root cause The source of a problem, that is, the underlying reason that it occurred.

root cause analysis In health care delivery a formal study of a problem used to determine how to avoid or prevent similar problems in the future.

root coverage A general term for one of several periodontal techniques used to treat gingival recession. Dental roots may be covered with tissue grafts, flaps, or tissue regenerative procedures.

root formation The development of tooth roots by Hertwig's root sheath and the epithelial diaphragm. It involves the formation of root dentin with a covering of cementum essential for the attach-

ment of the tooth to the surrounding bony tissues. Root formation or development continues for months or years after the tooth has erupted into the mouth.

root pick A dental instrument for retrieving root fragments resulting from tooth extraction; also called *apical elevator*.

root planing SEE: *planing* (2).

root resorption of teeth Degeneration of tooth roots caused by endocrine imbalance or excessive pressure of orthodontic appliances. Root resorption may be categorized as internal or external. Internal root resorption, sometimes called internal granuloma, is usually a result of pulpal trauma. Affected teeth demonstrate a radiolucent enlargement within the pulp canal on a dental radiograph. External root resorption has a variety of causes, including eruption pressure, localized infection, and forced orthodontic pressure. Radiographs demonstrate roots that appear to be sawed off or shortened.

ETIOLOGY: Traumatic sources of resorption may include pulpal trauma, eruption pressure, localized infection, previous injury, and forced orthodontic pressure; however, resorption has occurred with no identifiable source of trauma.

SYMPTOMS: Patients may be asymptomatic or they may experience localized sensitivity.

TREATMENT: The treatment includes eliminating the trauma, if possible.

R.O.P. right occipitoposterior. In this fetal presentation, the occiput of the fetus is in relationship to the right sacroiliac joint of the mother.

rope ladder A device that helps a person pull up from a supine to a seated position in bed. It is usually made of two strands of rope with several rigid plastic or wooden rungs strung at intervals. At one end is the first of several rungs that are used to grab and pull oneself up, and at the far end, the ropes attach to the bed frame at the foot of the bed.

Roper-Logan-Tierney Model of Nursing

A conceptual model of nursing developed and refined by Nancy Roper, Winifred W. Logan, and Alison J. Tierney. The model focuses on individualized activities of living. The goal of this model of nursing is to provide individualized care.

ropeway (röp'wā") A guidewire, esp. one used to cannulate a narrow orifice, such as the sphincter of Oddi.

Rorschach test (ror'shāk) [Hermann Rorschach, Swiss psychiatrist, 1884–1922] A psychological test consisting of 10 different inkblot designs. The subject is asked to interpret each design individually. The test has been used to reveal personality disturbances.

rosa (rō'zā) [L.] Rose.

rosacea (rō-zā'sē-ā) [L. *rosaceus*, rosy] A chronic rose-colored eruption, usually localized to the middle of the face (nose, cheeks, forehead, around the eyes, on the chin). There are four types named for the predominant skin finding—telangiectatic (marked by the appearance of spidery blood vessels on affected skin), papulopustular (bumpy/pustular lesions), phymatous (nasal scarring and deformity), and ocular (involving the lids, lashes, or conjunctiva). The condition is common, esp. in persons of Northern European ancestry. It usually is noted first between the ages of 30 and 50. Women are affected more often than men. **SEE: illus.**



ROSACEA

PATIENT CARE: Rosacea affects approximately 14 million Americans. In many the condition is quite mild; it may be mistaken for a sunburn, mild acne, or age-related changes in complexion. Treatments vary with the presenting findings. Electrolysis, lasers, and pulse light therapy can be used to treat telangiectases and rhinophyma. Topical medications, such as azelaic acid or metronidazole, are used to treat the papulopustular form of the disease. Oral antibiotics are also used in treatment-resistant disease. Aggravating factors may include ultraviolet light exposure, psychological stress, some foods and beverages, exercise, and skin care products. The health care provider should provide the patient with a list of the most common triggers and printed materials that offer tips for coping with them. Patients with rosacea should avoid irritating the skin of the face during cleansing and should wear a sunscreen that blocks both ultraviolet A and B rays, with a protection factor of 15 or higher on a year-round basis. Sunscreens containing micronized zinc oxide or titanium oxide to absorb photons may be less irritating to sensitive skin.

Topical or oral steroids worsen the condition. Actual or feared facial changes affect one's body image and may cause embarrassment, frustration, low self-esteem, anxiety, and depression. Empathic support can be helpful. Individuals who seek organized group support should contact the National Rosacea Society (www.rosacea.org). Telephone: 1-888-NO-BLUSH

steroid r. Acne caused by systemic or topical use of corticosteroid drugs. **SEE: illus.**



STEROID ROSACEA

Rosai-Dorfman disease (rō-sā'ē, sī'dōrfmān) ABBR: RDD. A nonmalignant, lymphoproliferative disorder characterized by painless lymph node enlargement, fever, and polyclonal hyperglobulinemia. **SYN:** *sinus histiocytosis with massive lymphadenopathy*.

rosaniline (rō-zān'ī-līn) A basic dye used in preparing other dyes.

rosary (rō'zā-rē) Something that resembles a string of beads.

rachitic r. Palpable areas at the juncture of the ribs with their cartilages. This is seen in conjunction with rickets. **SEE: rachitic bands.**

rose bengal sodium ¹³¹I (rōz) A standardized preparation of radioactive iodine and rose bengal used in photoscanning the liver and testing liver function.

rose fever Hay fever of early summer attributed to inhaling rose pollen. **SEE: hay fever.**

rose-handler's disease Sporotrichosis. **Rosenbach, Ottomar** (rō'zēn-bōk) German physician, 1851–1907.

R.'s sign 1. A fine, rapid tremor of the closed eyelids, seen in hyperthyroidism. 2. In functional disorders, the inability to obey a command to close the eyes. 3. The absence of an abdominal skin reflex in intestinal inflammation or hemiplegia.

R.'s test An obsolete test for bile in the urine.

roseo- 1. Combining form meaning *rose-colored*. 2. A prefix in chemical terms.

roseola (rō-zē'ō-lā, rō'zē-ō'lā) [L. *roseus*, rosy] A skin condition marked by maculae or red spots of varying sizes on the skin; any rose-colored rash.

r. idiopathica A macular eruption

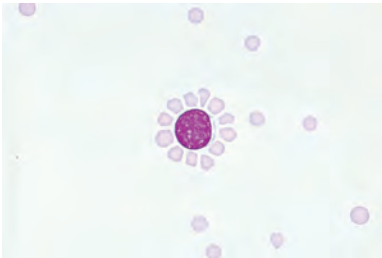
not associated with any well-defined symptoms.

r. infantum Exanthem subitum.

roseolovirus (rō'zē-ō'lō-vī'rūs) [r + v] A genus of herpesviruses that infect lymphocytes. Members of the genus include herpesvirus 6 and 7 (HHV-6 and HHV-7).

Rose's position (rōz) [Frank A. Rose, Brit. surgeon, 1873–1935] A fully extended position in which the patient's head is allowed to hang over the end of the operating room table to prevent aspiration of blood during surgery on the mouth and lips.

rosette (rō-zēt') [Fr., small rose] **1.** A structure that has a rose shape, such as an array of phagocytic cells around an object they are consuming. **2.** A spherical group of fine red vacuoles surrounding the centrosome of a monocyte. **SEE: illus. 3.** A mature schizont. **SYN: segmenter.**



ROSETTE OF RED BLOOD CELLS

rosin (rōz'īn) [L. *resina*] A substance distilled from pine trees, sometimes used in adhesives, plastics, or polishes, and occasionally causing allergic contact dermatitis.

Rossolimo's reflex (rōs'ō-lē'mōz) [Gregory I. Rossolimo, Russian neurologist, 1860–1928] Plantar flexion of the second to fifth toes in response to percussion of the plantar surface of the toes.

Ross River virus (rōs) An alphavirus transmitted by mosquito bite that causes fevers, rash, and "epidemic arthritis" in multiple joints. It is typically found in Australia and neighboring islands.

rostellum (rōs-tēl'lūm) *pl. rostellula* [L., little beak] A fleshy protrusion on the anterior end of the scolex of a tapeworm, bearing one or more rows of spines or hooks.

rostral (rōs'trāl) [L. *rostralis*] **1.** Resembling a beak. **2.** Toward the front or cephalic end of the body.

rostricaudal (rōs'trō-kawd'l) [L. *rostrum*, snout, beak (of bird), prow (of ship), speaker's platform + L. *cauda*, tail] In anatomy, along the long (head-to-tail) axis of the body.

rostrum (rōs'trūm) *pl. rostrums; rostra* [L. *rostrum*, snout, beak (of bird), prow

(of ship), speaker's platform] Any hooked or beaked structure.

rosulate (rōs'ū-lāt) [L. *rosulatus*, like a rose] Shaped like a rosette.

rot (rōt) [ME. *rotēn*] To decay or decompose.

jungle r. The common term for certain fungal skin diseases that occur in the tropics.

ROT *right occipito transverse* (fetal position).

rotameter (rō-tām'ē-tēr) A device for measuring the flow of a gas or liquid.

rotate (rō-tāt) [L. *rotare*, to turn] To twist or revolve.

RotaTeq (rōt'ā-tēk) Rotavirus vaccine, live, oral pentavalent.

rotation (rō-tā'shūn) [L. *rotatio*, a turning] The process of turning on an axis.

fetal r. Twisting of the fetal head as it follows the curves of the birth canal downward.

optical r. **SEE: optical activity.**

tooth r. The repositioning of a tooth by turning it on its long axis to a more normal occlusal position.

rotator (rō-tā'tor) *pl. rotatores* A muscle revolving a part on its axis.

rotavirus (rō'tā-vī'rūs) [L. *rota*, wheel, + *virus*, poison] Any of a group of double-stranded RNA viruses that worldwide is the most common cause of dehydrating diarrhea in children. In the U.S. during the peak season (October through May), these viruses account for one third of all hospitalizations for diarrhea in children under five. Five hundred or so rotavirus-associated deaths are reported annually, most in children under age two. The incubation period of the disease is short (1 to 3 days), and the transmission is the fecal-oral route. The first effective vaccine was withdrawn when its use in infants was associated with intussusception. In 2005 the FDA approved a new rotavirus vaccine.

röteln, rōtheln (rēt'ēln) Rubella.

Rothmund-Thomson syndrome (rōth'mōnd'tōm'sīn) **ABBR: RTS.** A rare autosomal recessive disease in which helicase is formed abnormally. Children affected by RTS have poikiloderma; deformities of bone, nails, and hair; premature aging; and a predisposition to cancer.

Roth's spots (rōths spōts) [Moritz Roth, Swiss physician and pathologist, 1839–1914] Retinal hemorrhages with pale centers, seen in subacute bacterial endocarditis, severe anemia, and leukemia. The condition is caused by a systemic infection, particularly acute infective endocarditis.

Rotor syndrome (rō-tōr) A benign form of hyperbilirubinemia transmitted as an autosomal recessive trait, in which there is jaundice, but normal aminotransferase levels and normal hepatic

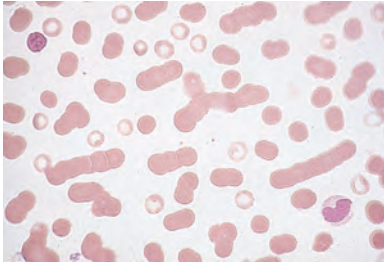
synthesis of albumin and clotting factors.

rototome (rō'tō-tōm) A device for cutting tissue, used in arthroscopic surgery.

rough (rūf) Not smooth.

roughage (rūf'āj) Food fiber that is largely indigestible. SEE: *cellulose; fiber, dietary*.

rouleau (roo-lō') *pl. rouleaux* [Fr., roll] A group of red blood cells that are stuck together, resembling a roll of coins. SEE: *illus*.



ROULEAUX FORMATION

rounds, grand A medical education procedure, used esp. in teaching hospitals, in which all aspects of a patient's condition, management, and problems encountered are presented to faculty members, medical students, and health care workers. This provides an opportunity for all concerned to ask questions and provide comments on the patient's diagnosis, care, and clinical program. The patient is usually, but not always, present during the conference. This method of teaching was begun in America by Sir William Osler at Johns Hopkins Hospital, Baltimore, Maryland.

roundworm Any member of the phylum Nematelminthes (Aschelminthes), esp. one belonging to the class Nematoda. SEE: *threadworm*.

routine **1.** A regularly performed behavioral sequence. **2.** A standard method of completing a procedure, based on rules or habit. In occupational therapy a customary morning routine might include toileting, bathing, grooming, dressing, eating breakfast, and reading the newspaper.

Roux-en-Y (roo'ēn-wī') An anastomosis of the distal divided end of the small bowel to another organ such as the stomach, pancreas, or esophagus. The proximal end is anastomosed to the small bowel below the anastomosis.

Roux-en-y gastric bypass A bariatric surgical procedure in which the superior portion of the stomach is isolated from the rest of the stomach and the jejunum is connected to it. As a result, food passes directly from the proximal stomach into the middle of the small in-

testine. It bypasses the majority of the stomach, which is isolated from the working portion of the stomach and from the duodenum. An opening is made in the duodenum and the jejunum, and the two organs are connected via a surgical stoma. This permits drainage into the jejunum of gastric secretions from the isolated greater curvature of the stomach. This form of gastric bypass is the most common bariatric surgical procedure and among the most successful. Since the duodenum absorbs many important vitamins and nutrients, including iron, vitamin B₁₂, and calcium, nutritional deficiencies and iron-deficiency anemia are common complications. Others include nausea, vomiting, ulcers, and anastomotic leaks.

Rovsing's sign (röv'zīngz) [Niels Thor-kild Rovsing, Danish surgeon, 1862–1927] Pain referred to McBurney's point on palpation of the left lower abdomen. The sign suggests peritoneal irritation in appendicitis.

Roxicodone Oxycodone.

Roxicodone SR Oxycodone.

Roy, Callista (roy, kā-lis'tā) A nursing educator, born 1939, who developed the Roy Adaptation Model of Nursing. SEE: *Nursing Theory Appendix*.

Roy Adaptation Model (roy) A conceptual model of nursing developed by Callista Roy. Individuals and groups are adaptive systems with physiological/physical, self-concept/group identity, role function, and interdependence modes of response to focal, contextual, and residual environmental stimuli. The goal of nursing is promotion of adaptation through increasing, decreasing, maintaining, removing, altering, or changing environmental stimuli. SEE: *Nursing Theory Appendix*.

royal jelly (roi'il) [ME.] A collection of carbohydrates, lipids, minerals, pheromones, and proteins secreted by worker honeybees (*Apis mellifera*). It is used in the hive to nourish larvae, including those that develop into the queen bee. Its constituents affect blood-forming and immune cells. It is marketed as a nutritional supplement with numerous putative effects on aging and energy.



Allergic and anaphylactic reactions to this and other bee products are frequently reported.

RPF renal plasma flow.

RPFT registered pulmonary function technician.

R.Ph. registered pharmacist.

rpm revolutions per minute.

RPO right posterior oblique position.

RPR rapid plasma reagin.

R.Q. respiratory quotient.

-rrhage, -rhage Combining forms used as a suffix meaning *rupture, profuse fluid discharge*, as in hemorrhage.

-rrhagia, -rhagia (rā'jē-ă) [Gr. *rhegnynai*, to burst forth] Combining forms used as a suffix meaning *rupture, profuse fluid discharge*.

-rrhaphy [Gr. *raphe*, suture] Combining form used as a suffix meaning *suture, surgical repair*.

-rrhea, -rhea [Gr. *rhoia*, flow] Combining forms used as a suffix denoting *flow, discharge*.

-rrhexis, -rhexis [Gr. *rhexis*, a breaking, bursting] Combining forms used as a suffix meaning *rupture*.

rRNA ribosomal RNA.

RRT registered respiratory therapist.

RSA right sacroanterior (fetal position).

RScA right scapuloanterior (fetal position).

RScP right scapuloposterior (fetal position).

RSI rapid sequence induction; rapid sequence intubation.

RSP right sacroposterior (fetal position).

RST right sacrotransverse (fetal position).

RSV respiratory syncytial virus; Rous sarcoma virus.

RT radiation therapy; reading test; registered technologist.

RTA rapid trauma assessment.

RTS revised trauma scale. SEE: under trauma.

Ru Symbol for the element ruthenium.

RU 486 Mifepristone.

rub Friction of one surface moving over another. In auscultation, a roughened surface moving over another causes a characteristic sound.

pericardial r. The scratchy, leathery, or rasping sound heard when inflamed visceral and parietal surfaces move over each other. The sound may be heard when listening to the heart sounds of patients with pericarditis.

pleural friction r. The creaking, grating sounds made when inflamed pleural surfaces move during respiration. It is often heard only during the first day or two of a pleurisy.

rubber dam (rū'bēr) Dam (1).

rubedo (rū-bē-dō) [L. *ruber*, red] Redness of the skin that may be temporary.

rubefacient (roo'bē-fā'shēnt) [L. *rubefaciens*, making red] **1.** Causing redness, esp. of the skin. **2.** An agent that reddens the skin by increasing its blood flow (e.g., rubbing alcohol or capsaicin).

rubella (roo-bél'lā) [L. *rubellus*, reddish] A mild, febrile, highly infectious viral disease historically common in childhood prior to the advent of an effective vaccine. It still occurs among nonimmunized children and young adults, especially in cities of underdeveloped

regions. The virus is transmitted through contact with nasopharyngeal secretions, blood, urine, and stool of those already infected, and possibly via contact with contaminated clothing, tissues, etc. Humans are the only known host. The disease is contagious from about 10 days prior to appearance of the rash until about 5 days after its disappearance. SYN: *German measles; roeteln; röteln*. SEE: *Nursing Diagnoses Appendix*.

SYMPTOMS: A variable 1- to 5-day prodromal period of drowsiness, mild temperature elevation, slight sore throat, Forschheimer spots (pinpoint reddish areas on the palate), and post-auricular, postcervical, and occipital lymphadenopathy commonly precedes the rash and is the hallmark of the disease. The rash (described technically as maculopapular) resembles that of measles or scarlet fever, begins on the forehead and face, spreads downward to the trunk and extremities, and lasts about 3 days, accompanied by fever. The rash appears in only about 50% of infections.

INCUBATION: Infection occurs approx. 14 to 23 days before the advent of symptoms.

COMPLICATIONS: Complications seldom occur in children. Older patients may experience generalized lymphadenopathy and splenomegaly. A transient polyarthrits (inflammation of the wrist, finger, knee, toe, and ankle joints) may occur within 5 days of the rash, but usually lasts less than 2 weeks. Encephalomyelitis is rare and usually self-limiting. The disease is most important because of its ability to produce defects in the developing fetus. Rubella infection during the first trimester of pregnancy is of concern; transplacental transmission to the fetus may result in several types of congenital anomalies. SEE: *congenital r. syndrome*.

PREVENTION: Prophylaxis consists of childhood immunization with a combination measles, mumps, rubella (MMR) vaccine, usually administered between 12 and 15 months of age and repeated at age 4 to 6 years.



Administration of live virus vaccines is contraindicated during pregnancy.

PATIENT CARE: *Injection Site:* For 30 min after receiving the vaccine, the patient is observed for indications of anaphylaxis, and epinephrine 1:10,000 is kept readily available. Warmth should be applied to the injection site for 24 hr following immunization, to aid absorption. If swelling persists beyond the initial 24 hr, cold should be applied, to promote vasoconstriction and prevent

antigenic cyst formation. Acetaminophen (for children) or aspirin (for adults) can be taken for relief of fever.

Confirmed cases of rubella should be reported to local public health officials. Parents need to be taught about respiratory (droplet) isolation and why it is necessary, emphasizing the need to prevent exposure of pregnant women to this disease.

Children with rubella virus should be made as comfortable as possible, allowed to occupy themselves with age-appropriate books, games, and television. Adolescent or adult patients may experience fever and joint pain. If medication is needed for symptomatic relief, adults may use aspirin, but children and adolescents should use acetaminophen to lessen the risk of Reye's syndrome.

If a pregnant unimmunized woman develops rubella in her first trimester, she must be informed of the potential for fetal infection and its serious consequences. Generally speaking, the earlier the infection occurs during the pregnancy, the more severe the damage to the fetus. The combination of cataracts, deafness, and cardiac disease defines congenital rubella syndrome (CRS). Low birth weight, microcephaly, and mental retardation are other common findings. Appropriate immunoglobulin laboratory studies determine the presence of fetal infection. Counseling is offered regarding the woman's choice for aborting the pregnancy, and the patient is supported in her decision.

Infants born with congenital rubella require contact isolation until they are no longer excreting the virus. The duration of the viral excretion is variable: usually several months to a year. Parents are taught that congenital rubella is a lifelong disease, that many related disorders may not appear until later in life, and that cataract and cardiac surgery may be required. Emotional support is offered to parents of an affected child. A referral to social service agencies guides parents to appropriate community resources and organizations. A mental health referral may help them deal with their grief, frustration, and anxiety. Confirmed cases of rubella and congenital rubella syndrome should be reported to the local public health department.

congenital r. syndrome ABBR: CRS. Transplacental transmission of the rubella virus to a fetus, resulting in spontaneous abortion, stillbirth, or major birth defects of the heart, eyes, or central nervous system, including deafness. Women who become pregnant and have not received rubella immunization should be advised of the risk of fetal development of CRS. For unimmunized

women who develop rubella in the first trimester of pregnancy, the risk of CRS may be as high as 85%. The risk decreases sharply after the eighth week of pregnancy, and is absent after the 20th week of gestation. Fetal infection can be determined by serial studies of the immunoglobulin gamma M and immunoglobulin gamma G rubella antibodies. Prevention of CRS consists of active immunization of all children and of women of childbearing age.



Immunization with live rubella virus is contraindicated during pregnancy. It is recommended that women avoid pregnancy during the 3-month period after immunization. Infants with CRS are considered to be contagious. Only health care workers known to be immune to rubella (seropositive) should be permitted to care for infants with CRS.

rubella titer A blood test to determine a person's immune status to rubella.

rubella virus vaccine, live SEE: *vaccine, live rubella virus.*

rubeola (roo-bē'ō-lā, roo'bē-ō'lā) [*L. ru-beolus*, reddish] **1.** Measles. **2.** Term occasionally applied to an acute infectious disease with mild symptoms and a rose-colored macular eruption.

rubeosis iridis (rū-bē-ō'sis) A condition in which new blood vessels form on the anterior surface of the iris. Neovascularization is associated with diabetic retinopathy and central retinal vein occlusion. It can lead to neovascular glaucoma that is difficult to treat.

ruber (roo'bēr) [*L.*] Red.

rubescence (roo-bēs'ēnt) [*L. rubescere*, to grow red] Growing red; flushing.

rubidium (roo-bid'ē-ūm) [*L. rubidus*, red] SYMB: Rb. A soft, silvery metal; atomic weight 85.47, atomic number 37. Its salts are used medicinally.

rubiginous (roo-bij'ī-nūs) [*L. rubiginosus*] Rusty.

Rubin, Reva (rū-bin) A nursing educator, 1916–1995, who developed the Theory of Clinical Nursing. SEE: *Nursing Theory Appendix.*

Rubner's laws **1.** Law of constant energy consumption: rapidity of growth is proportional to intensity of the metabolic process. **2.** Law of constant growth quotient: the same proportional part, or growth quotient, of total energy is used for growth.

rubor (roo'bor) [*L.*] Discoloration or redness caused by inflammation. It is one of the four classic symptoms of inflammation. The others are calor (heat), dolor (pain), and tumor (swelling).

rubriblast (roo'brī-blāst) Pronormoblast.

rubricyte (roo'brī-sīt) [*L. ruber*, red, + *Gr. kytos*, cell] A polychromatic normoblast.

rubrospinal (roo"brō-spi'nāl) [r + spina, thorn] Pert. to a descending tract that consists of a small bundle of nerve fibers in the lateral funiculus of the spinal cord. Fibers arise in the cells of the red nucleus of the midbrain and terminate in the ventral horn of the gray matter.

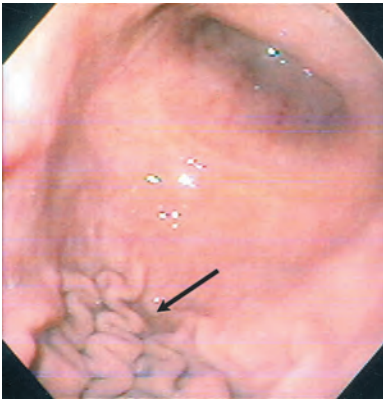
rudiment (roo'dī-měnt) [L. *rudimentum*, beginning] **1.** Something undeveloped. **2.** In biology, a part just beginning to develop. **3.** A structure that never develops fully.

rudimentary (roo'dī-měnt'tă-rē) **1.** Elementary. **2.** Undeveloped; not fully formed.

Ruffini's corpuscle (roo-fē'nēz) [Angelo Ruffini, It. anatomist, 1864–1929] One of the encapsulated sensory nerve endings found in the dermis and subcutaneous tissue, once thought to mediate the sense of warmth, now believed to be a pressure receptor. SYN: *organ of Ruffini*.

rufous (roo'fūs) [L. *rufus*, red] Ruddy; having a ruddy complexion and reddish hair.

ruga (roo'gā) *pl.* **rugae** [L.] A fold or crease, esp. one of the folds of mucous membrane on the internal surface of the stomach. SEE: *illus.*



RUGAE

Rugae of stomach as seen through an endoscope

palatal r. One of the folds of the mucous membrane of the roof of the mouth. SYN: *palatine ruga*.

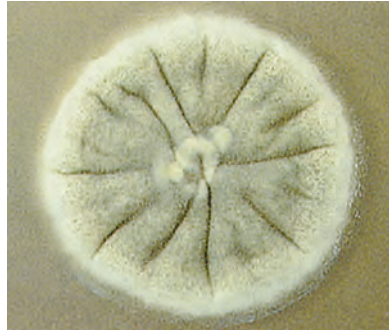
palatine r. Palatal r.

r. of vagina One of the small ridges on the inner surface of the vagina extending laterally and upward from the columna rugarum (long ridges on the anterior and posterior walls).

rugine (roo-zhēn') **1.** Periosteal elevator. **2.** A raspatory.

rugose, rugous (roo'gōs, -gūs) [L. *rugosus*, wrinkled] Having many wrinkles

or creases; used in describing microbiological colonies. SEE: *illus.*



RUGOSE

Rugose appearance of *Aspergillus* culture

rugosity (rū-gōs'y-tē) [L. *rugositas*] **1.** The condition of being folded or wrinkled. **2.** A ridge or wrinkle.

R.U.L. *right upper lobe* of lung.

rule (rool) [ME. *riule*] A guide or principle based on experience or observation.

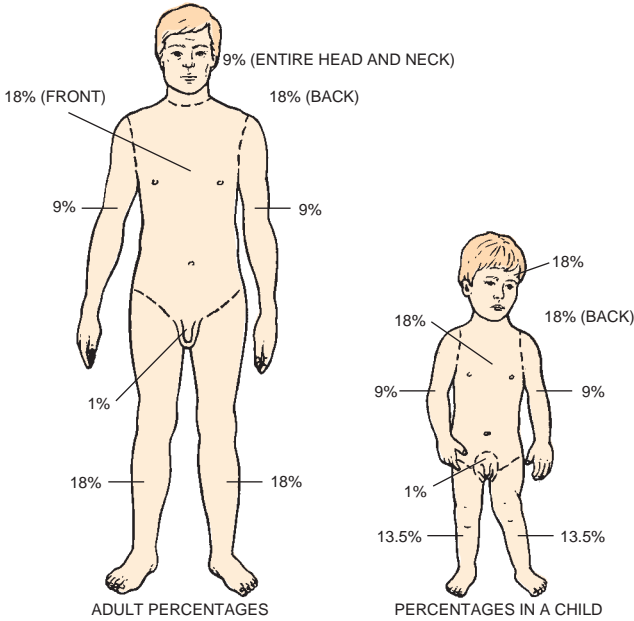
buccal object r. A dental radiographical technique used to identify the position of an object within a three-dimensional area. A reference radiograph is taken. The projection angle is changed and the resulting radiograph compared with the reference radiograph. If the image remains in the same position, the object is located buccal to the reference object. If the image changes position, the object is lingual to the reference object. Also called *Clark's rule*; *Clark's technique*; *tube shift technique*.

convex-concave r., concave-convex r. A law of joint kinematics that states that if a convex joint surface moves on a stationary concave surface, the convex joint will slide in the direction opposite that of the angular motion of the bone, and that if a concave joint surface moves on a stationary convex surface, the articular surface will slide in the same direction as the angular motion of the bone.

r. of nines A formula for estimating percentage of body surface areas, particularly helpful in judging the portion of skin that has been burned. For the adult, the head represents 9%; each upper extremity 9%; the back of the trunk 18%, and the front 18%; each lower extremity 18%; and the perineum the remaining 1%. SEE: *illus.*

r. of ten The criteria used to judge the readiness of an infant for surgical repair of a cleft lip. The infant must weigh 10 lb, be 10 weeks old, have a hemoglobin value of 10 g, and have a white blood cell count less than 10,000.

r. of thirds The classification of bone



RULE OF NINES

shaft fractures: proximal third, midshaft, and distal third. Midshaft fractures heal more slowly than other fractures because the blood supply in the middle of a bone is less than that at either end.

rule in A colloquial term for meeting the diagnostic criteria for a specific disease, esp. for a myocardial infarction.

rule out In medicine, to eliminate one diagnostic possibility from the list of causes of a patient's presenting signs and symptoms.

rum [origin obscure] **1.** An alcoholic beverage prepared from fermented sugar cane juice. **2.** Colloquially, any alcoholic beverage.

Rumex acetosella (roo'měks ä-sē'tō-sēl'ä) [NL] Sheep sorrel, a green leafy vegetable promoted for its anticancer effects.

rum fits A colloquial phrase for alcohol withdrawal seizures. Most occur during the 7- to 48-hr period following abstinence. There may be a single seizure, but most occur in bursts of two to six. These seizures do not represent latent epilepsy.

ruminant (roo'mī-nānt) An animal that regurgitates food in order to chew it again. This is called chewing the cud.

rumination (roo'mī-nā'shūn) [L. *ruminatio*] **1.** Regurgitation, esp. with re-chewing, of previously swallowed food. This condition may be present in otherwise normal individuals, in emotionally deprived or mentally retarded infants,

or in mentally retarded adults. Infants with rumination disorder often have weight loss, malnutrition, and failure to thrive. **2.** In psychiatry, an obsessional preoccupation by a single idea or a set of thoughts, with an inability to dismiss or dislodge them. Also called *mercyism*.

rummaging (rüm'ä-jīng) [Middle Fr. *ar-rumer*; to store cargo in the hold of a ship] Searching for lost objects, often in an aimless, repetitive, or fruitless manner. It is a characteristic of some patients affected by dementias and other brain diseases.

rump (rūmp) [ME. *rumpe*] The posterior end of the back, the gluteal region, or the buttocks.

Rumpf's symptom (roompfs) [Heinrich Theodor Rumpf, Ger. physician, 1851–1923] A quickening of the pulse when pressure is exerted over a painful spot.

run [AS. *rinnan*, run] To exude pus or mucus.

runaround, runround Whitlow.

runners' high Feelings of relaxation experienced by many persons who participate in an intensive aerobic exercise program.

rupia (roo'pē-ä) [Gr. *rhypos*, filth] A rash, usually caused by tertiary syphilis, first manifested by large elevations of the epidermis filled with a clear, bloodstained, turbid, or purulent serum. The bulla bursts and allows some fluid to escape. As it desiccates, it is covered with a crust that dries, accumulates

new layers, and becomes covered with greenish-brown scales, sometimes to a depth of $\frac{1}{2}$ in (13 mm). It is the thickest of all syphilides and presents the most extensive ulcerations. The condition is treated with antisyphilitic antibiotics.

rupioid (roo'pē-oyd) [*r* + *eidos*, form, shape] Resembling rupia.

rupture (rüp'chür) [L. *ruptura*, breaking] **1.** A breaking apart of an organ or tissue. **2.** Hernia.

r. of the Achilles tendon Disruption of the attachments of the gastrocnemius and soleus muscles to the posterior calcaneus, an injury that typically occurs in middle-aged male athletes participating in basketball or other ball sports, some divers, or patients treated with steroid injections for Achilles tendinitis.

ETIOLOGY: The injury typically occurs during sudden, forceful plantar flexion of the ankle.

SYMPTOMS: After an initial sensation of being struck in the back of the lower limb, the patient typically reports an inability to push up onto his or her tiptoes. The injury is distinguished from others by placing the patient in a prone position with feet extending off the foot of the examining table. The examiner then squeezes the calf muscle and observes the response: if plantar flexion occurs, the tendon is intact; if ankle dorsiflexion results, the tendon is partially intact; if no flexion of any kind occurs, the tendon is ruptured.

TREATMENT: Management may involve casting the lower extremity, but usually surgical repair or reinforcement of the damaged tendon is required.

PATIENT CARE: The patient is taught to keep the leg elevated for 48 to 72 hr following the injury, with ice applied intermittently to the joint (or cast) to help control swelling. Nonsteroidal anti-inflammatory drugs (NSAIDs) are provided for pain and inflammation. The patient is fitted for crutches or a walker-frame and instructed in gait training. Rehabilitation exercises consist of flexibility, strengthening, and balance exercises as tolerated. Assisted motion of the ankle reduces the duration of rehabilitation from Achilles tendon rupture, which may in some instances be prolonged or complicated by muscle atrophy or repetitive injury to the tendon.

cap r. Plaque r.

cardiac r. A tearing of the heart muscle that may occur after severe chest trauma (or in about 2% of patients who have suffered a myocardial infarction). It typically results in sudden cardiac death or tamponade. SYN: *myocardial rupture*.

r. of membranes The rupture of the amniotic sac as a normal result of dilata-

tion of the cervix uteri in labor. SEE: *premature rupture of membranes, preterm*.

myocardial r. Cardiac r.

r. of perineum Spontaneous laceration of the perineum during the second stage of labor. The event occurs more commonly in primiparas and may be avoided by having an episiotomy.

plaque r. The separation of a lipid-rich lesion from the wall of a blood vessel. The damage this does to the lining of a blood vessel triggers a cascade of events that result in blood clot formation within the vessel and its eventual obstruction. This is the immediate cause of acute myocardial infarction. SYN: *cap rupture*.

splenic r. An abdominal catastrophe marked by severe, often pleuritic pain, hemodynamic instability, blood loss into the peritoneum, and occasionally cardiovascular collapse and death. It may occur as a result of trauma or rarely in patients with infectious mononucleosis. Treatment may be conservative or may involve removal of the spleen. In delayed rupture of the spleen, a catastrophic illness may not present until days or weeks after the causative injury.

r. of tubes A rupture of a fallopian tube, a surgical emergency in ectopic pregnancy. This may occur without the woman's knowledge of her pregnancy.

r. of the tympanic membrane A disruption of the epithelium that separates the external auditory canal from the middle ear. This can occur as a result of trauma, or more often as a consequence of a middle ear infection.

r. of uterus A rare condition in which the uterine muscles are torn apart by the stresses of unrelieved obstructed labor, the parting of an old cesarean delivery scar, or aggressive induction or augmentation of labor. SEE: *cephalopelvic disproportion; induction of labor*.

RUQ *right upper quadrant* (of abdomen).

rush **1.** A strong contraction wave that moves down the small intestine. **2.** The first surge of pleasure produced by a drug, esp. a narcotic drug.

Russell body (rüs'ël) [William Russell, Scot. physician, 1852–1940] A small spherical hyaline body found in cancerous and simple inflammatory growths.

Russell's viper venom (rüs'ëlz) [Patrick Russell, Irish physician who worked in India, 1727–1805] The toxin from Russell's viper. It is used to investigate disorders of blood coagulation, such as are present in antiphospholipid antibody syndrome, factor V Leiden deficiency, and others.

rust One of several members of an order of parasitic fungi (Uredinales), all of which are parasitic on plants. Many of these are allergens.

Rust's disease (rüst's) [Johann N. Rust,

Ger. surgeon, 1775–1840] Tuberculosis of the cervical vertebrae and their articulations.

rusty (rúst'ē) [AS. *rustig*] Reddish; resembling or containing rust. SYN: *rustiginous*.

rut-formation (rüt'fōr-mā'shūn) In psychology, a loss of interest in the environment, the fixation on a single object, and the narrowing of concentration of emotional or other interests.

ruthenium (roo-thē'nē-ūm) SYMB: Ru. A hard, brittle, metallic element of the platinum group; atomic weight 101.07, atomic number 44.

rutherford (rūth'ēr-fōrd) [Ernest Rutherford, Brit. physicist, 1871–1937] ABBR: rd. A unit of radioactivity representing 10^6 disintegrations per second.

rutin (roo'tin) A flavonoid present in many plants including whole grains and the inner rind of lemons and oranges.

RV *residual volume; right ventricle.*

rye (rī) [AS. *ryge*] A cereal grass that produces a grain used in food and beverage production. When rye grain is infected with a certain fungus, ergot is produced.