



**Ω** Capital of the Greek letter omega.  
Symbol for ohm.

**ω** Lower-case Greek letter omega.

**O** 1. Symbol for the element oxygen.  
2. *oculus*, eye. 3. Symbol for a particular blood type.

**O<sub>2</sub>** Symbol for the molecular formula for oxygen.

**O<sub>3</sub>** Symbol for ozone.

**o-** *ortho-*.

**OA** *Ongoing assessment*.

**OA** *occiput anterior*.

**OAE** *otoacoustic emissions test*.

**OAF** *osteoclast activating factor*.

**oak bark** (ōk bark) The external layer of woody plants of the genus *Quercus*, sometimes used by alternative medicine practitioners as an anti-inflammatory and antidiarrheal.

**OASIS** *Outcome and assessment information set*.

**oasis** (ō-ā'sīs) *pl. oases* [Gr., a fertile area in an arid region] An area of healthy tissue surrounded by a diseased portion.

**oat** [AS. *ate*, oat] Grain or seed of a cereal grass used as food.

**oath** [AS. *ooth*] A solemn attestation or affirmation. SEE: *Hippocratic oath*; *Nightingale Pledge*.

**oatmeal** [AS. *ate*, oat, + *mele*, meal] Ground, rolled, or steel-cut oats from which a cereal can be made. Oatmeal has several therapeutic uses. In the diet, it provides fiber, lowers cholesterol levels, and can safely be consumed by patients with wheat allergies or celiac sprue because it has no gliadin. Oatmeal is also sometimes used in tepid baths or soaps to soothe inflamed or irritated skin.

**OB** *obstetrics*.

**obelion** (ō-bē'lē-ōn) [Gr. *obelos*, a spit] A craniometric point on the sagittal suture between the two parietal foramina.

**Ober test** (ō'bēr) A clinical test for tightness of the iliotibial band. The patient lies on the uninvolved side and abducts the hip maximally in neutral flexion. The examiner stands behind the patient, with the patient's foot resting on the examiner's arms with the thigh supported. The thigh is then released. The result is negative if the abducted knee falls into adduction. It is positive if the knee does not fall into adduction. The specificity of the Ober Test is improved by the use of an inclinometer.

**obese** (ō-bēs') [L. *obesus*] Having a body mass index in excess of 30 kg/m<sup>2</sup>.

**obesity** (ō-bē'sī-tē) [L. *obesitas*, corpulence] An unhealthy accumulation of body fat. In adults, damaging effects of excess weight are seen when the body mass index exceeds 25 kg/m<sup>2</sup>. Obesity is defined as having a body mass index of >30 kg/m<sup>2</sup>. A person who stands 5'7" tall, e.g., would be obese by this standard if he or she weighed more than 191 lb. SYN: *adiposity*; *corpulence*. SEE: *index, body mass for table*; *Nursing Diagnoses Appendix*; *Recommended Daily Dietary Allowances Appendix*; *weight*.

Obesity is the most common metabolic/nutritional disease in the U.S. More than 65% of the adult population is overweight. Obesity is more common in women, minorities, and the poor. Obese individuals have an increased risk of developing diabetes mellitus, hypertension, heart disease, stroke, fatal cancers, and other illnesses. In addition, obese individuals may suffer psychologically and socially.

**ETIOLOGY:** Obesity is the end result of an imbalance between food eaten and energy expended, but the underlying causes are more complex. Genetic, hormonal, and neurological influences all contribute to weight gain and loss. In addition, some medications (e.g., tricyclic antidepressants, insulin, and sulfonurea agents) may cause patients to gain weight.

**TREATMENT:** Attempts to lose weight are often unsuccessful. Nonetheless, mild caloric restriction, an increase in physical activity, and supportive therapies each have a role. Medications to enhance weight loss can sometimes produce weight losses of several kilograms. However, some weight loss agents, such as amphetamines or amphetamine-like agents, have had unacceptable side effects (e.g., cardiac valvular injuries with fenfluramine/phentermine, addiction with other anorexiant). Surgical remedies (bariatric surgeries) are available for some patients and can result in sustained weight loss. Operative treatment of weight loss, however, involves significant morbidity and a 1% to 2% risk of death in the perioperative period.

**DIET:** Caloric intake should be less than maintenance requirements, but all essential nutrients must be included in any weight-loss regimen. Severe caloric restriction is unhealthy and should be avoided unless undertaken under strict supervision. For many patients of average size and activity, consumption of

1200 to 1600 calories per day will result in gradual loss of weight. Most fad diets provide temporary results at best.

**EXERCISE:** Dietary changes should be accompanied by a complementary program of regular exercise. Exercise improves adherence to weight loss diets and consumes stored fat. For many people 35 minutes of low-level exercise performed daily (either in one long workout session or in several shorter intermittent sessions) will aid weight loss and improve other cardiovascular risk factors. Exercise programs may be hazardous for some patients; professional supervision may be recommended for some people who start an exercise program (e.g., people with a history of heart or lung disease, arthritis, or diabetes mellitus).

**PATIENT CARE:** The U.S. Preventive Services Task Force and other promoters of public health recommend that clinicians screen all adults for obesity and offer incentive behavioral counseling to obese adults. Patients who are overweight should be screened for conditions worsened by obesity, (e.g., hypertension, diabetes mellitus, and hyperlipidemia). Bariatric surgery is a consideration for the morbidly obese, although it carries significant operative risks. When used in conjunction with careful eating strategies, exercise, and psychological counseling, it often results in massive weight loss and restoration of health. Health care professionals can aid patients in making permanent life-style changes by discussing diet and exercise, being familiar with various eating plans, and by providing patients with a list of local weight loss centers. The patient's feelings about weight and body image should be explored to understand the individual's motivations. People who diet and exercise for health reasons tend to be the most successful. Family support is also important.

**abdominal o.** Android obesity.

**adult-onset o.** Obesity first appearing in the adult years. Also known as *recent obesity*.

**android o.** Obesity in which fat is located largely in the waist and abdomen. It is associated with an increased risk of heart disease, hypertension, and diabetes. People with android obesity are often described as having an "apple-shaped" body. SYN: *abdominal o.*

**endogenous o.** Obesity associated with some metabolic or endocrine abnormality.

**exogenous o.** Obesity due to an excessive intake of food.

**gluteal-femoral o.** Obesity in which fat deposits are located primarily below the waist in the hips and thighs. The health risks of gluteal-femoral fat appear to be less than those associated with abdominal obesity. SYN: *gynecoid o.*

**gynecoid o.** Gluteal-femoral obesity.  
**hypothalamic o.** Obesity resulting from dysfunction of the hypothalamus, esp. the appetite-regulating center.

**juvenile o.** Obesity that occurs before adulthood. It is associated with an increased risk of obesity in adulthood. Also known as *developmental obesity*.

**PATIENT CARE:** About one third of American children and 15% of teenagers are overweight or obese. A variety of factors contributes to childhood obesity, including learned patterns of behavior, genetics, a decreased emphasis on physical activity and exercise, and access to inexpensive, calorically dense fast foods (typically rich in fats and sugars but limited in fiber, vitamins, minerals, and other essential nutrients). School nurses, pediatricians, and other health care professionals who provide care to children should help educate children about healthy food choices and portion sizes and the need to increase activity and decrease caloric intake. Parents should be taught to avoid overfeeding infants and to familiarize themselves with nutritional needs and optimum growth rates. The overweight child should be assisted in keeping a record of what, where, and when he/she eats to help identify situations that lead to overeating. Unhealthy weight loss behaviors, such as fad diets or purging, are discouraged. Children and teens benefit from weight loss support programs. Snacks should consist of foods such as raw vegetables rather than cookies, candies, or sugary drinks. Families that exercise together (e.g., walking, hiking, biking, swimming) provide children with interest in, knowledge of, and practice in activities that help to maintain desired weight levels.

**morbid o.** Having a body mass index >40. Morbid obesity is also known as "severe" obesity.

**obex** (ō'bēks) [L., a band] A thin, crescent-shaped band of tissue covering the calamus scriptorius at the point of convergence of nervous tissue at the caudal end of the fourth ventricle of the brain.

**obfuscation** (ōb-fūs-kā'shūn) [L. *obfuscare*, to darken] 1. The act of making obscure or confusing. 2. Mental confusion.

**OB/GYN, OB-GYN** *obstetrics and gynecology*.

**object** (ōb'jēkt) [L. *objectus*] That which is visible or tangible to the senses.

**object, sex** 1. An individual regarded as being of little interest except for providing sexual pleasure. 2. A person to whom one is sexually attracted.

**objective** (ōb-jēk'tiv) 1. Able to be analyzed, measured, or counted. 2. Objective findings are those findings that are obtained during the physical examination (ROM, girth, and strength). Oppo-

site of subjective. **3.** The lens of a microscope that is closest to the object.

**achromatic o.** A microscope objective in which chromatic aberration is corrected for red and blue light.

**apochromatic o.** A microscope objective in which chromatic aberration is corrected for red, blue, and green light.

**immersion o.** A microscope objective designed so that the space between the objective lens and the specimen is filled with oil or water.

**object permanence** The thought process, first described by Piaget, whereby infants perceive that objects have constancy. This process normally develops by 6 to 12 months of age.

**object relations** Emotional attachment to other persons or objects.

**object span test** A test of the temporal-sequential organization of a child. The child is asked to point to or tap a series of objects in the order demonstrated by the examiner. SEE: *digit span test; temporal-sequential organization.*

**obligate** (ôb'li-gât) [L. *obligatus*] Necessary or required; without alternative. SEE: *anaerobe, obligatory.*

**obligatory thermogenesis** The energy cost to a cell or organism of consuming, digesting, and metabolizing ingested nutrients.

**oblique** (ô-blêk', ô-blik') [L. *obliquus*] Slanting, diagonal.

**obliquity** (ôb-lik'wi-tê) [L. *obliquus*, slanting] The state of being oblique or slanting.

**Litzmann's o.** SEE: *Litzmann's obliquity.*

**Naegele's o.** SEE: *Naegele's obliquity.*

**o. of the pelvis** Inclination of pelvis.

**obliteration** (ôb-lit'êr-â'shün) [L. *obliterare*, to remove] Destruction or complete occlusion of a part or a reflex by degeneration, disease, or surgery.

**oblongata** (ôb'lông-gâ'tâ) [L. *oblongus*, long] Medulla oblongata.

**obnubilation** (ôb-nû'bî-lâ'shün) A rarely used term for clouding of consciousness or confusion.

**obscure** (ôb-skûr') [L. *obscurus*, hide] **1.** Hidden, indistinct, as the cause of a condition. **2.** To make less distinct or to hide.

**observational study, observational trial** (ôb'zêr-vâ'shîn-îl) [L. *observare*, to watch, attend to] A research study in which the results are obtained retrospectively or without a control group. Some examples include case reports, chart reviews, and longitudinal studies of large cohorts followed over time.

**observer bias** (ôb-zêr'vêr) [''] Distortions introduced into a research investigation by the expectations and/or knowledge of the individuals collecting the data.

**obsession** [L. *obsessus*, besiege] A per-

sistent or recurring idea or feeling, esp. one that causes emotional distress or that interferes with effective living. SYN: *compulsive idea.*

**obsessive-compulsive disorder** ABBR: OCD. A disorder whose hallmarks are recurring thoughts, ideas, feelings, or actions that either cause significant psychological distress or that interfere with effective living. Common obsessions include concerns about cleanliness, injury, or aggressive or sexual impulses. Common compulsions include repetitive handwashing, cleaning, praying, counting, or making things orderly. A diagnosis of OCD is established if distress is present, the acts are time-consuming (i.e., take more than an hour a day), or the illness significantly interferes with the individual's normal routine, occupation, or social activities. In the general population, the lifetime prevalence of this disorder is approximately 2.5%. It is estimated to be present in 35% to 50% of patients with Tourette's syndrome.

**TREATMENT:** Drugs such as clomipramine and fluoxetine have been used to treat OCD. In addition, behavior therapy has been found to be effective. The patient is exposed to a feared object or idea and then discouraged or prevented from carrying out the usual compulsive response. If successful, repeated sessions gradually decrease the anxiety, and the patient may be able to refrain from the compulsive actions. SYN: *obsessional neurosis; obsessive-compulsive personality; obsessive-compulsive personality disorder.*

**obstetrician** (ôb-stê-trîsh'ân) A physician who treats women during pregnancy and parturition and delivers infants.

**obstetrics** (ôb-stêt'rîks) [L. *obstetrix*, midwife] The branch of medicine that concerns the management of pregnancy, childbirth, and the puerperium. **obstetric** (ôb-stêt'rîk), *adj.*

**obstipation** (ôb-stî-pâ'shün) Severe obstruction to the normal flow of feces through the bowels.

**obstruction** (ôb-strûk'shün) **1.** Blockage of a structure that prevents it from functioning normally. **2.** A thing that impedes; an obstacle.

**aortic o.** Blockage of the aorta, thereby preventing the flow of blood.

**biliary o.** Blockage of the flow of bile from the gallbladder, typically caused by gallstones but occasionally from other causes, e.g., cancer, cholangitis, cirrhosis, or parasites.

**SYMPTOMS:** Biliary obstruction may cause right upper quadrant abdominal pain that radiates to the right flank and nausea, vomiting, or jaundice.

**bladder outlet o.** ABBR: BOO. The inability to pass urine. Caused by pros-

tatic hyperplasia, drug therapy, or urethral injury, BOO may produce bladder pain, urinary tract infection (esp. in elderly men), or kidney failure. SEE: *hyperplasia, benign prostatic*.

**chronic airflow o.** ABBR: CAO. Chronic obstructive pulmonary disease.

**foreign body airway o.** Blockage of the free passage of air from the mouth and nose to the lungs by any object accidentally inhaled into the trachea, bronchus, or pharynx. Common causes of this type of obstruction are red meat, hard candy, hot dogs, coins, and marbles. SEE: *Heimlich maneuver*.

**gastric outlet o.** Blockage of the flow of food or liquids from the stomach to the duodenum. In children, the cause may be pyloric stenosis or atresia. In adults, ulcers and cancer are frequent causes.

**intestinal o.** A partial or complete blockage of the lumen of the large or small intestine. SEE: *Nursing Diagnoses Appendix*.

**SYMPTOMS:** Patients typically complain of colicky abdominal pain, nausea, vomiting (if the obstruction is in the proximal small intestine), or inability to pass gas or stool. Thirst, dizziness, malaise, and other symptoms of dehydration may be present. The physical examination may show a distended, gas-filled abdomen, which is often tympanic and diffusely tender. Auscultation reveals bowel sounds, borborygmi, and rushes, which may be loud enough to hear without the stethoscope. The examiner may sometimes find a palpable mass or an incarcerated hernia.

**TREATMENT:** The patient is given nothing orally, and when nausea and vomiting are present, a nasogastric (Levin, Salem Sump) or intestinal (Cantor, Miller-Abbott) tube is placed to remove upper intestinal contents and decompress the bowel. Fluids and electrolytes are given intravenously. A large intestinal obstruction due to fecal impaction may be relieved by disimpaction or enemas. When obstructions do not resolve with conservative measures and supportive care, surgery may be needed.

**PATIENT CARE:** In partial obstruction, the patient's condition is monitored closely, including assessment of bowel sounds, vital signs, abdominal girth, fluid and electrolyte balance, and acid-base balance. The patient is assessed for signs of dehydration. Frequent oral hygiene is provided. Prescribed pain medications, antiemetics, and antibiotics are administered. Opioids are sometimes withheld or used sparingly because they may slow peristalsis. Noninvasive pain relief strategies such as relaxation techniques, imagery, repositioning, massage, and music therapy may be effective for in-

dividual patients. The patient is asked to alert health care providers if pain changes from colicky to constant, as this may signal perforation. Throughout, the patient receives support and encouragement. Ischemia is the most serious consequence of intestinal obstruction, as it leads to peritonitis, perforation, hemorrhage, and gangrene. Ischemia makes the bowel more permeable, allowing normal intestinal flora such as *Escherichia coli* and *Klebsiella* to penetrate the bowel wall and enter the peritoneal cavity, potentially leading to peritonitis and/or septic shock. Intravenous fluids are required; blood products and antibiotics may be needed, depending on complications experienced by the patient.

If conservative treatment fails for partial or incomplete mechanical obstruction or the obstruction initially is diagnosed as vascular or mechanical and complete, the patient is prepared physically and psychologically for nasogastric suctioning, endoscopy, or surgery. If the patient requires a colostomy or ileostomy (which may be a temporary measure or may need to be permanent, depending on the cause of the obstruction), an enterostomal therapist makes recommendations regarding stoma location and provides further positive reinforcement and emotional support. Postoperative care is explained; if the patient is well enough to understand, he or she is taught exercises to aid ventilation and prevent immobility complications. Following surgery, all necessary postoperative care is given, including care of the surgical wound, maintenance of ventilatory status and fluid and electrolyte balance, and relief of pain and discomfort. Vital signs are closely monitored. Oral care is provided, along with misting of mucous membranes while the decompression tube remains in place, and the amount and color of drainage are recorded. Clear fluids may be initiated with the tube clamped to determine toleration. The tube is removed and diet advanced as bowel sounds return. Incentive spirometry, antiemetic or pneumatic hose, and early ambulation help to prevent complications related to immobility. Any necessary postoperative activity limitations are discussed with the patient. Before discharge, any prescribed medications, their proper use, desired responses, and adverse effects are reviewed. Incision and/or colostomy care is taught and signs of infection, activity restrictions, and signs or symptoms for which the surgeon should be called are reviewed with the patient before discharge. The importance of following a structured bowel regimen is emphasized (particularly if the cause of obstruction was a fecal impaction). The patient is encouraged to eat a

high-fiber diet, drink plenty of fluids, and exercise daily.

**obstructive sleep apnea** ABBR: OSA. Sleep apnea.

**obstuent** (ób'stroo-ént) [L. *obstruens*] 1. Blocking up. 2. That which closes a normal passage in the body. 3. Any agent or agency causing obstruction.

**obtund** (ób-túnd') [L. *obtundere*, to beat against] To dull or blunt, as sensitivity or pain. SEE: *consciousness, levels of*.

**obtunded** (ób-tún'déd) Having diminished arousal and awareness, often as the result of intoxication, metabolic illness, infection, or neurological catastrophe.

**obtundent** (ób-tún'dént) [L. *obtundens*] 1. Having the capacity to deaden sensibility of a part or reduce irritability. 2. A soothing agent.

**obturation** (ób-túr-á'shún) [L. *obturare*, to stop up] Closure of a passage or opening, as in intestinal obstruction.

**obturator** (ób'tú-rá'tor) 1. Anything that obstructs or closes a cavity or opening. 2. A prosthetic bridge used for spanning the gap in a cleft palate. 3. A device for closing the end of an instrument for purposes of introduction of a taper-tipped device into a cavity (e.g., sigmoidoscope). 4. Denoting the obturator foramen, the occluding membrane of the obturator foramen and other related structures such as obturator muscles, nerve, and plexus.

**obturator sign** Pain on inward rotation of the hip, a maneuver that stretches the obturator internus muscle. This test result may be positive in acute appendicitis.

**obtuse** (ób-tús') [L. *obtusus*] 1. Not pointed or acute; dull or blunt. 2. Of dull mentality.

**obtusio** (ób-tú'zhún) Blunting or weakening of normal sensation.

**OC** oral contraceptive.

**Occam's razor** (óck'háms) [William of Occam, or Ockham, Brit. Franciscan and philosopher, c. 1285–1349] The concept that the simplest explanation for a phenomenon is the best one, that is, "what can be done with fewer (assumptions) is done in vain with more."

**occipit-** SEE: *occipito-*.

**occipital** (ók-síp'i-tál) [L. *occipitalis*] Concerning the back part of the head.

**occipital area** The back of the head, the portion of the skull made of the occipital bone, and the part of the cerebrum below the occipital bone.

**occipitalis** (ók-síp'i-tá'lis) [L.] The posterior portion of the occipitofrontalis muscle at the back of the head.

**occipitalization** (ók-síp'i-tál-i-zá'shún) Fusion of the atlas and occipital bones.

**occipital neuralgia** A type of headache that originates from the upper neck, often radiating toward the back of the head and the scalp on one or both sides. The pain may be chronic or intermittent

and may extend all the way up the scalp to the forehead. It is associated with head and neck injury, osteoarthritis of the cervical spine, and, less often, with spinal infections or tumors. Treatments vary but sometimes include analgesic injections, corticosteroids, or other pain relievers.

**occipito-, occipit-** [L. *occiput*] Combining forms meaning *occiput*.

**occipitoatloid** (ók-síp'i-tó-át'loid) Concerning the occipital and atlas bones.

**occipitocervical** (ók-síp'i-tó-sér'vi-kál) Concerning the occiput and the neck.

**occipitofrontal** (ók-síp'i-tó-frón'tál) Concerning the occiput and the forehead.

**occiput** (ók'si-püt) [L.] The back part of the skull. On the fetal head, it is used to determine the position of cephalic presentations in relation to the maternal pelvis.

**persistent o. posterior** A fetal malposition; a cephalic presentation with the occiput directed toward the mother's sacrum. Labor often is longer and the woman complains of back pain.

**occlude** (ó-klüd') [L. *occludere*, to shut up] To close up, obstruct, or join together, as bringing the biting surfaces of opposing teeth together.

**occlusal** (ó-kloo'zál) 1. Pert. to the closure of an opening. 2. Pert. to the opposing surfaces of the molars and premolars that make contact with each other, e.g., during chewing.

**occlusal pattern** The appearance and anatomical location of the occluding surfaces of teeth.

**occlusal wear** The attritional loss of substance on opposing occlusal surfaces in natural or artificial teeth; the modification of tooth cusps, ridges, and grooves by functional use.

**TREATMENT:** Excessive wear is treated by wearing an occlusal guard.

**occlusion** (ó-kloo'zhún) [L. *occlusio*] 1. The acquired or congenital closure, or state of being closed, of a passage. SYN: *imperforation*. 2. Alignment of the mandibular and maxillary teeth when the jaw is closed or in functional contact (i.e., dental occlusion). SEE: *malocclusion*. 3. The covering of an eye in order to improve vision in the other, e.g., in treating strabismus.

**abnormal o.** Malocclusion of the teeth.

**adjusted o.** In dentistry, a colloquial term for equilibration. SEE: *equilibration*.

**anatomical o.** In dentistry, an occlusion in which the posterior teeth of a denture have masticatory surfaces that resemble natural, healthy dentition and articulate with the surfaces of similar or opposing teeth. The opposing teeth may be artificial or natural.

**arterial o.** A blockage of blood flow

through an artery. It may be acute or chronic and occurs, for example, in coronary or in peripheral arteries. Patients with acute arterial occlusion have severe pain (e.g., angina pectoris), decreased or absent pulses, and mottling of the skin of an affected extremity. The occlusion is removed and blood flow restored if possible.

**balanced o.** The ideal and equal contact of the teeth of the working side of the jaw by the complementary contact of the teeth on the opposite side of the jaw. SYN: *balanced bite*.

**central retinal artery o.** ABBR: CRAO. Blockage of blood flow to the retina (i.e., to the central retinal artery or one of its branches), resulting in sudden visual loss. The condition usually affects one eye. When the retinal artery is blocked by a blood clot, early thrombolysis sometimes provides sight-preserving therapy.

**ETIOLOGY:** Central retinal artery occlusion is typically caused by a tiny embolus that lodges in the retinal circulation. It usually occurs in persons with high blood pressure, diabetes mellitus, cardiac valve disease, or atrial fibrillation, conditions that predispose to atherosclerosis or arterial embolization. Other causes include inflammatory or autoimmune diseases affecting the circulation (arteritis), clotting disorders, hyperlipidemia, injected drugs or contaminants, and tumor metastases.

**centric o.** In dentistry, the vertical and horizontal position of the mandible that produces maximal interdigitation of the cusps of the maxillary and mandibular teeth. This is the ideal position or type of occlusion. It is also described as intercuspal position, tooth-to-tooth position, habitual centric, or acquired centric.

**coronary o.** Complete or partial obstruction of a coronary vessel by thrombosis or as a result of spasm. SYN: *coronary thrombosis*. SEE: *myocardial infarction*.

**eccentric o.** Any dental occlusion other than centric.

**habitual o.** The usual relationship between the teeth of the maxilla and mandible that represents the maximum contact; this varies from individual to individual and is seldom ideal or true centric occlusion.

**traumatic o.** Injury to the tissues that support the teeth due to malocclusion, missing teeth, improper chewing habits, or a pathological condition that causes an individual to chew in an abnormal way.

**working o.** The usual method of contact of teeth as the mandible is moved to one side during chewing.

**occlusive** (ō-kloo'siv) Concerning occlusion.

**occlusive dressing** SEE: *dressing, occlusive*.

**occult** (ū-kült') [L. *occultus*] Obscure; not easily understood; mysterious; concealed, as a hemorrhage.

**o. blood** Blood that is present in such small quantities that it is not apparent to the eye. Blood may be present in feces but of such color and consistency as to be unnoticed by the patient. Occult blood is usually detected only by chemical tests or by microscopic or spectroscopic examination. SEE: *table*.

**o. blood test** A chemical test or microscopic examination for blood, esp. in feces, that is not apparent on visual inspection. The test is used as a screening test for cancer of the colon or whenever clinical symptoms and preliminary blood work suggest gastrointestinal (GI) bleeding.

**PATIENT CARE:** The use of the test in identifying GI bleeding is explained. Instructions for specimen collection are given: the test procedure may be affected by red meat in the diet, the ingestion of nonsteroidal anti-inflammatory agents, vitamin C, and other commonly consumed products. To collect specimens, the patient should place plastic wrap or some other means of collection over the toilet bowl. (The patient should be taught to place the plastic wrap so that it is loose enough to avoid spillage, and allows for urine flow into the commode). The patient should be instructed to use the wooden spatula enclosed with the specimen receptacles to obtain a feces sample from the middle of the specimen or from two different areas of the stool. The specimen is then smeared on the filter paper supplied with the kit, and the specimen container closed and kept dry. The patient should be advised to avoid contaminating the specimen with toilet tissue or urine. The patient is told that specimens are collected 3 days (or from three separate bowel movements) in succession and should be returned to the laboratory as soon as possible after collection. If the test is positive, further tests are used to define the site and extent of bleeding. These include esophagogastroduodenoscopy, colonoscopy, and CT colonography.

**occupation 1.** Any goal-directed pursuit in which one works for a wage, salary, or other income. **2.** Any goal-directed use of time. **3.** Any activity or pursuit in which one is engaged outside one's work, e.g., a hobby or sport.

**secondary o.** Employment in addition to that for which one is primarily hired.

**occupational** Engaged in or related to the goal-directed use of time.

**certified o. therapy assistant** ABBR: COTA. An occupational therapy assistant who has passed the national certification examination. SEE: *o. therapy assistant*.

**o. illness** Any acute or chronic disorder associated with or caused by an

### Diagnostic Tests for Occult Bleeding

Diagnostic Test	Purpose/Considerations
Hemoglobin and hematocrit levels	Essential for ongoing assessment. Results are unreliable during or immediately after acute hemorrhage—levels may not accurately reflect early blood loss. Low baseline levels may indicate pre-existing anemia.
A coagulation profile	Detects actual or potential abnormalities, especially in a patient taking an anticoagulant or drugs that affect platelet function. Factor assay may reveal clotting disorders such as hemophilia, low platelet count or elevated prothrombin time, activated partial thromboplastin time, or international normalized ratio indicating coagulopathy.
Serum lactate level and arterial blood gases	Evaluate tissue perfusion. A rising lactate level signals insufficient perfusion. An arterial pH less than 7.35 and a falling bicarbonate level indicate impaired perfusion and metabolic acidosis.
CT scan	May suggest fluid collections or injury to solid organs; free fluid may indicate bleeding into organs or spaces.
X-rays	May reveal fluid in the thorax or hemothorax, aortic injury, pelvic fracture, or fracture of other large bones, such as the femur, which can cause significant blood loss.
Arteriography	Helps detect arterial disruption caused by trauma or vascular abnormality. It may be used to guide injection of a clot-forming substance into the bleeding vessel. Aortic imaging helps rule out traumatic disruption or dissecting thoracic aneurysm.
Ultrasound	Helps detect bleeding in the peritoneal cavity, thorax, pericardium, retroperitoneum, pelvis, or uterus. It permits simultaneous procedures, such as placing IV lines or an endotracheal tube.
Endoscopy	Allows visualization of a gastrointestinal bleeding source and may allow the physician to sclerose bleeders.
Diagnostic peritoneal lavage	May be performed at the bedside to rapidly identify intraperitoneal hemorrhage in an unstable or critical patient. It does not identify retroperitoneal bleeding or pinpoint hemorrhage site. If results are positive, the patient may require laparotomy.
Laparoscopy	May help rule out intra-abdominal hemorrhage. It is not appropriate for acute hemorrhage because setup is time-consuming and surgical access is limited.
Transesophageal echocardiography	May be performed at the bedside to detect cardiac injury, such as aortic dissection. It is contraindicated in esophageal trauma.

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individual's occupation. SEE: table; *chronic lead poisoning*.

**o. performance** A term used by occupational therapists to refer to a person's ability to perform the required activities, tasks, and roles of living.

**o. science** The systematic study of human activity or occupation. Its goal is to understand how and why people select, organize, perform, and derive meaning from everyday occupations or pursuits.

**o. therapy assistant** ABBR: OTA. One who works under the supervision of an occupational therapist to assist with patient or client assessment and intervention. The degree and scope of supervision required depend on practice statutes and the levels of competency the assistant is able to provide.

**occupational disease** A disease resulting

from factors associated with the occupation in which the patient is engaged.

**occupational injustice** Any undue limitation on a person's freedom to have or to pursue meaningful occupational engagement in society.

**occupational justice** A concept describing the social inequity that results when people are deprived of the opportunity to engage in productive, meaningful daily activity.

**occupational therapist** ABBR: OT. One who provides assessment and intervention to ameliorate physical and psychological deficits that interfere with the performance of activities and tasks of living.

**occupational therapy** ABBR: OT. The use of activity to develop, regain, or maintain the skills and capacities necessary for health, productivity, and par-

## Representative Occupational Illnesses

Condition	Exposed Workers
Anemia	Lead (battery reclaimers, shipyard workers)
Asbestosis	Shipyard workers and others exposed to asbestos fibers
Asthma	Meat wrappers, woodworkers, those exposed to platinum, nickel, solder, ammonia, cotton dust, formaldehyde, pesticides
Byssinosis	Cotton textile workers
Cancer	People who work with radioactive materials (health care, lab workers), x-ray workers (industrial and health care), miners
Carpal tunnel syndrome	Typists, computer programmers, and other people who work with their hands
Contact dermatitis	Health care workers using latex gloves, and florists
Decompression sickness	Divers, marine salvage workers
Hearing impairment	People who work in noisy environments without adequate ear protection
Leptospirosis	Veterinarians
Pneumoconiosis	Coal miners
Pneumonitis	Wood workers (esp. red cedar), mushroom growers, cheese handlers, and farmers
Silicosis	Miners, foundry workers
Skin granulomas	Beryllium workers (e.g., in auto or aircraft industries)
Tennis or golfer's elbow	Carpenters, plumbers, and athletes
Vibration syndrome, including Raynaud's phenomenon	Truck drivers, hand-vibrating drill operators, jackhammer workers

participation in everyday life. It may include the use of assistive technologies or orthotics to enhance function or prevent disability. SEE: *rehabilitation*.

**occupational therapy aide** An individual with on-the-job training or experience in occupational therapy who performs routine tasks under the direction of an occupational therapist.

**occurrence report** An incident report.

**Ochlerotatus** (ō-klēr'ō-tā'tūs) A subgenus of the *Aedes* mosquito that sometimes carries infectious diseases.

**ochronosis** (ō-krō-nō'sīs) [" + *nosos*, disease] A rare illness whose hallmark is abnormally dark pigmentation of the skin, urine, and connective tissues. There are two variants: Endogenous ochronosis, also known as alkaptonuria, is familial (transmitted genetically in autosomal recessive inheritance). Exogenous ochronosis results from exposure to specific drugs or chemicals, such as hydroquinone or phenol.

**Ockelbo disease** (ōk'ēl-bō) [Ockelbo, a town in Sweden] A viral infection, predominantly found in northern Europe, characterized by fever, headache, rash, and arthritis. It is caused by infection with a Sindbis virus.

**OCT** *oxytocin challenge test; optical coherence tomography*.

**octa-, octo-** [Gr. *okto*, L. *octo*] Combining forms meaning *eight*.

**octahedron** (ōk-tā-hē'drōn) An eight-sided solid figure.

**octan** (ōk'tān) [L. *octo*, eight] Reappearing every eighth day, as a fever.

**octane** (ōk'tān) C<sub>8</sub>H<sub>18</sub>; a hydrocarbon of the paraffin series.

**octapeptide** (ōk'tā-pēp'tid) A peptide that contains eight amino acids.

**octaploid** (ōk'tā-ploid") **1.** Pert. to octaploidy. **2.** Having eight sets of chromosomes.

**octaploidy** (ōk'tā-ploy'dē) The condition of having eight sets of chromosomes.

**octavalent** (ōk'tā-vā'lēnt) [L. *octo*, eight, + *valeo*, to have power] Having a valence of eight.

**octigravida** (ōk'tī-grāv'ī-dā) [" + *gravida*, pregnant] A woman who has been pregnant eight times.

**octipara** (ōk-tīp'ā-rā) [" + L. *parere*, to bring forth, to bear] A woman who has given birth to eight children.

**octogenarian** (ōk'tō-jēn-ēr'ē-ē-) [L. *octogenarius*, containing eighty] A person who is 80 to 89 years old.

**ocular** (ōk'ū-lār) [L. *oculus*, eye] **1.** Concerning the eye or vision. **2.** The eyepiece of a microscope.

**ocular histoplasmosis syndrome** ABBR: OHS. A disease of the macula found in young and middle-aged adults from the Ohio and Mississippi river valleys, in which loss of vision occurs with central scotoma. It is also known as presumed ocular histoplasmosis syndrome (POHS), since the macular lesion is thought to be caused by *Histoplasma capsulatum*, a fungus that does not



grow in cultures of pathological specimens from affected lesions.

**ocular ischemic syndrome** A rare syndrome in which gradual or sudden loss of vision results from blockage of blood flow through the carotid arteries to the eyes. The disease is found most often in patients with other risk factors for cardiovascular disease, such as diabetes mellitus, hyperlipidemia, and hypertension. Ophthalmic examination may reveal neovascularization of the retina, retinal microinfarcts, or elevated intraocular pressures.

**ocularist** (ök'ü-lär-ist) An allied health specialist who is prepared by training and experience to make and fit artificial eyes.

**ocular masquerade syndrome** Presentation of a cancer of the eyelid as inflammation of the eyelid, conjunctiva, or tarsal glands, mimicking a benign condition.

**oculi** (ök'ü-li) Pl. of *oculus*.

**oculist** (ök'ü-list) Obsolete term for ophthalmologist, a physician who is a specialist in diseases of the eye.

**oculo-** (ök'ü-lö) [L. *oculus*, eye] Combining form denoting *eye*.

**oculoauricular vertebral dysplasia** Hemifacial microsomia.

**oculocutaneous** (ök'ü-lö-kü-tā'nē-üs) Concerning the eyes and the skin.

**oculofacial** (ök'ü-lö-fā'shē-äl) Concerning the eyes and the face.

**oculogyration** (ök'ü-lö-jī-rā'shün) [ " + Gr. *gyros*, circle] The circular motion of the eyeball around its antero-posterior axis. SEE: *nystagmus*.

**oculogyria** (ök'ü-lö-jī'rē-ä) The limits of rotation of the eyeballs.

**oculogyric** (ök'ü-lö-jī'rīk) Producing or concerning movements of the eye. SYN: *oculomotor*.

**oculomotor** (ök'ü-lö-mō'tor) [ " + *motor*, mover] Relating to eye movements. SYN: *oculogyric*.

**oculomycosis** (ök'ü-lö-mī-kō'sīs) [ " + Gr. *mykes*, fungus, + *osis*, condition] Any disease of the eye or its parts caused by fungus.

**oculonasal** (ök'ü-lö-nā'säl) [ " + *nasus*, nose] Concerning the eyes and the nose.

**oculopharyngeal muscular dystrophy** (ök'ü-lö-fā-rīn'jīl, jē-īl) ABBR: OPMD. A rare form of muscular dystrophy in which muscles that control the eyelids and swallowing are primarily affected. Ptosis and dysphagia beginning in the late 40s or early 50s are characteristic symptoms. The disease occurs most often in French-Canadian or Hispanic kindreds.

**oculoplastics** (ök'ü-lö-pläs'tīks) Plastic surgery of the eyelids and other periorbital tissues, performed to treat ectropion, exophthalmos, ptosis, trauma, or other conditions.

**oculopupillary** (ök'ü-lö-pū'pī-lār-ē) Concerning the pupil of the eye.

**oculovestibular test** (ök'ü-lö-vēs-tīb'ü-lär) Caloric test.

**oculus** (ök'ü-lüs) *pl. oculi* [L.] Eye; the organ of vision made up of the eyeball and optic nerve.

**o. dexter** ABBR: OD. The right eye.

**o. sinister** ABBR: OS. The left eye.

**o. uterque** ABBR: OU. Each eye.

**OD** *overdose*; [L.] *oculus dexter*, right eye.

**odaxesmus** (ō'dāk-sēz'mūs) [Gr. *odaxemos*, an irritation] The biting of the tongue, lip, or cheek during an epileptic attack.

**odaxetic** (ō'dāk-sēt'īk) Producing a stinging or itching sensation.

**OD'd** (ō'dēd') Slang term for a death or illness due to a drug overdose, esp. a drug of abuse.

**odds** In statistics, the probability that an event may appear or occur. This probability is estimated from known rates of occurrence of the event in a specific setting, e.g., from the known number of patients with a particular disease on a particular island. In practice most patients do not live on islands, and many have diseases whose presentation varies from the norm. The use of odds in health care always implies some degree of probability rather than of proof.

**odds ratio** In epidemiological case-control studies, a relative measure of disease occurrence. The odds in favor of a particular disease occurring in an exposed group are divided by the odds in favor of its occurring in an unexposed group. If the condition being studied is rare, the odds ratio is a close approximation to the relative risk. SYN: *events odds ratio*. SEE: *relative risk*.

**odogenesis** (ō'dō-jēn'ē-sīs) [Gr. *hodos*, pathway, + *genesis*, generation, birth] Neural regeneration.

**odont-, odonto-** [Gr. *odous*, tooth] Combining form denoting *tooth*, *teeth*.

**odontalgia** (ō-dōn-täl'jē-ä) [ " + *algos*, pain] Toothache.

**phantom o.** Pain felt in the area from which a tooth has been extracted.

**odontectomy** (ō-dōn-tēk'tō-mē) [ " + *ektome*, excision] Surgical removal of a tooth.

**odenterism** (ō-dōn'tēr-izm) [ " + *erismos*, quarrel] Chattering of the teeth.

**odontic** (ō-dōn'tīk) [Gr. *odous*, tooth] Concerning the teeth.

**odontitis** (ō'dōn-tī'tīs) [ " + *itis*, inflammation] Inflammation of a tooth.

**odontoblast** (ō-dōn'tō-bläst) [ " + *blastos*, germ] One of the cells forming the surface layer of the dental papilla that is responsible for the formation of the dentin of a tooth. After a tooth is formed, the odontoblasts line the pulp cavity and continue to produce dentin for years after the tooth has erupted.

**odontoblastoma** (ō-dōn'tō-bläs-tō'mä) [ " + " + *oma*, tumor] A tumor composed principally of odontoblasts.

**odontocela** (ō-dŏn'tō-sēl) [*l'* + *kele*, tumor, swelling] An alveolodental cyst.

**odontoclasia** (ō'dŏn-tŏk'lās-sis) [*l'* + *klasis*, fracture] The breaking or fracture of a tooth.

**odontogenesis, odontogeny** (ō-dŏn'tō-jĕn'ĕ-sis, -tŏj'ĕn-ĕ) [*l'* + *genesis*, generation, birth] The origin and formation of the teeth.

**o. imperfecta** A congenital anomaly of the developing teeth in which there is deficient production of enamel and dentin in affected teeth, producing decreased density and enlarged pulp chambers.

**odontoid** (ō-dŏn'toyd) [*l'* + *oidos*, form, shape] Toothlike.

**odontoma** (ō'dŏn-tŏ'mā) [*l'* + *oma*, tumor] A tumor originating in the dental tissue.

**ameloblastic o.** A neoplasm that contains enamel, dentin, and odontogenic tissue that does not develop to form enamel.

**composite o.** A tumor in which the epithelial and mesenchymal cells are completely differentiated. This causes enamel and dentin to be formed in an abnormal manner.

**coronary o.** A bony tumor at the crown of a tooth.

**follicular o.** A bony shell in the gums below the tooth margin, usually appearing after the second dentition. It is due to an excessive number of dental follicles. The tumor often involves one or more teeth and is crepitating to pressure. SYN: *dentigerous cyst*.

**radicular o.** Odontoma close to or on the root of a tooth.

**odontomy** (ō'dŏn-tŏn'ō-mē) [*l'* + *onoma*, name] Dental nomenclature.

**odontoprisia** (ō-dŏn'tŏ-prī'sis) [*l'* + *prisis*, sawing] Bruxism.

**odontoschism** (ō-dŏn'tŏ-skĭzm) [*l'* + *schisma*, cleft] Fissure of a tooth.

**odontoscopy** (ō'dŏn-tŏs'kŏ-pē) [*l'* + *skopein*, to examine] 1. Examination of the teeth and oral cavity by use of an odontoscope. 2. An impression made of the biting marks made by teeth. It is used as a means of identification.

**odor** (ō'dĕr) [L.] That quality of a substance that renders it perceptible to the sense of smell.

Odors have been classed as (1) pure, (2) those mixed with sensations from the mucous membrane, and (3) those mixed with the sensation of taste. Although classification attempts are useful, it is important to realize that most complex substances do not produce a single odor.

In the past, body and breath odors were sometimes relied on to suggest diagnoses; this is rarely done in contemporary health care. Examples are a "mousy" odor present in the breath of patients with liver failure (liver breath);

an odor of stale urine (uremic breath) in uremia; and the sweet smell of acetone in diabetic ketoacidosis. The characteristic smell of some alcoholic beverages can be detected in the breath. In some hospitals, the employees and staff who work in the presence of patients are asked to refrain from wearing scented substances such as perfumes, hair sprays, underarm deodorants, or after-shave lotions. This is done to prevent olfactory discomfort to patients. Individuals who have just returned from surgery or who have asthma or other respiratory problems are particularly sensitive to odors. Electronic devices for detecting and characterizing odors have been developed. SEE: *breath*; *odorimetry*; *pheromone*.

**body o.** The aroma or fragrance emanating from the human body. It may be derived from sweat gland secretions, urine, feces, expiration, saliva, breasts, skin, and sex organs. The major sources are the eccrine and apocrine sweat glands. Sebaceous gland secretions from the skin contribute to these odors. Eating garlic or onions or taking certain drugs may add to the odors produced by sweat glands, but the major sources of body sweat odor are the volatile fatty acids, steroids, and amines emitted by apocrine glands. Bacteria and fungi in and around these glands can intensify the odors. The secretions increase at puberty and decrease after menopause, are enhanced by stress, and are partially genetically controlled. SEE: *halitosis*.

**odorant** (ō'dŏr-ānt) Something that stimulates the sense of smell.

**odoriferous** (ō'dŏr-ĭf'ĕ-rĭs) [L. *odor*, smell, + *ferre*, to bear] Bearing an odor; fragrant; perfumed.

**odorimetry** (ō'dŏ-rĭm'ĕ-trĕ) The measurement of odors.

**odontology** (ō'dŏr-ŏg'rā-fĕ) [*l'* + Gr. *graphein*, to write] A description of odors.

**odorous** (ō'dŏr-ŭs) [L. *odor*, smell] Having an odor, scent, or fragrance.

**odynacusis** (ō'dĭn-ā-kŭ'sis) [Gr. *odyne*, pain, + *akousis*, hearing] A condition in which noise causes pain in the ear.

**-odynia, odyno-** (ō-dĭn'ĕ-ā, ō-dĭn'ŏ) [Gr. *odyne*, pain] Combining form denoting pain.

**odonometer** (ō'dĭn-om'ĕt-ĕr) [*l'* + *metron*, measure] A device for measuring pain.

**odynophagia** (ōd'ĭn-ŏ-fā'jĕ-ā) [*l'* + *phagein*, to eat] Pain upon swallowing.

**Oedipus complex** (ĕd'ĭ-pŭs) [Oedipus, a character in Gr. tragedy who unwittingly killed his father and married his mother] Abnormally intense love of the child for the parent of the opposite sex. This love continues in adulthood, and usually involves jealous dislike of the other parent. Most often, it is the love of

a son for his mother. SEE: *Electra complex*; *Jocasta complex*.

**oesophagostomiasis** (ē-sōf'ā-gō-stō-mī'ā-sīs) [Gr. *oisophagos*, esophagus, + *stoma*, mouth, + *-iasis*, state] Infection with the nematode of the genus *Oesophagostomum*.

**Oesophagostomum** (ē-sōf'ā-gōs'tō-mūm) [Gr. *oisophagos*, esophagus, + *stoma*, mouth] A genus of nematodes belonging to the suborder Strongylata that is parasitic in the intestinal tract of animals and humans.

**oestrus** (ōēs'trūs) Estrus.

**Oestrus ovis** A botfly that may cause ocular myiasis in humans.

**offal** (of'fel) Animal parts discarded during the process of butchering or slaughtering, typically including the brain, viscera, skin, hooves, and blood. These by-products have been implicated in the transmission of some infectious illnesses, like mad cow disease.

**office** (ōf'is) **1.** A room, suite, or building used for professional, commercial, or bureaucratic work. **2.** An outpatient facility where patients are seen, examined, and treated; a clinic.

**office-based** (ōf'is-bāst") Occurring in an outpatient setting rather than in a hospital or another inpatient setting.

**official** Said of medicines authorized as standard in the U.S. Pharmacopeia and in the National Formulary.

**off-label drug use** The use of a drug to treat a condition for which it has not been approved by the U.S. Food and Drug Administration (FDA), esp. when such use may relieve unpleasant symptoms, or prove compassionate. During the drug approval process in the U.S., drug manufacturers present carefully accumulated data to the FDA about the safety and effectiveness of their products. Drugs are labeled for specific uses when manufacturers make an application to the FDA with data that describe their drug's performance during clinical trials. If the data withstand rigorous scrutiny the drug is labeled for a specific use. Drug effects that have been observed but not specifically proven (and for which no application has been made) may be exploited for unproven or "off-label" uses by licensed medical practitioners.

**Ofuji's disease** (ō-foo'jē) Eosinophilic pustular folliculitis.

**ogbanje** (ōg-bān'jā) [Igbo (Nigeria), lit. "children who come and go"] Among the Igbo people of Nigeria, a person who is reborn after birth. In the Igbo culture all humans undergo reincarnation, but some particularly evil children are born over and over again. They suffer terrible illnesses (typically their signs and symptoms match those of sickle cell disease) that inflict revenge upon families that have been cursed.

**Ogilvie's syndrome** (ō'gīl-vēz) [Sir William Heneage Ogilvie, Brit. physician, 1887–1971] Acute intestinal pseudo-obstruction due to intestinal dilatation, mostly of the colon. An individual displaying this syndrome has usually undergone recent severe surgical or medical stress (e.g., myocardial infarction, sepsis, or respiratory failure), may be hospitalized or in intensive care, may have metabolic and electrolyte disturbances, and may have received narcotics.

**TREATMENT:** Treatment consists of therapy for the underlying disease, correction of electrolyte disturbances, avoidance of drugs that inhibit intestinal motility, and intubation of the small intestine for decompression. Cecostomy may be required in order to avoid ischemic necrosis and perforation of the bowel.

**Oguchi's disease** (ō-goot'chēz) [Chuta Oguchi, Japanese ophthalmologist, 1875–1945] Hereditary night blindness with onset in infancy. Commonly found in Japan, the disease is rare in the U.S.

**-OH** Symbol for the hydroxyl ion.

**OHA** *Oral hypoglycemic agent*.

**ohm** (ōm) [Georg S. Ohm, Ger. physicist, 1787–1854] The unit of electrical resistance equal to that of a conductor in which a current of one ampere is produced by a potential of one volt across the terminals. SEE: *electromotive force*.

**ohmmeter** (ōm'am'mē-tēr) A combined ohmmeter and ammeter.

**Ohm's law** (ōmz) [Georg S. Ohm, Ger. physicist, 1789–1854] The strength of an electric current, expressed in amperes, is equal to the electromotive force, expressed in volts, divided by the resistance, expressed in ohms ( $V=IR$ ). SEE: *electricity*.

**ohmmeter** (ōm'mē-tēr) A device for determining the electrical resistance of a conductor.

**Ohtahara's syndrome** (ō-tā-hā'rā) [S. Ohtahara, Japanese pediatric neurologist] A rare cause of encephalopathy and seizures in newborn infants. Also known as early infantile epileptic encephalopathy with suppression bursts, the disease is difficult to treat and has a poor prognosis.

**-oid** [Gr. *eidōs*, form, shape] Suffix indicating resemblance to the item designated in the first part of the word.

**oil** (oīl) [L. *oleum*] A greasy liquid not miscible with water, usually obtained from and classified as mineral, vegetable, or animal. According to character, oils are subdivided principally as fixed (fatty) and volatile (essential).

Examples of fixed oils are castor oil, olive oil, and cod liver oil. Examples of volatile oils are oils of mustard, peppermint, and rose.

**canola o.** A light, clear oil derived from the pods of an oilseed plant in the rapeseed family. The oil is composed of 7% saturated fat (the lowest saturated fat content of any vegetable oil), 61% monounsaturated fat, and 22% polyunsaturated fat.

**castor o.** A fixed oil expressed from the seed of the castor-oil plant *Ricinus communis*. It is used externally as an emollient and internally as a cathartic. It is hydrolyzed to ricinoleic acid, which acts as an irritant type of laxative.

**chaulmoogra o.** (chöl-moo'grä) A vegetable oil used to treat leprosy and some dermatoses. Although generally replaced by sulfones in treatment of leprosy, chaulmoogra oil is still used in endemic areas because of its availability and low cost. Also spelled *chaulmugra* or *chaulmaugra*.

**coconut o.** A colorless cooking oil, derived from the nut of the *Cocos nucifera* palm tree. Of all cooking oils, it has the highest level of saturated fat (about 91%).

**essential o.** Volatile oil, esp. one that has an odor and produces taste sensations, obtained from certain plants by various means of extraction. Some of these oils have been used since antiquity as preservatives and antiseptics (e.g., thymol and eugenol). Some are used in flavorings, perfumes, and medicines. They are usually complex chemicals difficult to purify.

**evening primrose o.** An oil derived from *Oenothera biennis*, a biennial herb with yellow flowers, that contains omega-6 fatty acids. It is promoted for the treatment of inflammatory conditions (e.g., of the skin or joints).

**fixed o.** Any of the oils in plants and animals that are glyceryl esters of fatty acids. These oils serve as food reserves in animals. They are nonvolatile and contain no acid.

**halibut liver o.** An oil obtained from the liver of the halibut fish (genus *Hippoglossus*) that is rich in vitamins A and D.

**lavender o.** An essential oil derived from *Lavandula angustifolia*, a plant with pale purple flowers. The oil is used in aromatherapy to alleviate pain (e.g., during acupuncture, massage, and childbirth).

**medium-chain triglyceride o.** A cooking oil of medium-chain triglycerides, used therapeutically as a source of calories and fatty acids (esp. in patients with long-chain and very long-chain fatty acid metabolism disorders). These triglycerides are more readily absorbed from the gut than are most long-chain triglycerides.

**olive o.** An oil obtained by pressing ripe olives [*Olea europaea*]. It is the major fat used in Mediterranean cooking.

It has a relatively high content of mono-unsaturated fatty acids (which reduce levels of low-density lipoprotein cholesterol) and polyphenols (which act as antioxidants). It can be consumed in the diet or used on the skin as an emollient.

**peanut o.** A refined oil obtained from the seed kernels of one or more of the cultivated varieties of *Arachis hypogaea*; may be used as a solvent for some medicines that are injected intramuscularly.

**safflower o.** The oil expressed from the seeds of the safflower plant, *Carthamus tinctorius*. It is high in linoleic acid and low in saturated fatty acids. Diets rich in safflower oil produce less serum cholesterol and apolipoproteins A-I and B than similar diets in which butter or coconut oil is used as the primary fat source.

**sesame o.** Oil obtained from the seeds of *Sesamum indicum*, used as a pharmaceutical aid and as a cooking oil. Sesame oils occasionally cause contact dermatitis.

**silicone o.** Injectable silicone.

**tea tree o.** The essential oil of *Melaleuca alternifolia*. It is aromatic and has anti-inflammatory and antimicrobial properties. Contact dermatitis occurs in some sensitized individuals exposed to the oil.

**volatile o.** Essential oil.

**wheat germ o.** The oil expressed from the germ of the wheat seed. It is a rich source of vitamin E.

**oil red-O** A fat-soluble dye primarily used in microscopic tissue examination to highlight triglycerides.

**ointment** (oynt'měnt) [Fr. *oignement*] A viscous, semisolid vehicle used to apply medicines to the skin. Ointments differ from creams or lotions in their superior ability to occlude the skin and improve the uptake of drugs. The base or vehicle of an ointment typically includes petrolatum, fats, oils, resins, or water-based or water-soluble compounds. SYN: *salve*; *unguent*.

**hydrophilic o.** An oil-in-water emulsion in the form of a standardized ointment preparation used topically as an emollient.

**OIRD object-film distance.** Distance from the radiographic film to the object being radiographed.

**OKT3** An immunosuppressive monoclonal antibody used in organ transplantation.

**ol** *L. oleum*, oil.

**OLA** *L. occipitolaeva anterior* (fetal presentation). SYN: *LOA*. SEE: *position*.

**olanzapine** An atypical antipsychotic agent used to treat psychosis and schizophrenia. It controls both the "positive" symptoms of schizophrenia (delusions, hallucinations) and the "negative" symptoms (passivity, blunted

affect, social isolation). Extrapyramidal side effects are less commonly associated with the use of olanzapine than with conventional neuroleptic drugs, such as haloperidol. Common side effects include drowsiness, dizziness, and weight gain.

**Older Americans Resources and Services Scale—Instrumental Activities of Daily Living** ABBR: OARS-IADL. A modified activity of daily living assessment scale to quantify a person's ability to perform tasks considered essential for community living. The seven tasks assessed are telephone use, traveling, shopping, preparing meals, performing housework, taking medications, and handling finances.

**Old World** The Eastern hemisphere. It is used in the biological sciences to distinguish plants, animals, and infections that live and thrive primarily in Africa, Asia, and Europe.

**olea** (ō'lē-ā) [L.] 1. Olive. 2. Pl. of oleum.

**Olea europaea** (ō'lē-ā ūr'ō-pē'ā) [L., European olive] The scientific name for the olive tree. Allergens in the fruit may cause anaphylaxis in susceptible individuals. Abbreviated Ole by the World Health Organization.

**oleaginous** (ō-lē-āj'ī-nūs) [L. *oleaginus*] Greasy; oily; unctuous.

**oleander** (ō'lē-ān'dēr) A poisonous ornamental evergreen shrub, *Nerium oleander*.

**oleate** (ō'lē-āt) [L. *oleatum*] 1. Any salt of oleic acid. 2. A salt of oleic acid dissolved in an excess of the acid and used as an ointment.

**oleatum** (ō-lē-ā'tūm) [L.] Preparation made by dissolving metallic salts or alkaloids in oleic acid. SYN: *oleate* (2).

**olecranarthritis** (ō-lēk'rān-ār-thrī'tis) [Gr. *olekranon*, elbow, + *arthron*, joint, + *itis*, inflammation] Inflammation of the elbow joint.

**olecranarthropathy** (ō-lēk'rān-ār-thrōp'ā-thē) [" + " + *pathos*, disease, suffering] Any disease of the elbow joint.

**olecranon** (ō-lēk'rān-ōn) [Gr., elbow] A large process of the ulna projecting behind the elbow joint and forming the bony prominence of the elbow. In treating a fracture of the olecranon, it is important to prevent spasm of the triceps muscle (to avoid separation of the fracture fragments by placing the arm in a sling or bandaging the arm to the side). The fragments may have to be wired. SYN: *olecranon process*. SEE: *elbow*; *skeleton*; *ulna*. **olecranal** (ō-lēk'rān-āl), *adj.*

**oleic** (ō-lē'ik) [L. *oleum*, oil] Derived from or pert. to oil.

**olein** (ō'lē-in) [L. *oleum*, oil] An oleate of glyceryl found in nearly all fixed oils and fats; an important part of oils. SYN: *triolein*.

**oleo-** [L. *oleum*, oil] Combining form meaning *oil*.

**oleoresin** (ō'lē-ō-rēz'in) [" + *resina*, resin] An extract of a plant containing a resinous substance and oil, which is prepared by dissolving the crude extract in ether, acetone, or alcohol.

**oleosaccharum** (ō-lē-ō-sāk'ā-rūm) [" + *saccharum*, sugar] A compound of sugar and volatile oil used to mitigate the bad taste of some drugs.

**oleotherapy** (ō'lē-ō-thēr'ā-pē) [L. *oleum*, oil, + Gr. *therapeia*, treatment] The therapeutic injection of oil.

**oleovitamin** (ō'lē-ō-vī'tā-mīn) A vitamin preparation in an edible oil.

**o. A and D** A standardized preparation of vitamins A and D.

**Olestra** (ō-lēs'trā) Trade name for a synthetic mixture of sucrose and fatty acids that pass through the digestive tract without absorption. While this fat replacement has been approved for use in savory snacks, it can interfere with uptake of fat-soluble vitamins, such as A, D, E, and K and may result in loose stools.

**oleum** (ō'lē-ūm) *pl.* **olea** [L.] Oil.

**olfaction** (ōl-fāk'shūn) [L. *olfacere*, to smell] 1. The sense of smell. 2. The act of smelling.

**olfactometer** (ōl'fāk-tōm'ēt-ēr) [" + Gr. *metron*, measure] Apparatus for testing the power of the sense of smell.

**olfactory** (ōl-fāk'tō-rē) Pert. to smell.

**olig-** SEE: *oligo-*.

**oligo-, olig-** [Gr. *oligos*, little] Combining form meaning *small, few*.

**oligoarthritis** Inflammation that involves four or fewer joints. Inflammation involving a single joint is known as monoarticular arthritis, and that involving more than four joints as polyarthritis.

**oligodactylia** (ōl-ī-gō-dāk'tīl'ē-ā) [" + *daktylos*, digit] Subnormal number of fingers or toes.

**oligodendroblastoma** (ōl'ī-gō-dēn'drō-blās-tō'mā) [" + " + " + *oma*, tumor] A neoplasm derived from oligodendroblasts.

**oligodendrocyte** (ōl'ī-gō-dēn'trō-sīt) [" + " + *kytos*, cell] Neuroglial cells having few and delicate processes. SEE: *oligodendroglia*.

**oligodendroglia** (ōl'ī-gō-dēn-drōg'lē-ā) [" + " + *glia*, glue] A neuroglial cell of ectodermal origin that, in the central nervous system, forms or maintains the myelin sheath of neural processes. This type of cell has long, slender processes and is often found associated with nerve cells or satellites.

**oligodendrogloma** (ōl'ī-gō-dēn'drō-glī-ō'mā) [" + " + " + *oma*, tumor] A malignant tumor of unknown etiology that consists mostly of oligodendrocytes and occurs principally in the cerebrum.

**oligodontia** (ōl'ī-gō-dōn'shē-ā) [" + *odont*, tooth] A hereditary developmen-

tal anomaly characterized by fewer teeth than normal.

**oligogenic** (ól'í-gō-jěn'ík, -jěn') Caused by, affecting, or relating to a small number of genes.

**oligohydramnios** (ól'í-gō-hi-drām'nē-ōs) [*l'* + *hydor*, water, + *amnion*, amnion] An abnormally small amount of amniotic fluid. It is a rare condition in which the volume of amniotic fluid during the third trimester is less than 300 ml. Insufficient fluid surrounding the fetus increases the potential for cord compression, fetal hypoxia, fetal malformation, perinatal demise, and dysfunctional and prolonged labor. Although the etiology is unknown, the disorder is associated with amniotic fluid leakage, placental insufficiency, postmaturity, intrauterine growth retardation, and major congenital abnormalities of the fetal kidney or lungs.

**oligomastigate** (ól'í-gō-mās'ti-gāt) [*l'* + *mastix*, whip] Characterized by two flagella.

**oligomenorrhea** (ól'í-gō-mén'ō-rē'ā) [*l'* + *men*, month, + *rhoia*, flow] Scanty or infrequent menstrual flow.

**oligonucleotide** (ól'í-gō-nū'klē-ō-tīd) [*l'* + *nucleotide*] A compound made up of a small number of nucleotide units.

**oligopnea** (ól-í-gōp'nē-ā) [*l'* + *pnoia*, breath] Infrequent or shallow respirations, usually less than 10 breaths per minute. SEE: *hypoventilation*.

**TREATMENT:** Observe patient for signs of hypoxia and monitor arterial blood gases. Intubation and mechanical ventilation may be needed if carbon dioxide levels increase significantly.

**oligoptyalism** (ól-í-gō-ti'ā-lizm) [*l'* + *ptyalon*, saliva] Insufficient secretion of saliva.

**oligosaccharide** (ól'í-gō-sāk'ā-rīd) A compound made up of a small number of monosaccharide units. Some are found on the outer surface of cell membranes as part of antigens.

**oligospermia, oligozoospermatis** (ól'í-gō-spēr'mē-ā, -zō'ō-spēr'mā-tizm) [*l'* + *sperma*, seed] A temporary or permanent deficiency of spermatozoa in seminal fluid.

**oligotrichia** (ól'í-gō-trīk'ē-ā) [*l'* + *thrix*, hair] Congenital scantiness of hair.

**oligotyping** (ól'í-gō-tīp'ing) [*l'* + *l'*] The detection of particular oligonucleotides in a nucleic acid specimen.

**oliguria** (ól-ig-ū'rē-ā) [*l'* + *ouron*, urine] Urinary output of less than 400 ml/day. Oliguria results in renal failure if it is not reversed.

**ETIOLOGY:** Diminished urinary output may result from inadequate perfusion of the kidneys (e.g., in shock or dehydration), from intrarenal diseases (e.g., acute tubular necrosis), or from obstruction to renal outflow (as in bilateral hydronephrosis).

**oliva** (ō-lí'vā) *pl.* **olivae** [L., olive] An oval body located behind the anterior pyramid of the medulla oblongata and consisting of a convoluted sheet of gray matter enclosing white matter. **olivary, adj.**

**olive** (ól'iv) [L. *oliva*, olive] **1.** Oliva. **2.** An ovoid device small enough to fit on the tip of a vein stripper. This prevents damaging the vein as the stripper is pushed into it.

**accessory o.** One of two masses of gray matter lying adjacent to the inferior olive of the brain.

**inferior o.** Oliva.

**superior o.** The superior olivary nucleus. SEE: *nucleus, superior olivary*.

**olive oil** SEE: *under oil*.

**Ollier, Louis Xavier Edouard** (ól'ē-ā') French surgeon, 1830–1900.

**O.'s disease** Chondrodysplasia.

**O.'s graft** A split-thickness skin graft that is quite thin.

**-ology** [Gr. *logos*, word, reason] Suffix meaning *study, knowledge, science of* the subject in the body of the word.

**-olol** (ō-lōl') A suffix used in pharmacology to designate any beta blocker similar in chemical structure to propranolol.

**OLP** *L. occipitolaeva posterior* (fetal presentation). SYN: *LOP*. SEE: *position*.

**om** *L. omni mane*, every morning.

**-oma** [Gr.] Suffix meaning *tumor*.

**omalgia** (ō-māl'jē-ā) [*l'* + *algos*, pain] Neuralgia of the shoulder.

**OMAP** *Office of Medical Assistance Programs*.

**ombudsman** (óm'būdzmän) In medicine, an advocate, esp. for patients or clients of health care institutions. The ombudsman verifies complaints and advocates for their resolution. SEE: *Patient's Bill of Rights*.

**-ome** A combining form, used in terms such as genome or proteome, meaning "a complete set," e.g., the complete set of genes in an organism (genome); the complete set of proteins secreted by the liver (its proteome).

**omega-3 (ω3) fatty acids** (ō-mā'gā) Long-chain polyunsaturated fatty acids found in the oils of some saltwater fish, and in canola, flaxseed, walnuts, and some vegetables. Examples of omega-3 fatty acids are eicosapentaenoic acid (EPA) and docosahexanoic acid (DHA). Alpha-linolenic acid (found in flaxseed and chia) can be metabolically converted to omega-3 fatty acids in the body. People whose diets are rich in omega-3 fatty acids have a reduced incidence of cardiovascular disease. SYN: *docohexanoic acid*.

**omentectomy** (ō-mén-tēk'tō-mē) [*l'* + Gr. *ektome*, excision] Surgical removal of all or part of the omentum.

**omentitis** (ō-mén-tī'tis) [*l'* + Gr. *itis*, inflammation] Inflammation of the omentum.

**omentopexy** (ō-mén'tō-pēks'ē) [*l'* +

Gr. *pexis*, fixation] Fixation of the omentum to the abdominal wall or adjacent organ.

**omentoplasty** (ō-mĕn'tō-plās'tē) [L. *omentum*, covering, + Gr. *plassein*, to form] The use of tissue from the greater omentum as a graft in reinforcing tissues.

**omentorrhaphy** (ō-mĕn-tor'rā-fē) [ʹ + Gr. *rhaphe*, seam, ridge] Suturing of the omentum.

**omentotomy** (ō-mĕn-tōt'ō-mē) [ʹ + Gr. *tome*, incision] Surgical incision of the omentum.

**omentovolvulus** (ō-mĕn'tō-vōl'vū-lūs) [ʹ + *volvare*, to roll] Twisting of the omentum.

**omentum** (ō-mĕn'tūm) *pl. omenta* [L., a covering] A double fold of peritoneum attached to the stomach and connecting it with certain of the abdominal viscera. It contains a cavity, the omental bursa (lesser peritoneal cavity). **SEE: illu.**

**gastrocolic o.** Greater omentum.

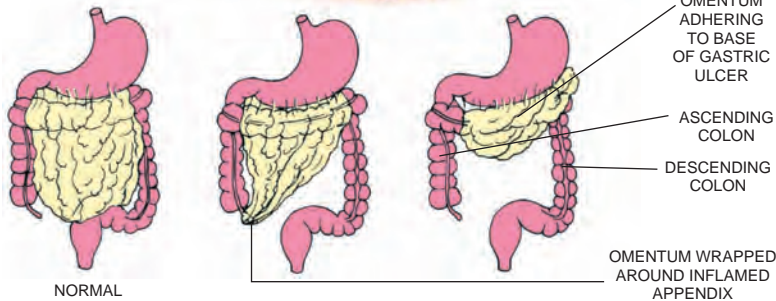
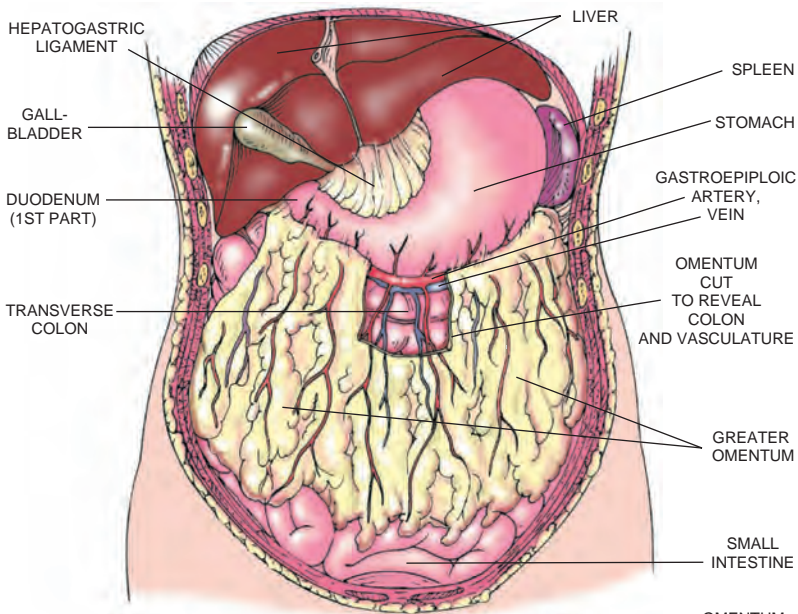
**gastrohepatic o.** Lesser omentum.

**greater o.** The portion of the omentum that is suspended from the greater curvature of the stomach and covers the intestines like an apron. It dips in among the folds of the intestines and is attached to the transverse colon and mesocolon. It contains fat, prevents friction, and aids in localizing infections. **SYN: gastrocolic o.**

**lesser o.** The portion of the omentum that passes from the lesser curvature of the stomach to the transverse fissure of the liver. **amental** (ō-mĕn'tāl), *adj.*

**omeprazole** (ō-mĕp'rā-zōl'z) A potent inhibitor of the formation of gastric acid. It is used to treat erosive esophagitis, gastritis, gastroesophageal reflux, and peptic ulcer.

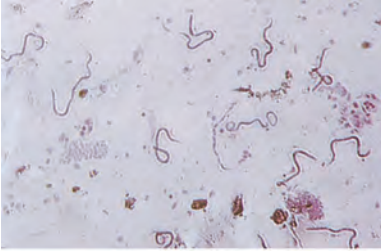
**-omic** [Gr. *ome*, complete] A suffix used to describe a comprehensive field of



RELATIONSHIP OF GREATER OMENTUM TO ABDOMINAL ORGANS

- study, e.g. the study of complete genetic sequences (genomics), or all the proteins made by an organism (proteomics).
- omics** A combining form for the study of large sets of biological data; e.g., genomics is the study of the complete genetic complement of an organism or organ; proteomics is the study of the entire protein expression of an organism or tissue.
- OML** *orbitomeatal line*.
- Ommaya reservoir** (ō-mī'yā) [A. K. Ommaya, contemporary U.S. neurosurgeon] A mushroom-shaped infusion port, implanted in the ventricles of the brain, to allow access to cerebrospinal fluid (CSF), measurement of CSF pressure, or intrathecal drug administration (e.g., antibiotics, cancer-fighting drugs, or opiates). The reservoir may be used to help treat malignancies or infections of the central nervous system, or control chronic cancer pain. It may occasionally become infected or clogged during use.
- omnipotence of thought** In psychiatry, the infantile concept of reality in which one expects all of one's wishes to be instantly gratified.
- omnivorous** (ōm-nīv'ō-rūs) [L. *omnis*, all, + *vorare*, to eat] Consuming foods of both vegetable and animal origin.
- omo-** [Gr. *omos*, shoulder] Combining form meaning *shoulder*.
- omoclavicular** (ō'mō-klā-vīk'ū-lār) Concerning the shoulder and clavicle.
- omohyoid** (ō-mō-hī'oyd) **1.** Concerning the scapula and the hyoid bone. **2.** The muscle attached to the hyoid bone and the scapula.
- omphal-** SEE: *omphalo-*.
- omphalectomy** (ōm-fāl-ēk'tō-mē) [Gr. *omphalos*, navel, + *ektome*, excision] Surgical removal of the umbilicus.
- omphalic** (ōm-fāl'ik) [Gr. *omphalos*, navel] Concerning the umbilicus.
- omphalitis** (ōm-fāl-ī'tis) [" + *itis*, inflammation] Inflammation of the umbilicus.
- omphalo-, omphal-** [Gr. *omphalos*, navel] Combining forms denoting *navel*.
- omphaloangiopagus** (ōm'fā-lō-ān'jē-ōp'ā-gūs) [" + *angeion*, vessel, + *pagos*, thing fixed] Conjoined twins united by the vessels of the umbilical cord.
- omphalocele** (ōm-fāl'ō-sēl) [" + *kele*, tumor, swelling] Congenital hernia of the umbilicus. SEE: *hernia*.
- omphalomesenteric** (ōm'fāl-ō-mēs-ēntēr'ik) [" + *mesenterion*, mesentery] Concerning the umbilicus and mesentery.
- omphaloncus** (ōm'fāl-ōn'kūs) [" + *onkos*, tumor] An umbilical tumor or swelling.
- omphalopagus** (ōm'fā-lōp'ā-gūs) [" + *pagos*, thing fixed] Conjoined twins united at the abdomen.
- omphalophlebitis** (ōm'fāl-ō-flē-bī'tis) [" + *phleps*, vein, + *itis*, inflammation] Inflammation of the umbilical veins.
- omphalorrhagia** (ōm'fāl-ō-rā'jē-ā) [" + *rhegynai*, to burst forth] Umbilical hemorrhage.
- omphalorrhoea** (ōm'fāl-ō-rē'ā) [" + *rhoia*, flow] The discharge of lymph from the umbilicus.
- omphalorrhexis** (ōm'fāl-ō-rēk'sis) [" + *rhexis*, rupture] Rupture of the umbilicus.
- omphalosite** (ōm'fā-lō-sīt") [" + *sitos*, food] The underdeveloped member of a pair of omphaloangiopagus twins.
- omphalotomy** (ōm-fāl-ōt'ō-mē) [" + *tome*, incision] Cutting of the umbilical cord at birth.
- omphalotripsy** (ōm'fāl-ō-trīp'sē) [" + *tripsis*, a rubbing] Severing of the umbilical cord by crushing, rather than cutting.
- Omsk hemorrhagic fever virus** (ōmsk) [Omsk, a city in eastern Russia] A single-stranded RNA virus in the Flavivirus genus. It can be transmitted to people by the bite of infected ticks. Clinical symptoms of infection include hemorrhage, conjunctivitis, cough if the patient develops pneumonia, fevers, and meningoencephalitis.
- ON** *orthopedic nurse*.
- on** L. *omni nocte*, every night.
- onanism** (ō'nān-izm) [So named because it was practiced by the biblical character Onan, son of Judah] Coitus interruptus; withdrawal before ejaculation. The term is erroneously used to designate masturbation.
- Onanoff's reflex** (ōn-ā-nōfs') [Jacques Onanoff, Fr. physician, b. 1859] Contraction of the bulbocavernous muscle resulting from compression of the glans penis.
- Onchocerca** (ōng'kō-sēr'kā) [Gr. *onkos*, hook, + *kerkos*, tail] A genus of filarial worms that live in the subcutaneous and connective tissues of their hosts, usually enclosed in fibrous cysts or nodules.
- O. volvulus** A species of *Onchocerca*, a parasitic worm that is transmitted to people by the bite of black flies of the genus *Simulium*. Tiny, threadlike offspring of the worm migrate to the skin and eyes and produce inflammatory reactions that result in skin swellings and "river blindness." The inflammation produced by the parasites may be mediated by a bacterium, *Wolbachia*, which in turn infests the parasitic worm. SEE: *illius*.
- onchocerciasis** (ōng'kō-sēr-kī'ā-sīs) [" + " + *iasis*, infestation] Infection with *Onchocerca volvulus*. SYN: *river blindness*. SEE: *illius*.
- onco-** [Gr. *onkos*, bulk, mass] Combining form meaning *tumor, swelling, mass*.
- Oncocerca** (ōng'kō-sēr'kā) *Onchocerca*.
- oncercosis** (ōng'kō-sēr-ō'sis) *Onchocerciasis*.





10 μm

**ONCHOCERCA VOLVULUS**

In skin nodule (orig. mag. ×100)

**oncoocyte** (ōn'kō-sīt) [ " + *kytos*, cell] A large columnar cell with granular, acidophilic cytoplasm and a large number of mitochondria. They may become neoplastic.

**oncoeytoma** (ōng'kō-sī-tō'mā) [ " + " + *oma*, tumor] A benign adenoma composed of eosinophilic epithelial cells, esp. one of the salivary or parathyroid glands.

**oncofetal** (ōng'kō-fē'tāl) Concerning tumors in the fetus.

**oncogene** (ōng'kō-jēn) [ " + *gennan*, to produce] A gene in a virus that has the ability to induce a cell to become malignant. Oncogenes have been identified in human tumors. In addition to genes that can induce tumor formation, there are antioncogenes that suppress tumors.

**proto-o.** A gene that regulates the growth of cells or the signals that cells send to each other. Mutations in proto-oncogenes may cause excessive growth of cells or tissues in several diseases, including cancers.

**oncogenesis** (ōng'kō-jēn'ē-sīs) [ " + *genesis*, generation, birth] Tumor formation and development. **oncogenic** (-jēn'īk), *adj.*

**oncoides** (ōng-koy'dēz) [ " + *eidos*, form, shape] Turgescence.

**oncologist** (ōng-kōl'ō-jist) [Gr. *onkos*, bulk, + *logos*, word] A specialist in oncology.

**oncology** (ōng-kōl'ō-jē) [ " + *logos*, word, reason] The branch of medicine dealing with tumors.

**radiation o.** The branch of medical therapeutics in which radioactive energy is used to cure or palliate cancer. The objective is to deliver a therapeutic dose of radiation to malignant tissue, leaving healthy, surrounding tissues unharmed. Radiation therapy is used to treat many cancers, including cancers of the bone, brain, breast, cervix, lymphoid tissues, and uterus.

**oncolysis** (ōng-kōl'ī-sīs) [ " + *lysis*, dissolution] The absorption or dissolution of tumor cells.

**oncolytic** (ōng'kō-lit'īk) Destructive to tumor cells.

**oncometry** (ōng-kōm'ē-trē) The measurement of variations in size of internal organs.

**onconeural antigen** (ōng'kō-nūr'āl) An antigen found on the surface of cancer cells that closely resembles antigens found on nerve cells. Antibodies formed by immune cells against onconeural antigens cause paraneoplastic syndromes.

**oncornaviruses** (ōn-kōr'nā-vī'rū-sēz) A group of RNA viruses that can cause cancer in humans or animals.

**oncosphere** (ōng'kō-sfēr) [ " + *sphaira*, sphere] Hexacanth.

**oncotherapy** (ōng'kō-thēr'ā-pē) [ " + *therapeia*, treatment] The treatment of tumors.

**oncotic** (ōng-kōt'īk) [Gr. *onkos*, bulk, mass] Concerning, caused, or marked by swelling.

**oncotomy** (ōng-kōt'ō-mē) [ " + *tome*, incision] The incision of a tumor, abscess, or boil.

**oncovirus** (ōn'kō-vī'rūs) [ " + *virus*] Any virus that causes malignant neoplasms.

**Undine's curse** (ōn'dēnz) [Fr. Undine, mythical water nymph whose human lover was cursed to continuous sleep]

1. Primary alveolar hypoventilation caused by reduced responsiveness of the respiratory center to carbon dioxide.
2. Loss of automatic respiratory function owing to a lesion in the cervical portion of the spinal cord.

**oneiric** (ō-nī'rik) [Gr. *oneiros*, dream] Resembling, relating to, or accompanied by dreams.

**oneirism** (ō-nī'rīzm) [ " + *-ismos*, state of] A dreamlike hallucination in a waking state.

**oneirology** (ō'nī-rōl'ō-jē) [Gr. *oneiros*, dream, + *logos*, word, reason] The scientific study of dreams.



**ONCHOCERCIASIS**

Cutaneous nodules of onchocerciasis

**onion** (ün'yün) [AS. *oignon*] The edible bulb of the onion plant (genus: *Allium*), cultivated as a vegetable.

**onlay** (ön'lā) **1.** A graft applied to the surface of a tissue, esp. a bone graft applied to bone. **2.** In dentistry, a cast metal restoration that overlays the cusps of the tooth, thereby providing additional strength to the restored tooth.

**online database** Any library of information accessible via linked computers, e.g., via the World Wide Web.

**onomatomania** (ön"ō-mā"tō-mā'nē-ä) [" + *mania*, madness] A mental illness characterized by an abnormal impulse to dwell upon or repeat certain words or to attach significance to their imagined hidden meanings.

**onomatopoesis** (ön"ō-mā"tō-poy-ē'sis) [Gr. *onoma*, name, + *poiein*, to make] **1.** The formation of words that imitate the sounds with which they are associated (e.g., hiss, buzz). **2.** In psychiatry, imitative words and sounds created by patients with schizophrenia.

**onset of action** The time between the administration of a medication or other form of treatment and the first evidence of its effect.

**on site** Available at an institution. Many medical or surgical services are available in specialized or tertiary care facilities but not in smaller, rural, or less technologically developed hospitals or clinics.

**ontogeny** (ön-tōj'ën-ē) [Gr. *on*, being, + *gennan*, to produce] The history of the development of an individual.

**onych-** SEE: *onycho-*.

**onychalgia** (ön"i-käl'jē-ä) [Gr. *onyx*, nail, + *algos*, pain] Pain in the nails.

***o. nervosa*** Extreme sensitivity of the nails.

**onychatrophia** (ö'nīk-ä-trō'fē-ä) [" + *trophe*, nourishment] Atrophy of the nails.

**onychauxis** (ön"i-kawk'sis) [" + *auxein*, to increase] Overgrowth of the nails.

**onychectomy** (ön"i-kēk'tō-mē) [" + *ektome*, to cut] Surgical removal of the nail of a finger or toe.

**onychia** (ō-nīk'ē-ä) [Gr. *onyx*, nail] Inflammation of the nailbed with possible suppurative and loss of the nail. SYN: *matrixitis*; *onychitis*. SEE: *paronychia*.

**onychitis** (ön"i-kī'tis) [" + *itis*, inflammation] Onychia.

**onycho-, onych-** [Gr. *onyx*, nail] Combining form meaning *finger nail, toenail*.

**onychodystrophy** (ön"i-kō-dīs'trō'fē) [" + *dys*, bad, + *trophe*, nutrition] Any maldevelopment of a nail.

**onychogenic** (ön"i-kō-jēn'ik) [" + *gennan*, to produce] Concerning nail formation.

**onychograph** (ön-ik'ō-gräf) [" + *graphein*, to write] A device used for making

a record of capillary pulse under the fingernails.

**onychogryposis** (ön"i-kō-grī-pō'sis) [" + *gryposis*, a curving] Abnormal overgrowth of the nails with inward curvature.

**onychoheterotopia** (ön"i-kō-hēt'er-ō-tō'pē-ä) [" + *heteros*, other, + *topos*, place] Abnormally located nails.

**onychoid** (ön"i-koyd) [" + *eidosis*, form, shape] Similar to a nail, esp. a fingernail.

**onycholysis** (ön"i-kōl'ī-sis) [" + *lysis*, dissolution] Loosening or detachment of the nail from the nailbed. SEE: *photoonycholysis*.

**onychoma** (ön"i-kō'mä) [" + *oma*, tumor] A tumor of the nail or nailbed.

**onychomadesis** (ön"i-kō-mä-dē'sis) [Gr. *onyx*, nail, + *madesis*, loss of hair] The complete loss or shedding of the nails.

**onychomalacia** (ön"i-kō-mä-lä'shä) [" + *malakia*, softening] Abnormal softening of the nails. SYN: *hapalonychia*.

**onychomycosis** (ön"i-kō-mī-kō'sis) [" + *mykes*, fungus, + *osis*, condition] A fungal infection of the nails usually caused by *Candida* species and occasionally by *Candida*. The hallmarks of the disease are thickening, scaling, and discoloration of the nailbed.

**TREATMENT:** Antifungal medications like griseofulvin, itraconazole, and terfenabine are relatively effective. However, griseofulvin may cause liver dysfunction and the other two drugs are extremely expensive. SYN: *tinea unguium*. SEE: *ilus*.



**ONYCHOMYCOSIS**

**onycho-osteodysplasia** (ön"i-kō-ös'tē-ō-dīs-plä'zē-ä) A genetic disease involving ectodermal and mesodermal tissues. The nails and patellae may be absent; other bones and joints are affected. SYN: *nail-patella syndrome*.

**onychopathology** (ön"i-kō-pä-thōl'ō-jē) [" + *pathos*, disease, suffering, + *logos*, word, reason] The study of diseases of the nails.

**onychopathy** (ön-ī-köp'äth-ē) [" + *pathos*, disease, suffering] Any disease of the nails. SYN: *onychosis*.

**onychophagy** (õn-ì-kõf'ä-jë) [ʹ + *phag-ein*, to eat] Nail biting.

**onychophosis** (õn'ík-õ-fõ'sís) An accumulation of horny layers of epidermis under the toenail.

**onychophyma** (õn'í-kõ-fí'mä) [ʹ + *phyma*, a growth] Painful degeneration of the nail with hypertrophy.

**onychoptosis** (õn'ík-õp-tõ'sís) [ʹ + *ptosis*, a dropping] Dropping off of the nails.

**onychorrhaxis** (õn'í-kõ-rëk'sís) [ʹ + *rhaxis*, a rupture] Abnormal brittleness and splitting of the nails.

**onychoschia** (õn'í-kõ-skíz'ë-ä) [ʹ + *schizein*, to split] Loosening and eventual separation of the nail from its bed; nail splitting.

**onychosis** (õn-ì-kõ'sís) [ʹ + *osis*, disease] Onychopathy.

**onychotillomania** (õn'í-kõ-tíl'õ-mä'në-ä) [ʹ + *tillein*, to pluck, + *mania*, insanity] A neurotic tendency to pick at the nails.

**onychotomy** (õn'í-kõt'õ-më) [ʹ + *tome*, incision] Surgical incision of a fingernail or toenail.

**onychotrophy** (õn-ì-kõt'rõ-fë) [ʹ + *trophe*, nourishment] Nourishment of the nails.

**õ'nyong-nyong virus** (õ-nyõng'nyõng) An alphavirus found in Central Africa that causes epidemic fevers, joint pain, and swollen glands. The virus is transmitted to humans by mosquito bite.

**onyx** (õn'íks) [Gr., nail] **1.** A fingernail or toenail. **2.** Pus collection between the corneal layers of the eye. SYN: *hypopyon*.

**oo-** (õ-õ) [Gr. *oon*, egg] Combining form meaning *egg* or *ovary*.

**ooblast** (õ'õ-bläst) [ʹ + *blastos*, germ] The diploid cell from which an oogonium develops.

**oocyesis** (õ'õ-sí-ë'sís) [ʹ + *kyesis*, pregnancy] Ectopic pregnancy in an ovary.

**oocyst** (õ'õ-síst) [Gr. *oon*, egg, + *kystis*, bladder] The encysted form of a zygote occurring in certain sporozoa. SEE: *ookinete*.

**oocyte** (õ'õ-sít) [ʹ + *kytos*, cell] The stage in the development of an egg cell between the oogonium and the ovum. SEE: *oogenesis* for *illus*.

**primary o.** The oocyte produced by mitosis of an oogonium.

**secondary o.** The larger of the two cells produced by the first meiotic division of the primary oocyte. SEE: *polar body*.

**oogenesis** (õ'õ-jën'ë-sís) [ʹ + *genesis*, generation, birth] The developmental process by which the mature human ovum (the female reproductive cell) is formed. Formation begins during the first 3 months of female embryonic life with the development of ovarian follicles. Each follicle contains one oogonium which, through the process of mi-

tosis, becomes a primary oocyte containing 46 chromosomes. The oocyte then undergoes the first meiotic reduction division, resulting in formation of a secondary oocyte and a polar body, each containing 22 autosomes (half the number of chromosomes that are found in nongerm cells) and one X heterosome. Further division is arrested in prophase until the female reaches puberty. The second meiotic division begins at ovulation and reaches metaphase where, once again, division is arrested until the ovum is fertilized. The second meiotic division is completed at fertilization, ending with formation of the mature haploid ovum and one polar body. SYN: *ovigenesis*. SEE: *illus*; *meiosis*. **oogenetic** (-jë-nët'ík), *adj.*

**oogonium** (õ'õ-gõ'në-üm) *pl.* **oogonia** [ʹ + *gone*, seed] **1.** The primordial cell from which an oocyte originates. **2.** A descendant of the primordial cell from which the oocyte arises.

**ookinesis** (õ'õ-kín-ë'sís) [ʹ + *kinesis*, movement] The mitosis of oogonia in the embryonic ovary to form primary oocytes.

**ookinete** (õ'õ-kí-nët') [ʹ + *kinetos*, motile] An elongated motile zygote occurring in the life cycle of certain sporozoa parasites, esp. those of the genus *Plasmodium*. It penetrates the stomach wall of a mosquito and gives rise to an oocyst.

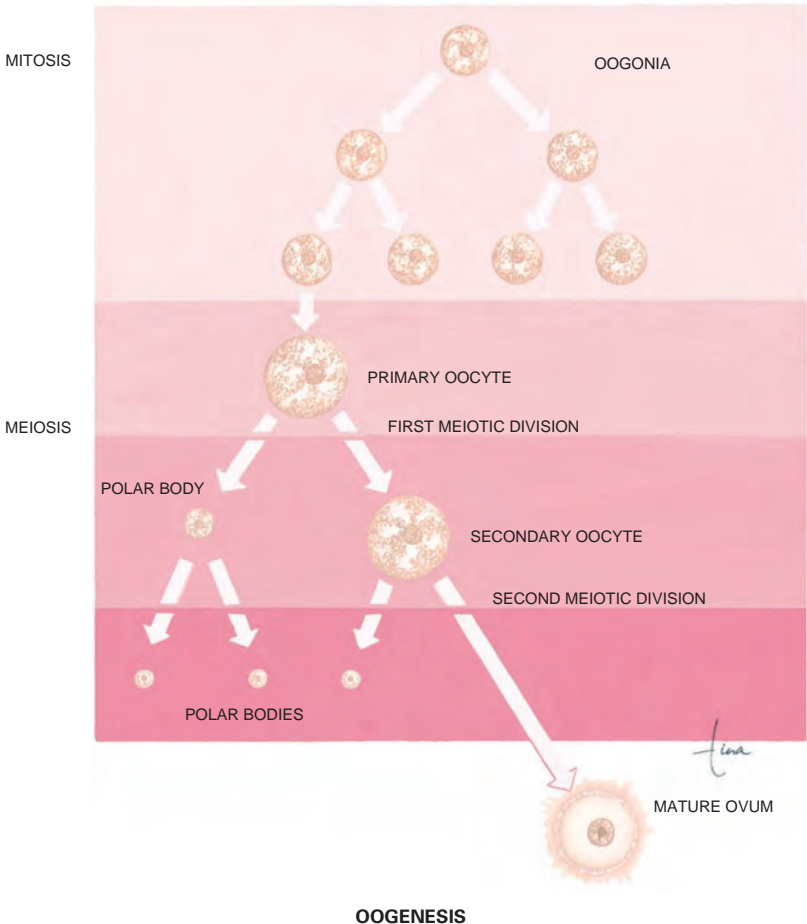
**oolemma** (õ'õ-lëm'ä) [ʹ + *lemma*, sheath] The plasma membrane of the oocyte.

**oophagy** (õ-õf'ä-jë) [ʹ + *phagein*, to eat] Eating of eggs.

**oophor-** SEE: *oophoro-*.

**oophorectomy** (õ'õf-õ-rëk'tõ-më) [Gr. *oophoros*, bearing eggs, + *ektome*, excision] Excision of an ovary. SEE: *ovariectomy*.

**PATIENT CARE:** Teaching is individualized according to the reason for removal of the ovary and the surgical method employed. Often the procedure is carried out to remove a benign ovarian cyst, but it may also be performed to remove a tumor of the ovary or an ovary that has twisted. Care before and after surgery is similar to that for other types of laparoscopic or open abdominal surgery. The procedure and expected sensations are explained, deep-breathing and coughing exercises are taught, and the importance of incentive spirometry, early ambulation, and other activity after surgery is emphasized. Vital signs are monitored, and intravenous fluids provided until the patient is able to tolerate oral intake. Urinary output is checked to be certain the patient is able to void and is emptying her bladder completely. After removal of a large cyst or mass, the decrease in intra-abdominal pressure may result in abdominal distention. Use of an abdominal binder



## OOGENESIS

may help to prevent this. The effectiveness of care is evaluated. If further treatment is required, the patient is given the opportunity to ask questions and to verbalize her feelings and concerns. Support and reassurance are provided. Appropriate reassurance is offered regarding the patient's concerns about infertility or cancer. Discharge instructions include gradually increasing activities and abstaining from use of tampons and sexual intercourse until her postoperative visit to the surgeon or gynecologist has been completed.

**oophoritis** (ō'ōf-ō-rī'tīs) [n + *itis*, inflammation] Inflammation of an ovary. SEE: *ovaritis*.

**follicular o.** Inflammation of the graafian follicles.

**oophoro-, oophor-** [Gr. *oophoros*, bearing eggs] Combining forms meaning *ovary*.

**oophorocystectomy** (ō-ōf'ō-rō-sīs-tēk'tō-

mē) [n + *kystis*, cyst, + *ektome*, excision] Surgical removal of an ovarian cyst.

**oophorocystosis** (ō-ōf'ō-rō-sīs-tō'sīs) [Gr. *oophoros*, bearing eggs, + *kystis*, cyst, + *osis*, condition] Development of an ovarian cyst.

**oophorhysterectomy** (ō-ōf'ō-rō-hīs'tēr-ēk'tō-mē) [n + *hystera*, womb, + *ektome*, excision] Surgical removal of the uterus, fallopian tubes, and ovaries (total abdominal hysterectomy with salpingo-oophorectomy).

**PATIENT CARE:** Removal of the uterus and ovaries is a major surgical procedure that may be carried out because of the presence of benign or malignant tumors, a pelvic abscess, and (rarely) in some ectopic pregnancies. Care and teaching are individualized on this basis. Care before and after surgery is similar to that for other types of abdominal, pelvic, or vaginal surgeries.

The procedure and expected sensations are explained, use of an incentive spirometer, deep-breathing and coughing exercises are taught, and the importance of early ambulation and other activity after surgery is emphasized. Pain control measures are discussed, and the patient is advised to request pain relief in the early postoperative period so that relief is obtained before pain becomes severe. Vital signs, fluid balance, and pulmonary and peripheral vascular status are monitored. Intravenous fluids are administered until the patient is able to retain oral fluids. Antiemetic drugs are administered as needed. An indwelling urinary catheter may be left in place post-surgery. After it is removed, the patient is encouraged to void and the bladder is checked for residual urine (by ultrasound). Incentive spirometry and use of an antiembolic hose help to prevent pulmonary and venous complications. Wound assessment is carried out via the surgeon's or agency's protocol. The effectiveness of care is evaluated. If further treatment is required, the patient is given the opportunity to ask questions and to verbalize feelings and concerns. If sexuality and loss of child-bearing ability issues are not raised by the patient, the nurse indicates a willingness to discuss these concerns if the patient would like to do so. Discharge instructions include arrangements for home health care if needed, return visit to the surgeon, and permitted activities and restrictions. Support and reassurance are offered to the patient and family.

**oophoroma** (ō-ōf'ō-rō'mă) [n + *oma*, tumor] A malignant ovarian tumor.

**oophoropexy** (ō-ōf'ō-rō-pĕk'sĕ) [n + *pexis*, fixation] Fixation of a displaced ovary.

**oophoroplasty** (ō-ōf'ō-rō-plăs'tĕ) [n + *plassein*, to form] Plastic surgery on an ovary.

**oophorotomy** (ō-ōf'ō-rōt'ō-mĕ) [n + *tome*, incision] Surgical incision of an ovary.

**oophorhagia** (ō'ōf'ō-ră'jĕ-ă) [n + *rhegnyai*, to burst forth] Hemorrhage from an ovulatory site severe enough to cause clinical symptoms or signs.

**ooplasm** (ō'ō-plăzm) [Gr. *oon*, egg, + LL. *plasma*, form, mold] The cytoplasm of an ovum.

**oosporangium** (ō'ō-spō-răn'jĕ-ŭm) The female portion in the sexual formation of oospores.

**oospore** (ō'ō-spor) [n + *sporos*, seed] A spore formed by the union of opposite sexual elements.

**ootid** (ō'ō-tĭd) The ovum after first maturation has been completed and the second meiotic division has begun.

**OP** *operative procedure; outpatient; occiput posterior.*

**opacification** (ō-păs'ĭ-fi-kă'shŭn) [L. *opacitas*, shadiness, + *facere*, to make] 1. The process of making something opaque. 2. The formation of opacities.

**opacity** (ō-păs'ĭ-tĕ) [L. *opacitas*, shadiness] 1. The state of being opaque. 2. An opaque area or spot. 3. The ratio of incident light to transmitted light in a specific area or on a radiograph.

**opalescent** (ō'păl-ĕs'ĕnt) Iridescent; similar to an opal with respect to the colors produced.

**opaque** (ō-păk') [L. *opacus*, dark] 1. Impenetrable by visible light rays or by other forms of radiant energy such as x-rays. 2. Not transparent or translucent.

**OPC** *outpatient clinic.*

**OPD** *outpatient department.*

**open** [AS.] 1. Not closed. 2. Uncovered or exposed, as a wound to air. 3. To puncture, as to open a boil. 4. Interrupted, as in an electric circuit when current cannot pass because a switch is open.

**open bite** In dentistry and orthodontics, a bite in which there is a space between the upper and lower teeth when the mouth is closed.

**open enrollment** A defined time of the month or year when eligible individuals may obtain insurance from a health benefits provider.

**open head injury** A head injury in which the integrity of the cranium is breached.

**opening** 1. The act of making or becoming open. 2. A hole, aperture, entrance, or open space.

**aortic o.** The opening in the diaphragm through which the aorta passes.

**cardiac o.** The opening of the esophagus into the cardiac end of the stomach.

**pyloric o.** The opening between the stomach and duodenum.

**opening snap** An abnormal early diastolic extra heart sound usually associated with stenosis of one of the atrioventricular valves. Most commonly, the sound reflects mitral valve stenosis. The brief, high-pitched snapping sound is unaffected by respiration and is heard best between the apex and the lower left sternal border.

**open-label study** A clinical trial without a control group, in which both patients and researchers know the identity of the treatment and its dosage.

**openness** In psychology and related disciplines: attentiveness, interest in new experiences, inquisitiveness, or receptivity to change.

**open set speech recognition** The ability to understand spoken language without using visible cues.

**operable** (öp'ĕr-ă-bl) [L. *operor*, to work] 1. Practicable. 2. Subject to treatment by surgery with reasonable expectation of cure, palliation, or improvement.

**operant** (öp'ër-ánt) Producing effects.

**operant conditioning** SEE: *conditioning, operant*.

**operate** (öp'ër-ät) [L. *operatus*, worked] To perform a surgical procedure.

**operation** (öp-ër-ä'shün) [L. *operatio*, a working] **1.** The act of operating. **2.** A surgical procedure. **3.** The effect or method of action of any type of therapy. SEE: *surgery*.

Preoperative shaving of the skin over the surgical site may be unnecessary insofar as bacterial considerations are concerned; nevertheless, it is still used to facilitate access to the operative site. **Babcock's o.** SEE: *Babcock's operation*.

**Bassini's o.** SEE: *Bassini's operation*.

**Beer's o.** SEE: *Beer's operation*.

**Morrow's o.** SEE: *Morrow's operation*.

**operative** (öp'ër-ä-tív) [L. *operativus*, working] **1.** Effective, active. **2.** Pert. to or brought about by an operation.

**operative dentistry** SEE: *dentistry, operative*.

**operculitis** (ö-për'kü-lí-tís) [L. *operculum*, a cover, + Gr. *itis*, inflammation] Inflammation of the gingiva over a partially erupted tooth.

**operculum** (ö-për'kü-lüm) *pl.* **opercula** [L., a cover] **1.** Any lid or covering. **2.** The narrow opening at the top of the thoracic cage bordered by the sternum and first ribs. **3.** The plug of mucus that fills the opening of the cervix on impregnation. **4.** The convolutions of the cerebrum, the margins of which are separated by the lateral cerebral (sylvian) fissure. The opercula cover the insula. **opercular** (ö-për'kü-lär), *adj.*

**dental o.** The soft tissue overlying the crown of a partially erupted tooth.

**trophoblastic o.** The plug of fibrin that covers the opening in the endometrium made by implantation of the blastocyst.

**operomics** (öp'ë-röm'íks) [L. *operor*, to work, + *-omics*, an informal neologic suffix for a field of study in biology] The molecular analysis of tissues and cells based on a knowledge of their genes, gene transcription, and protein expression.

**operon** (öp'ër-ön) In prokaryotic cells, a portion of the chromosome that encodes some aspect of metabolism and the regulatory genes that inhibit or promote its expression.

**ophiasis** (ö-fi'ä-sís) [Gr. *ophis*, snake] Baldness occurring in winding streaks across the head.

**ophidism** (ö'fid-ízm) [ + *-ismos*, condition] Poisoning from snake bite.

**ophritis, ophryitis** (öf-rí'tís, -rē-rí'tís) [Gr. *ophrys*, eyebrow, + *itis*, inflammation] Dermatitis around the eyebrow.

**ophryon** (öf'rē-ön") The meeting point of

the facial median line with a transverse line across the forehead's narrowest portion.

**ophryosis** (öf'rē-ö'sís) [ + *osis*, condition] Eyebrow spasm.

**ophryoplasty** (öf'rē-pläs'tē) Cosmetic surgery to reduce forehead wrinkling or furrowing and sagging of the eyebrows. SEE: *browlift*.

**ophthalm-** SEE: *ophthalmo-*.

**ophthalmagra** (öf'thāl-mäg'rä) [Gr. *ophthalmos*, eye, + *agra*, seizure] Sudden development of eye pain.

**ophthalmalgia** (öf'thāl-mäl'jē-ä) [ + *algos*, pain] Pain in the eye. SYN: *ophthalmodynia*.

**ophthalmatrophy, ophthalmatropia** (öf'thāl-mät'rö-fē) [ + *atrophia*, a wasting] Atrophy of the eyeball.

**ophthalmectomy** (öf'thāl-mëk'tō-mē) [ + *ektome*, excision] Enucleation.

**ophthalmencephalon** (öf'thāl-mën-séf'äl-lön) [ + *enkephalos*, brain] The vision apparatus from the retina to the optic nerves, optic chiasm, optic tract, and the visual centers of the brain.

**ophthalmia** (öf'thāl-mē-ä) [Gr. *ophthalmos*, eye] Severe inflammation of the eye, usually including the conjunctiva.

**Egyptian o.** Trachoma.

**electric o.** Ophthalmia marked by eye pain, intolerance to light, and tearing (lacrimation). The condition occurs following prolonged exposure to intense light such as that encountered in arc welding.

**gonococcal o.** Purulent conjunctivitis due to infection with gonococcus.

**granular o.** Trachoma.

**metastatic o.** Sympathetic inflammation of the choroid due to pyemia or metastasis.

**o. neonatorum** Severe purulent conjunctivitis in the newborn.

**ETIOLOGY:** Infection of the birth canal at the time of delivery. *Neisseria gonorrhoeae* and *Chlamydia trachomatis* are responsible for the great majority of cases. Symptoms are present 12 to 48 hr after birth when due to gonorrhea and 1 week or more after birth for *Chlamydia* infections.

**PROPHYLAXIS:** Erythromycin ophthalmic ointment or other approved agents are introduced into the conjunctival sac of each eye of the newborn to prevent gonorrheal or chlamydial conjunctivitis. SEE: *Credé's method* (2).

**neuroparalytic o.** Ophthalmia resulting from injury or disease involving the semilunar ganglion or the branches of the trigeminal nerve supplying the affected eye.

**phlyctenular o.** Vesicular formations on the epithelium of the conjunctiva or cornea.

**purulent o.** Purulent inflammation of the eye, usually due to gonococcus.

**spring o.** Conjunctivitis occurring in

the spring, usually due to an allergic reaction to pollen. SYN: *vernal conjunctivitis*.

**varicose o.** Inflammation that accompanies varicosities of the conjunctival veins.

**ophthalmic** (ôf-thäl'mīk) Pert. to the eye.

**o. nerve** A branch of the trigeminal (fifth cranial) nerve. It is sensory and has lacrimal, frontal, and nasociliary branches.

**ophthalmic laboratory technician** A technician who makes eyewear by following ophthalmic prescriptions. The work involves coating, cutting, grinding, polishing, tinting, and ensuring the quality of corrective lenses as well as the preparation and adjustment of eyewear.

**ophthalmitis** (ôf'thāl-mī'tīs) [" + *itis*, inflammation] Inflammation of the eye.

**ophthalamo-, ophthalm-** [Gr. *ophthalmos*, eye] Combining form meaning *eye*.

**ophthalmoblennorrhœa** (ôf-thäl'mō-blēn'ô-rē'ä) [" + *blenna*, mucus, + *rhoia*, flow] Purulent inflammation of the eye or conjunctiva, usually due to gonococcus.

**ophthalmodonesis** (ôf-thäl'mō-dō-nē'sīs) [" + *donesis*, trembling] Tremor or oscillatory movement of the eye.

**ophthalmodynamometer** (ôf-thäl'mō-dī'nā-mōm'ê-tēr) [" + *dynamis*, power, + *metron*, measure] An instrument for determining the pressure in the ophthalmic arteries. The device is placed against the conjunctiva of the eye. If the pressure is higher on one side than on the other, appropriate studies to attempt to define the cause are indicated.

**ophthalmodynamometry** (ôf-thäl'mō-dī'nā-mōm'ê-trē) Determination of pressure in the ophthalmic artery by use of an instrument that produces pressure on the eyeball until pulsations in the ophthalmic artery are seen through the ophthalmoscope, indicating the diastolic pressure. As the pressure is increased, the vessel collapses and the systolic pressure is obtained.

**ophthalmodynia** (ôf-thäl'mō-dīn'ê-ä) [" + *odyne*, pain] Pain in the eye. SYN: *ophthalmalgia*.

**ophthalmography** (ôf'thāl-mōg'rā-fē) [" + *graphein*, to write] Description of the eye.

**ophthalmolith** (ôf-thäl'mō-līth) [" + *lithos*, stone] A calculus (stone) of the lacrimal duct.

**ophthalmologist** (ôf-thäl-mōl'ô-jīst) [" + *logos*, word, reason] A physician who specializes in the treatment of disorders of the eye. SEE: *optician*; *optometrist*.

**ophthalmology** (ôf-thäl-mōl'ô-jē) [" +

*logos*, word, reason] The health science dealing with the eye and its diseases.

**ophthalmomalacia** (ôf-thäl'mō-mälä'shä) [" + *malakia*, softening] Abnormal shrinkage or softening of the eye.

**ophthalmometer** (ôf-thäl-mōm'êt-ēr) [" + *metron*, measure] **1.** An instrument for measuring errors of eye refraction. **2.** An instrument for measuring the volume of various chambers of the eye. **3.** An instrument for measuring the anterior curvatures of the eye. **4.** An instrument for measuring the size of the eye.

**ophthalmomycosis** (ôf-thäl'mō-mī-kō'sīs) [" + *mykes*, fungus, + *osis*, condition] Any fungal disease of the eye.

**ophthalmomyiasis** (ôf-thäl'mō-mī-ī'yāsīs) [Gr. *ophthalmos*, eye, + *myia*, a fly, + *-iasis*, condition] Infestation of the eye by larvae of the fly *Oestrus ovis*.

**ophthalmomyitis** (ôf-thäl'mō-mī-ī'tīs) [" + *mys*, muscle, + *itis*, inflammation] Inflammation of the ocular muscles.

**ophthalmomyotomy** (ôf-thäl'mō-mī-ôt'ô-mē) [" + *mys*, muscle, + *tome*, incision] Surgical section of the muscles of the eyes.

**ophthalmoneuritis** (ôf-thäl'mō-nū-rī'tīs) [" + *neuron*, sinew, + *itis*, inflammation] Inflammation of the optic nerve.

**ophthalmopathy** (ôf'thāl-mōp'ä-thē) Any disease of the eye.

**ophthalmoplasty** (ôf-thäl'mō-pläs'tē) [" + *plassein*, to form] Ocular plastic surgery.

**ophthalmoplegia** (ôf-thäl'mō-plē'jē-ä) [" + *plege*, stroke] Paralysis of ocular muscles.

**o. externa** Paralysis of extraocular muscles.

**o. interna** Paralysis of the iris and ciliary muscle.

**internuclear o.** ABBR: INO. Loss of the normal paired movements of the eyes when tracking an object to the left or right. An INO is marked by the failure of one eye (e.g., the left) to cross the midline during an attempt to see an object on the opposite side of the body (e.g., the right).

**ETIOLOGY:** This failure of adduction of the affected eye is caused by a lesion of the medial longitudinal fasciculus of the brain.

**nuclear o.** Paralysis due to a lesion of the nuclei of the ocular motor nerves.

**Parinaud's o.** SEE: *Parinaud's ophthalmoplegia syndrome*.

**o. partialis** Incomplete paralysis involving only one or two of the ocular muscles.

**o. progressiva** Ocular muscle paralysis in which all the muscles become involved slowly due to deterioration of the motor nerve nuclei.

- o. totalis** Paralysis that affects both internal and external ocular muscles.
- ophthalmorrhagia** (ôf-thäl'mô-rä'jē-ä) [" + *rhegynai*, to burst forth] Ocular hemorrhage.
- ophthalmorrhea** (ôf-thäl'mô-rē'ä) [" + *rhoia*, flow] Discharge from the eye.
- ophthalmorrhexis** (ôf-thäl'mô-rëk'sis) [" + *rhexis*, rupture] Rupture of an eye, usually traumatic.
- ophthalmoscope** (ôf-thäl'mô-skôp) [" + *skopein*, to examine] An instrument used for examining the interior of the eye, esp. the retina.
- ophthalmoscopy** (ôf-thäl-môs'kô-pē) Examination of the interior of the eye.  
**direct o.** Observation of an upright image in the ocular fundus.  
**indirect o.** Observation of an inverted image in the ocular fundus.  
**medical o.** The use of ophthalmoscopy to diagnose systemic disease.  
**metric o.** 1. The use of ophthalmoscopy to determine the refractive error of the lens of the eye. 2. The use of ophthalmoscopy to measure the height of the head of the optic nerve in cases of papilledema.
- ophthalmospasm** (ôf-thäl'mô-späsm) Spasm of the ocular muscles.
- ophthalmovascular** (ôf-thäl'mô-väs'kü-lär) [" + L. *vasculum*, a small vessel] Pert. to the blood vessels of the eye.
- opia** Suffix denoting *vision*.
- opiate** (ô'pē-ät) Any drug containing or derived from opium.
- opiate receptor** A specific site on a cell surface that interacts in a highly selective fashion with opiate drugs. These receptors mediate the major known pharmacological actions and side effects of opiates and the functions of the endogenous opiate-like substances—endorphins and enkephalins.
- opiate withdrawal syndrome** Physiological responses to abrupt cessation of the use of addictive substances. The symptoms include chills, runny nose, yawning, irritability, insomnia, and cramping. Physical signs of withdrawal include elevated blood pressure, diaphoresis, diarrhea, and muscle spasms. Discomfort peaks at 48 to 72 hr; however, symptoms persist for 7 to 10 days. Treatment includes methadone and psychological support and counseling.
- OPIUM** Acronym for other potentially infectious materials.
- opioid** (ô'pē-oyd) [L. *opium*, opium, + Gr. *eidōs*, form, shape] 1. Any synthetic narcotic not derived from opium. 2. Indicating substances such as enkephalins or endorphins occurring naturally in the body that act on the brain to decrease the sensation of pain.
- opioid peptide, endogenous** Any of a group of more than 15 substances present in the brain, certain endocrine glands, and the gastrointestinal tract.

They have morphine-like analgesic properties, behavioral effects, and neurotransmitter and neuromodulator functions. Included in this group of chemicals are endorphins, enkephalins, and dynorphin.

**opisth-** SEE: *opistho-*.

**opisthenar** (ô-pis'thē-när) [Gr. *opisthen*, behind, in the rear, + *thenar*, palm] The back (dorsum) of the hand.

**opisthion** (ô-pis'thē-ôn") [NL. fr. Gr. *opisthen*, back, in the rear] The cranio-metric point at the middle of the lower border of the foramen magnum.

**opistho-, opisth-** [Gr. *opisthen*, behind, in the rear] Combining form meaning *backward, behind*.

**opisthogyphous** (ôp-îs'thō-glîf'ûs) [" + Gr. *glyphein*, to engrave] Rear-fanged or grooved; said of certain mildly venomous snakes with fangs in the upper posterior portion of their oral cavity.

**opisthognathism** (ô'pis-thōg'nā-thîzm) [" + *gnathos*, jaw, + *-ismos*, state of] A skull abnormality marked by a receding lower jaw.

**opisthoporeia** (ô-pis'thō-pō-rē'ä) [" + *poreia*, walk] Involuntary walking backward. SYN: *retropulsion* (2).

**opisthorchiasis** (ô'pis-thor-ki'ä-sîs) Infestation of the liver by flukes of the genus *Opisthorchis*.

**Opisthorchis** (ô'pis-thor'kîs) [" + *orchis*, testicle] A genus of liver flukes endemic to Asia.

**O. felineus** SEE: *O. tenuicollis*.

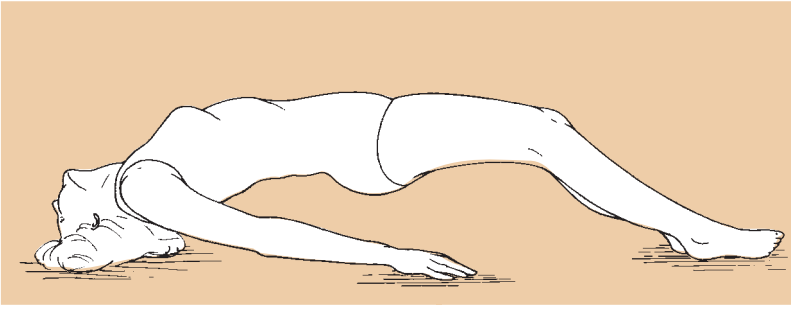
**O. sinensis** A species common throughout Asia, acquired by humans who eat poorly cooked fish that contains the larval forms. *O. sinensis* is a relatively uncommon cause of biliary obstruction in Western nations.

**O. tenuicollis** A species found in cats and other mammals. Humans become infected by eating raw or poorly cooked fish containing the larval forms. It was formerly called *O. felineus*.

**opisthotonos** (ô'pis-thōt'ô-nōs) [" + *tonos*, tension] A tetanic spasm in which head and heels are bent backward and the body is bowed forward. This type of spasm is seen in strychnine poisoning, tetanus, epilepsy, the convulsions of rabies, and in severe cases of meningitis. In the latter case, the patient's neck is rigid and the head retracted, seeming to press into the pillow. SEE: *illus.*; *emprosthotonos*; *pleurothotonos*. **opisthotonic, adj.**

**opium** (ô'pē-üm) [L.] 1. The substance obtained by air-drying the juice from the unripe capsule of the poppy, *Papaver somniferum*. It contains a number of important alkaloids, such as morphine, codeine, heroin, and papaverine. The growing and transportation of the poppy as well as the manufacture of drugs from the juice are controlled by national and international laws. 2. A standardized prepa-





OPISTHOTONOS

ration of the air-dried milky exudate from unripe capsules of the poppy, *Papaver somniferum* or *P. album*. It contains not less than 9.5% anhydrous morphine.

**opo-** [Gr. *opos*, juice] Prefix meaning *juice*; used in trade names of some organic extracts.

**opo-** [Gr. *ops*, face] Prefix denoting *face*.  
**Oppenheim, Hermann** (öp'ën-him) German neurologist, 1858–1919.

**O.'s disease** Myotonia congenita.

**O.'s gait** Manner of walking in which there is a wide swinging motion of the head, body, and extremities. It is a variation of the gait seen in multiple sclerosis.

**opponens** (ö-pó'nëns) [L.] Opposing, a term applied to muscles of hand or foot by which one of the lateral digits may be opposed to one of the other digits.

**opportunistic infection** SEE: *infection, opportunistic*.

**opposition** The ability to move the thumb into contact with the other fingers across the palm of the hand.

**opsin** (öp'sin) The protein portion of the rhodopsin molecule in the retina of the eye.

**opsinogen** (öp-sin'ö-jën) An antigen that causes the production of opsonins.

**opsoclonus** (öp'sö-klö'nüs) Conjugate irregular and nonrhythmic jerking movements of the eyes. The eyes move in any linear or rotating direction at a rate of up to 10 times per second. Any one of several areas of the brain, including the cerebellum and brainstem, may be diseased and cause this condition.

**opsoclonus myoclonus syndrome** A rare brain and eye disease characterized by abnormal muscle jerking, unsteady gait, poor speech, and abnormal eye movements. The disease is most often identified in children with recent viral infections or brain tumors. It is also known as Kinsbourne syndrome after Marcel Kinsbourne, the English neurologist who first described it.

**opsonin** (öp-sö'nin) [Gr. *opsonēin*, to purchase food] A substance that coats foreign antigens, making them more susceptible to macrophages and other

leukocytes, thus increasing phagocytosis of the organism. Complement and antibodies are the two main opsonins in human blood. **opsonic** (-sön'ik), *adj.*

**immune o.** Opsonin formed after stimulation by a specific antigen.

**opsonization** (öp'sä-ni-zä'shün) The action of opsonins to facilitate phagocytosis.

**opsonocytaphagic** (öp'sön-ö-si'tö-fä'jik) [ʹ + *kytos*, cell, + *phagein*, to eat] Pert. to the phagocytic action of the blood when serum opsonins are present.

**opsonophilia** (öp'sö-nö-fil'e-ä) [ʹ + *philein*, to love] Affinity for opsonins. **opsonophilic**, *adj.*

**opt** To select one thing rather than another.

**optic** (öp'tik) [Gr. *optikos*] Pert. to the eye or to sight.

**optical** (öp'ti-käl) [Gr. *optikos*; L. *opticus*] Pert. to vision, the eye, or optics.

**o. transmission** The amount of light that passes through a laboratory specimen. It can be used to measure the concentration of components in the specimen (e.g., the amount of solute contained in a solution).

**o. tweezers** A laser device used to alter or manipulate microorganisms, molecules, or living cells.

**optician** (öp-tish'an) One who is a specialist in filling prescriptions for corrective lenses for eyeglasses and contact lenses.

**optico-** [Gr. *optikos*] Combining form denoting *eye, vision*.

**optocokinetic** (öp'ti-kö-kī-nët'ik) [Gr. *optikos*, of or for sight, + *kinesis*, movement] Concerning the movement of the eye.

**optics** (öp'tiks) [Gr. *optikos*, pert. to vision] The science dealing with light and its relationship to vision.

**optimal cutting temperature compound** An embedding medium used to prepare tissues for sectioning and microscopic analysis.

**optimism** 1. The philosophical doctrine that this world is the best possible one.  
 2. The personal characteristic of regarding only the bright side of a condition or

event and of expecting a favorable result. SEE: *pessimism*.

**optimum** (öp'tī-mūm) *pl.* **optima** [L. *optimus*, best] Most conducive to a function.

**optional surgery** (öp'shī-nīl) [L. *optare*, to select, choose] Elective surgery.

**opto-** [Gr. *optos*, seen] Combining form meaning *vision, eye*.

**optogram** (öp'tō-grām) [Gr. *optos*, seen, + *gramma*, something written] The image of an external object that is fixed on the retina by the photochemical bleaching action of light on the visual purple.

**optokinetic** (öp'tō-kī-nēt'ik) [ʹ + *kinesis*, movement] Concerning the appearance of a twitching movement of the eyes, as in nystagmus when the eyes gaze at moving objects.

**optometer** (öp-tōm'ē-tēr) [ʹ + *metron*, measure] An instrument used to measure the eye's refractive power.

**optometrist** (öp-tōm'ē-trīst) A doctor of optometry (OD); a primary health care provider who practices optometry (trained to prescribe eyeglasses and contact lenses, examine eyes, and detect diseases), as regulated and permitted by state laws. SEE: *optometry*.

**optometry** (öp-tōm'ē-trē) The science of dealing with visual measurement and correction with eyeglasses, other visual aids, and prisms.

**optomyometer** (öp'tō-mī-ōm'ē-tēr) [ʹ + *mys*, muscle, + *metron*, a measure] An instrument used for determining the strength of the muscles of the eye.

**optotype** (öp'tō-tīp) The variable-sized type used in testing visual acuity.

**opt-out** (öp't'ōwt') [L. *optare*, to wish for] To choose not to participate in a program or not to receive information about a particular product or service. In health care, to decline to participate in a recommended program, e.g., in health screening, vaccination, or research.

**OPV** *oral poliovirus vaccine*.

**OR** *operating room*.

**ora** (ō'rā) [L.] Plural of *os*.

**oral** (or'āl) [L. *oralis*] Concerning the mouth.

**oral allergy syndrome** A form of contact dermatitis of the lips, tongue, or other tissues of the mouth, usually triggered by exposure to fresh fruits or vegetables.

**oral contraceptive** SEE: *contraceptive*.

**orale** (ō-rā'lē) The point on the hard palate where lines drawn tangent to the lingual margins of the alveoli of the medial incisor teeth intersect the midsagittal plane.

**oral fat load test** ABBR: OFLT. Measurement of serum triglyceride levels (and other circulating fat molecules) after consumption of a specified amount of liquid fat or cream (e.g., 50 g).

**oral glucose tolerance test** ABBR: OGTT. A screening test for diabetes mellitus (DM), in which plasma glucose levels

are measured after the patient consumes an oral glucose load. In screening patients for type 2 DM, measuring fasting plasma glucose levels generally is preferable to an OGTT because the fasting blood test is simpler, cheaper, and better tolerated by patients. An OGTT reveals type 2 DM when plasma glucose levels exceed 200 mg/dl 2 hr after drinking a 75-g glucose load. Plasma glucose levels between 140 mg/dl and 199 mg/dl suggest impaired glucose tolerance.

**GESTATIONAL DIABETES MELLITUS:** (GDM) In pregnancy, a modified OGTT is used to screen women with risk factors for DM (such as obesity, family history of type 2 DM, age greater than 25 years, a history of unexplained stillbirths, among others). At 24 to 28 weeks' gestation, a 50-g glucose load is given; 1-hr plasma glucose levels greater than 140 mg/dl constitute a positive screening result. Any patient having a positive test result should then undergo a 2-hr, 100-g OGTT to determine whether GDM is present. SEE: table.

#### International Criteria for Diabetes Mellitus in Pregnancy Using the 2-hr OGTT

Time:	Glucose level exceeds:
Fasting	96 mg/dl (5.3 mmol/L)
60 min	180 mg/dl (10 mmol/L)
120 min	155 mg/dl (8.6 mmol/L)

**oralism** (or'äl-īzm) The instruction of hearing-impaired students with speech or speech reading rather than with signed or finger-spelled words.

**orality** (ō-rāl'ī-tē) The oral stage of psychosexual development, which involves sucking or chewing on objects other than food.

**oral mucous membrane, impaired** Disruptions of the lips and soft tissue of the oral cavity. SEE: *Nursing Diagnoses Appendix*.

**oral rehydration solution** ABBR: ORS. SEE: under *solution*.

**oral rehydration therapy** ABBR: ORT. The administration by mouth of a solution of electrolytes in sufficient quantity to correct the deficits produced by dehydration due to diarrhea. The earlier this therapy is begun, the more effective it is (i.e., the fluid should be given before the patient is dehydrated). Because this therapy is simple and economical and can be supervised by nonprofessionals, it has been extremely effective in treating diarrhea in countries lacking health care resources.

In many parts of the world, commercially prepared ORT solutions are not available or are too expensive. In these areas, very inexpensive and effective solutions can be prepared from sources

such as cooled water from a pot in which rice is boiled or two pinches of salt and one ounce of molasses added to a quart of boiled water. SEE: *oral rehydration solution*; *viral gastroenteritis*.

**orb** [L. *orbis*, circle, disk] A spherical body, esp. the eyeball.

**orbicular** (or-bik'ū-lār) [L. *orbiculus*, a small circle] Circular.

**orbicularis** (ör-bik'yä-lär'is, ēz) *pl. orbiculares* A muscle surrounding an orifice; a sphincter muscle.

**orbiculus** (or-bik'ū-lūs) *pl. orbiculi* [L., little circle] Muscle surrounding an orifice; a sphincter muscle.

**o. ciliaris** The portion of the ciliary body consisting of a bandlike zone lying directly anterior to the ora serrata. SYN: *ciliary ring*.

**o. oris** The circular muscle surrounding the mouth. It is a muscle of facial expression, innervated by the facial nerve.

**orbit** (or'bit) [L. *orbita*, track] The bony pyramid-shaped cavity of the skull that contains and protects the eyeball. It is pierced posteriorly by the optic foramen (which transmits the optic nerve and ophthalmic artery), the superior and inferior orbital fissures, and several foramina. It is formed by the frontal, zygomatic, ethmoid, maxillary, lacrimal, sphenoid, and palatine bones. **orbital** (-bi-täl), *adj.*

**orbitale** (ör'bi-täl'le) An anthropometric landmark, being the lowest point along the inferior margin of the orbit. It is one of two landmarks (the other is the porion) used to establish the Frankfort horizontal plane, most frequently in positioning the head for radiographs or measurements.

**orbitonasal** (or'bi-tō-nä-zäl) Concerning the orbit and nasal cavity of the skull.

**orbitopagus** (or'bi-töp'ä-güs) [L. *orbita*, track, + Gr. *pagos*, thing fixed] Conjoined twins in which the smaller fetus is attached to the orbit of the larger fetus.

**orbitopathy** (ör-bi-töp'äthē) Disease of the orbit.

**dysthyroid o.** Ocular dysfunction present in Graves' disease, including protrusion of the eyeball, exposure of the cornea, lid retraction, and occasionally, optic neuropathy. SEE: *Graves' disease*.

**orbitotomy** (or-bi-töt'ō-mē) [ + Gr. *tome*, incision] Surgical incision into the orbit.

**orcein** (awr'sē-in) An orcein stain specific for elastic connective tissue.

**orchi-** SEE: *orchio-*.

**orchialgia** (or-kē-äl'jē-ä) [ + *algos*, pain] Pain in the testes. SYN: *orchiodynia*; *testalgia*.

**orchichorea** (or'ki-kō-rē-ä) [ + *chor-ēia*, a dance] Involuntary jerking movements of the testicles.

**orchid-** SEE: *orchido-*.

**orchidectomy** (or'ki-dēk'tō-mē) [ + *ektome*, excision] Orchiectomy.

**orchidic** (or-kid'ik) Concerning or relating to the testes.

**orchiditis** (or'ki-dī'tis) [ + *itis*, inflammation] Orchitis.

**orchido-, orchid-** [Gr. *orchidion*] Combining form meaning *testicle*.

**orchidopexy** (or'kid-ō-pēk'sē) [ + *pexis*, fixation] Orchiopexy.

**orchidoptosis** (or'kid-ōp-tō'sis) [ + *ptosis*, a dropping] Downward displacement of the testes.

**orchidorrhaphy** (or'ki-dor'ä-fē) [ + *rhaphe*, seam, ridge] Orchiopexy.

**orchietomy** (or'kē-ēk'tō-mē) [Gr. *orchis*, testicle, + *ektome*, excision] Surgical excision of a testicle or the testicles. SYN: *castration, male; orchectomy; orchidectomy*.

**PATIENT CARE:** The plan of care and expected outcome of the surgery are explained, and information is provided about scrotal prostheses. Patient teaching is modified according to the extent of surgery. Deep-breathing and coughing exercises are taught, and the importance of early ambulation and activity after surgery is emphasized. Pain control measures are discussed, and the patient is advised to seek pain relief in the postoperative period before pain becomes severe. If only one testicle is removed and the other one is healthy, impotence does not occur. If both testicles are removed, the patient may require hormone replacement therapy. Support and reassurance are offered to the patient and family. Patients having this surgery for testicular cancer are offered the opportunity to bank sperm prior to the surgery.

**orchiepididymitis** (or'kē-ēp'i-did'i-mī'tis) [ + *epi*, upon, + *didymos*, testis, + *itis*, inflammation] Inflammation of a testicle and epididymis.

**orchilytic** (or'ki-lit'ik) [ + *lysis*, dissolution] Destructive to testicular tissue. SYN: *orchitolytic*.

**orchio-, orchi-** Combining forms meaning *testicle*.

**orchiodynia** (or'kē-ō-dīn'ē-ä) [ + *odyne*, pain] Orchialgia.

**orchioncus** (or'kē-ōng'kūs) [ + *onkos*, bulk, mass] A neoplasm of the testicle.

**orchioopathy** (or'kē-ōp'äth-ē) [ + *pathos*, disease, suffering] Any disease of the testes.

**orchiopey** (or'kē-ō-pēk'sē) [ + *pexis*, fixation] The suturing of an undescended testicle to fix it in the scrotum. SYN: *orchidopexy; orchiorrhaphy*.

**orchioplasty** (or'kē-ō-pläs'tē) [ + *plassein*, to form] Plastic repair of the testicle.

**orchiorrhaphy** (or'kē-or'rä-fē) [ + *rhaphe*, seam, ridge] Orchiopexy.

**orchioscheocele** (or'kē-ōs'kē-ō-sēl) [ + *oscheon*, scrotum, + *kele*, tumor,

swelling] A scrotal hernia with enlargement or tumor of the testicle.

**orchiotomy** (or'kē-ōt'ō-mē) [ " + *tome*, incision] Surgical incision of a testicle.

**orchis** (or'kīs) [Gr.] Testis.

**orchitis** (or-kī'tīs) [Gr. *orchis*, testicle, + *itis*, inflammation] Inflammation of a testis due to trauma, ischemia, metastasis, mumps, or infection elsewhere in the body. SYN: *testitis*.

**SYMPTOMS:** The symptoms of orchitis include swelling, pain, chills, fever, vomiting, hiccough, and in some patients, delirium. Atrophy of the organ may be an end result.

**INCIDENCE AND PREVALENCE:** With the widespread use of the mumps vaccine in childhood, infectious orchitis is uncommon, as are the atrophy and infertility resulting from it.

**TREATMENT:** The patient is confined to bed with the organ elevated and supported. An ice bag is applied. Nonsteroidal anti-inflammatory drugs are given.

**gonorrhoeal o.** Orchitis due to gonococcus.

**metastatic o.** Orchitis due to a blood-borne infection that spreads to the testicle.

**syphilitic o.** Orchitis due to syphilis. This type of orchitis usually begins painlessly in the body of the gland and is apt to be bilateral. It causes dense, irregular, knotty induration but little enlargement in size.

**tuberculous o.** A rare form of orchitis generally arising in the epididymis. It may be accompanied by formation of chronic sinuses and destruction of tissues. With the widespread use of anti-tuberculosis drugs for primary pulmonary tuberculosis, this condition is rarely seen. **orchitic** (-kīt'ik), *adj.*

**orchitolytic** (or'kīt-ō-līt'ik) [ " + *lysis*, dissolution] Orchilytic.

**orcin, orcinol** (or'sīn, -ōl) A chemical derived from lichens and used as a histological stain.

**order** [L. *ordo*, a row, series] **1.** Instructions from a health care provider specifying patient treatment and care. A directive mandating the delivery of specific patient care services. **2.** An arrangement or sequence of events; rules; regulations; procedures. **3.** In biological classification, the main division under class, superior to family.

**stop o.** A standing medical order in a patient's chart requiring discontinuation of a specific drug or treatment after a specified time. The order may be reinstated by an authorized health care provider at a later date.

**orderly** (or'dēr-lē) An attendant in a hospital who does general work to assist nurses. Orderlies are responsible for lifting and transporting patients and preparing them for surgery (e.g., shaving, catheterizing, or administering enemas).

**ordinate** (or'dī-nāt) The vertical line parallel to the y-axis in a graph in which horizontal and perpendicular lines are crossed in order to provide a frame of reference. The abscissa is the horizontal line parallel to the x-axis. SEE: *abscissa* for illus.

**ordure** (or'dūr) Feces or other excrement.

**Orem, Dorothea** (or'ēm) [Nursing educator 1914 – 2007] Nursing educator, born 1914, who developed the Self-Care Framework, also known as the Self-Care Deficit Theory of Nursing and the Self-Care Deficit Nursing Theory. SEE: *Nursing Theory Appendix*.

**orexins** (ō-rēk-sīnz) Neuropeptides produced by the hypothalamus that influence sleep and wakefulness. SYN: *hypocretins*; *hypocretin*.

**orf** (orf) A contagious pustular dermatitis caused by the orf virus, a DNA virus of the Parapoxvirus genus, which is related to the vaccinia-variola subgroup of poxviruses. Orf mainly affects lambs and occurs in the spring. The disease rarely occurs in humans. When it does, it is usually confined to a single pustular lesion on a finger, which encrusts and finally heals. Antibiotics are not indicated except for secondary bacterial infections.

**organ** (or'gān) [Gr. *organon*; L. *organum*] A body structure made of several tissues that all contribute to specific functions. Many organs occur in pairs. In such pairs, one organ may be extirpated and the remaining one can perform all necessary functions peculiar to it. One third to two fifths of some organs may be removed without loss of function necessary to support life. SEE: table.

**accessory o.** An organ that has a subordinate function.

**acoustic o.** Corti, organ of.

**o. of Corti** SEE: *Corti, organ of*.

**o. donation** SEE: *under donation*.

**enamel o.** A cup-shaped structure that forms on the tooth buds of an embryo. It produces the enamel and serves as a mold for the remainder of the tooth.

**end o.** The expanded end of a nerve fiber in a peripheral structure.

**excretory o.** An organ that is concerned with the excretion of waste products from the body. SEE: *excretion*.

**Golgi tendon o.** SEE: *Golgi tendon organ*.

**gustatory o.** The organ of taste; a taste bud.

**o. of Jacobson** A blind tubular sac that develops in the medial wall of the nasal cavity, becoming a functional olfactory organ in lower animals, but degenerating or remaining rudimentary in humans. SYN: *vomeronasal organ*.

**lymphatic o.** A structure composed principally of lymphatic tissue. It in-

**Size, Weight, and Capacity of Various Organs and Parts of the Adult Body**  
♂ Male ♀ Female

Description	Size	Weight	Capacity
Adrenal gland	5 cm high 3 cm across 1 cm thick	5 g	
Bladder	12 cm in diameter		500 ml (when moderately full)
Blood volume			♂ 4–6 L ♀ 3–5 L
Brain		♂ 1240–1680 g ♀ 1130–1570 g	
Ear, external canal	2.5 cm long (from concha)		
Esophagus	23–25 cm		
Eye	23.5 mm vertical diameter 24 mm anteroposterior diameter		
Fallopian tube	10 cm		
Gallbladder	7–10 cm long 3 cm wide		30–50 ml
Heart	12 × 8–9 × 6 cm	♂ 280–340 g ♀ 230–280 g	
Intestines—small	Variable 6–7 m long		
Intestines—large	1.5 m long		
Intestines—vermiform appendix	2–20 cm long, average 9 cm		
Intestines—rectum	12 cm long		
Kidney	11 cm long 6 cm broad 3 cm thick	♂ 150 g ♀ 135 g	
Larynx	♂ 44 × 43 × 36 mm ♀ 36 × 41 × 26 mm		
Liver		♂ 1.4–1.8 kg ♀ 1.0–2.5 kg	6500 ml
Lung		Right 625 g Left 565 g	
Ovaries	3 × 1.5 × 1 cm	2–3.5 g	
Pancreas	15 cm long	♂ 74–106 g ♀ 70–100 g	
Parathyroid	6 × 3–4 × 1–2 mm	50 mg	
Pharynx	12.5 cm long		
Prostate	2 × 4 × 3 cm	8 g	
Skeleton		Average adult male, 4957 g Average (without teeth), 642 g	Variable ♂ 406 ml ♀ 207 ml
Spinal cord	42–45 cm long	30 g	
Spleen	12 × 7 × 3–4 cm	150 g 80–300 g Decreases with age	
Stomach	Variable 25 cm long 10 cm wide		Variable 1500 ml
Testes	4–5 × 2.5 × 3 cm	10.5–14 g	
Thoracic duct	38–45 cm long		
Thymus		Newborn, 10.9 g 10–15 yr, 29.5 g 20–25 yr, 18.6 g	

### Size, Weight, and Capacity of Various Organs and Parts of the Adult Body ♂ Male ♀ Female (Continued)

Description	Size	Weight	Capacity
Thyroid	Each lobe 5 × 3 × 2 cm	30 g total	
Trachea	11 cm long 2–2.5 cm in diameter		
Ureter	28–34 cm long		
Urethra	♂ 17.5–20 cm long ♀ 4 cm long		
Uterus	7.5 × 5.0 × 2.5 cm	30–40 g (non-pregnant)	
Vagina	Anterior wall length 7.5 cm Posterior wall length 9.0 cm		

SOURCE: Adapted from Gray's Anatomy, ed 27. Lea & Febiger, Philadelphia, 1959; Gray's Anatomy, ed 37. Churchill Livingstone, London, 1987; Growth. Federation of American Societies for Experimental Biology, Washington, DC, 1962; Jandl, JH, Blood. Little, Brown and Co., Boston, 1987.

cludes the lymph nodes, spleen, tonsils, and thymus.

**lymphoid o.'s** The spleen, lymph nodes, thymus, Peyer's patches, and tonsils, where more than 98% of T lymphocytes are found. SEE: *T cell*.

**neuromuscular end o.** A spindle-shaped bundle of specialized fibers in which sensory nerve fibers terminate in muscles.

**neurotendinous end o.** A specialized tendon fasciculus in which sensory nerve fibers terminate in the tendon. SYN: *tendon spindle*.

**reproductive o.** Any organ concerned with the production of offspring. These include the primary organs (testes and ovaries) and accessory structures (penis and spermatic cord in the male and fallopian tubes, uterus, and vagina in the female). SYN: *sex o.*

**sense o.** A sensory receptor; a structure consisting of specialized sensory nerve endings that are capable of reacting to a stimulus (an external or internal change) by generating nerve impulses that pass through afferent nerves to the central nervous system. These impulses may give rise to sensations or reflexly bring about responses in the body.

**sensory end o.** Any of the special clusters of cells that form a capsule around the receptor ends of certain sensory axons and affect the response of the axons. They include Meissner's corpuscles, Pacinian corpuscles, Ruffini's corpuscles, and Golgi tendon organs. SEE: *sensory receptor*.

**sex o.** Reproductive organ.

**special sense o.** Any of the organs of smell, taste, sight, balance, and hearing.

**spiral o.** Corti, organ of.

**target o.** An organ upon which a chemical or hormone acts.

**vestigial o.** An organ that is underdeveloped in humans but is fully functional in some animals.

**o.'s of Zuckerkandl** [Emil Zuckerkandl, Hungarian anatomist working in Germany, 1849–1910] A pair of organs containing chromaffin tissue present in the embryo and persisting until shortly after birth. They are located adjacent to the anterior surface of the abdominal aorta. The cells secrete epinephrine. SEE: *aortic body*.

**organ-confined disease** An illness, such as a tumor or an abscess, that has not spread beyond the organ in which it originated. One example is prostate cancer that is confined within the prostate gland and has not entered the seminal vesicles or pelvic lymph nodes.

**organelle** (or'gā-nēl") A specialized structure within a cell that performs a distinct function. Examples of organelles are the endoplasmic reticulum, the Golgi apparatus, lysosomes, mitochondria, proteasomes, and ribosomes.

**organic** (or-gān'ik) [Gr. *organikos*] **1.** Pert. to an organ or organs. **2.** Structural. **3.** Pert. to or derived from animal or vegetable forms of life. **4.** Denoting chemicals containing carbon.

**organic brain syndrome** ABBR: OBS. Any of a large group of acute and chronic mental disorders associated with brain damage or impaired cerebral function.

**SYMPTOMS:** The clinical characteristics vary not only with the nature and severity of the underlying organic disorder but also occasionally among individuals. Consciousness, orientation,

memory, intellect, judgment and insight, and thought content may be impaired (e.g., hallucinations, illusions).

**ETIOLOGY:** Any acute or chronic disease or injury that interferes with cerebral function may trigger symptoms. Possible causes include infection, intoxication, trauma, circulatory disturbance, epilepsy, metabolic and endocrine diseases, or intracranial trauma or neoplasms.

**DIAGNOSIS:** Difficulty in diagnosis may be encountered because of the possibility of attributing all of the signs and symptoms to a psychiatric disorder, thereby ignoring the possibility of organic disease. However, it must be noted that purely functional psychiatric diseases are much more common than OBS.

**TREATMENT:** Treatment of the basic organic disease and provision of psychiatric care are indicated.

**organic disease** A disease resulting from recognizable anatomical changes in an organ or tissue of the body.

**organic dust toxicity syndrome** ABBR: ODTs. An acute influenza-like illness resulting from the inhalation of molds contaminating grasses, hay, and other agricultural products. It is also known colloquially as farmer's lung or grain lung and scientifically as pulmonary mycotoxicosis. Prominent symptoms are cough, chest tightness, muscle ache, and low-grade fever. SEE: *byssinosis; pneumonitis, hypersensitivity*.

**organism** (or'gān-izm) [Gr. *organon*, organ, + *-ismos*, condition] Any living thing, plant or animal. An organism may be unicellular (bacteria, yeasts, protozoa) or multicellular (all complex organisms including humans).

**organization** (or'gān-ī-zā'shūn) **1.** The process of becoming organized. **2.** Systematic arrangement. **3.** That which is organized.

**organize** (or'gān-īz) To develop from an amorphous state to that having structure and form.

**organized thrombus** A blood clot containing fibrous tissue that may be structured into layers. Tiny blood vessels may course through the clot.

**organo-** (or'gā-nō) A combining form meaning *organ*.

**organoferric** (or'gā-nō-fēr'īk) Concerning iron and an organic molecule.

**organogel** (or-gān'ō-jēl) A water-in-oil emulsion used, e.g., as a drug delivery vehicle.

**organogenesis** (or'gān-ō-jēn'ē-sis) [" + *genesis*, generation, birth] The formation and development of body organs from embryonic tissues.

It is important that an embryo-fetus not be exposed to harmful chemicals, particularly during organogenesis. The embryo-fetus is most vulnerable to the

damaging effects of infections or teratogenic drugs between the second and eighth weeks of gestation (and during the first trimester in general).

**organoleptic** (or'gān-ō-lēp'tīk) [" + *lepsis*, a seizure] **1.** Affecting an organ, esp. the organs of special sense. **2.** Susceptible to sensory impressions.

**organoma** (or-gā-nō'mā) [" + *oma*, tumor] A neoplasm containing cellular elements that can be definitely identified as being specific to certain tissues and organs.

**organomegaly** (or'gā-nō-mēg'ā-lē) [" + *megas*, large] The enlargement of visceral organs.

**organometallic** (or-gā-nō-mē-tāl'īk) A compound containing a metal combined with an organic molecule.

**organomicria** (ōr'gā-nō-mī'krē-ā, -mīk') [" + "'] Abnormal smallness of the internal organs.

**organonomy** (or'gā-nōn'ō-mē) [" + *nomos*, law] The laws regulating the biological processes of living organisms.

**organopexy** (or'gān-ō-pēk'sē) [" + *pexis*, fixation] The surgical fixation of an organ that is detached from its proper position.

**organotherapy** (or'gān-ō-thēr'ā-pē) [" + *therapeia*, treatment] Hormonotherapy.

**organotrope, organotropic** (or-gān'ō-trōp, -gān-ō-trōp'īk) [" + *tropos*, turning] Having affinity for tissues or certain organs.

**organotropism** (ōr'gā-nō-trōp'īzm) [" + *trope*, a turn, + *-ismos*, condition] The attraction or affinity of chemicals or biological agents for body organs or tissues.

**organ perfusion system** A mechanical device equipped to supply metabolic, oxygen, and electrolyte needs to an organ obtained from a cadaver or donor in order to keep it viable for transplantation. The organ and the perfusion solution pumped through it can be kept at the ideal temperature for organ survival. They can be transported as necessary.

**organ procurement organization** ABBR: OPO. An institution that facilitates organ transplantation by obtaining cadaveric tissues and organs for use in living patients with end-stage diseases of the heart, kidneys, liver, and lungs.

**organ recovery** The surgical removal of a body part from one person to be used in organ transplantation in another patient.

**organ-specific** (or'gān-spē-sif'īk) Originating in a single organ or affecting only one specific organ.

**organ system** A group of structures or organs related to each other and performing certain functions together (e.g., the digestive system). SEE: *table*.

Particular organ systems are listed under the first word. SEE: *e.g., digestive*

## Animal Organ Systems

System	Its Gross Components	Representative Functions
Circulatory	Heart, arteries, arterioles, capillaries, venules, veins	Moves blood, oxygen, and nutrients throughout the body
Connective tissue	Mesenchymal cells, cartilage, fibrous tissue, fasciae	Ensheathes, nourishes, and protects body structures; separates structures from each other
Digestive	Mouth, teeth, tongue, pharynx, esophagus, stomach, duodenum, jejunum, colon, liver, pancreas	Transforms consumed foods into absorbable molecules; absorbs water
Endocrine	Hypothalamus, pituitary, thyroid, adrenals, ovaries, testes, pancreas	Regulates metabolic processes such as metabolic rate and blood sugar; controls blood pressure, body temperature, and sexuality.
Hematologic	Erythrocytes, leukocytes, platelets, plasma	Carries oxygen and nutrients; destroys or disables infectious organisms; stops bleeding
Integument	Skin and subcutaneous tissues	Maintains and helps regulate body temperature; limits exposure of internal organs to physical, chemical and infectious threats
Lymphatic	Spleen, thymus, lymphatics, lymph nodes, lymphocytes	Defends against infection; stimulates immune responses
Muscular	Smooth, striated, and cardiac muscles	Moves the body from one place to another; moves internal organs (facilitates intestinal motility and blood circulation)
Nervous	Brain, spinal cord, peripheral nerves, neurons	Receives sensory input, stimulates motor responses; regulates organ function; thinks; controls speech; emotes
Reproductive	Vagina, uterus, fallopian tubes, ovaries, penis, testes, prostate	Procreates
Respiratory	Nose, mouth, oro- and nasopharynx, larynx, trachea, bronchi, bronchioles, alveoli	Oxygenates and ventilates; phonates
Skeletal	Bones and joints	Supports body structures; protects body parts (e.g., brain) against injuries; carries out movement
Urinary	Kidney, ureters, bladder, urethra	Preserves electrolyte concentration of extracellular fluids; eliminates waste products of metabolism; maintains body fluid balance

system; nervous system; reproductive system.

**orgasm** (or'găzm) [Gr. *orgasmos*, swelling] A state of physical and emotional excitement that occurs at the climax of sexual intercourse. In the male it is accompanied by the ejaculation of semen. SYN: *climax*.

**Oriental sore** Cutaneous leishmaniasis. SYN: *Aleppo boil*. SEE: *leishmaniasis*.

**orientation** (or'ē-ēn-tā'shūn) [L. *oriens*,

to arise] The ability to comprehend and to adjust oneself with regard to time, location, and identity of persons. This ability is partially or completely lost in some neurological and psychiatric disorders.

**Orientia tsutsugamushi** (ōr'ē-ēn'tē-ā, shē-, shē-ā soo-tsoo-gā-moo'shē, tsoo-) An intracellular parasite, formerly known as *Rickettsia tsutsugamushi*, that is the causative agent of scrub ty-



phus. It is transmitted to humans by the bites of infected trombiculid mites, which prey in the wild on rodents.

**orifice** (or'ī-fis) [L. *orificium*, outlet] The mouth, entrance, or outlet of any anatomical structure. **official** (-fi'shāl), *adj.*

**anal o.** The anus.

**atrioventricular o.** The opening between the atrium and the ventricle on each side of the heart.

**cardiac o.** The opening of the esophagus into the stomach.

**external urethral o.** The exterior opening of the urethra. In the male, it is located at the tip of the glans penis; in the female, it is located anterior and cephalad to the vaginal opening.

**ileal o.** Ileocecal valve.

**internal urethral o.** The opening from which the urethra makes its exit from the bladder.

**mitral o.** The opening between the left atrium and the left ventricle.

**pyloric o.** Pylorus.

**ureteric o.** The opening of the ureter into the bladder.

**origin** (or'ī-jin) [L. *origo*, beginning]

1. The source of anything; a starting point. 2. The beginning of a nerve. 3. The more fixed attachment of a muscle.

**Orlando, Ida Jean** (or-lān'dō) Nursing educator, born 1926, who developed the Theory of the Deliberative Nursing Process, also known as the Theory of the Nursing Process Discipline. SEE: *Nursing Theory Appendix*.

**Ormond's disease** (or'mōndz) [John K. Ormond, U.S. physician, b. 1886] Retroperitoneal fibrosis.

**ornithine** (or'nī-thēn") An amino acid formed when arginase hydrolyzes arginine. It is not present in proteins.

**Ornithodoros** (or'nī-thōd'ō-rōs) A genus of ticks (family Argasidae) that infests mammals, including humans. Several species are vectors of the causative agents of disease, including spotted fever, tick fever, Q fever, tularemia, Russian encephalitis, and relapsing fever.

**Ornithonyssus sylviarum** (ōr-nī-thō-nī'sūs sīl-vē-ār'ūm) [Gr. *ornithos*, bird, + *nyssein*, to prick; L. *silva*, forest] The northern fowl mite. Its bite may cause an itchy rash, esp. prevalent in owners of infected farm animals or pets.

**ornithosis** (or'nī-thō'sīs) [Gr. *ornithos*, bird, + *osis*, condition] Any acute, generalized, infectious disease of birds and domesticated fowls sometimes communicated to humans. SEE: *Chlamydia psittaci*.

**oro-** Combining form meaning *mouth*.

**orofacial** (or'ō-fā-shē-āl) [L. *oris*, mouth, + *facies*, face] Concerning the mouth and face.

**oromandibular sleep movement disorder** (ōr'ō-mān-dīb'ū-līr) [" + "] Bruxism.

**oropharyngeal airway** (ōr'ō-fā-rīn'jē-āl) SEE: *airway, oropharyngeal*.

**oropharynx** (or'ō-fār'īnks) [" + Gr. *pharynx*, throat] The central portion of the pharynx lying between the soft palate and the upper portion of the epiglottis.

**orosomucoid** (or'ō-sō-mū'koyd) An alpha 1-globulin in blood plasma.

**orotic aciduria** (o-rōt'īk) SEE: *aciduria, orotic*.

**otracheal** (or'ō-trā'kē-āl) Pert. to the passageway between the mouth and the trachea.

**Oroya fever** (ō-rō'yā) [Oroya, a region of Peru] A clinical form of bartonellosis. It is an acute potentially life-threatening disease endemic in Peru and other South American countries and characterized by high intermittent fever, lymphadenopathy, severe anemia, and pains in the joints and long bones. If untreated, the fever has a 10% to 90% fatality rate. SEE: *bartonellosis*.

**orphan** [L. *orphanus*, destitute, without parents] 1. A minor whose parents have died or are unknown.

**o. disease** 2. A rare illness that receives little attention from medical researchers or the pharmaceutical industry. In the U.S., an illness that affects less than 200,000 people. SEE: *National Organization for Rare Disorders*.

**o. drug** Any drug that is effective for certain illnesses but, for a variety of reasons, is not profitable for manufacturers to produce.

**orris root** (or'īs) The powder made from the root of certain varieties of iris. It is used in making some types of cosmetics. It may be a sensitizer by contact or inhalation.

**ORS** *oral rehydration solution*.

**ORT** *oral rehydration therapy*.

**orth-** SEE: *ortho-*.

**ortho-, orth-** [Gr. *orthos*, straight] Combining forms meaning *straight, correct, normal, in proper order*.

**orthoacid** (or'thō-ās'īd) An acid with as many hydroxyl groups as the number of valences of the acid-forming portion of the molecule.

**orthocephalic** (or'thō-sē-fāl'īk) [" + *kephale*, head] Having a well-proportioned head.

**orthochorea** (or'thō-kō-rē-ā) [" + *chorēia*, dance] A type of chorea in which attacks appear mainly when the person is in an erect position.

**orthochromatic** (or'thō-krō-māt'īk) [" + *chroma*, color] Having normal color or staining normally.

**orthochromophil** (or'thō-krō'mō-flī) [" + " + *philein*, to love] Staining normally with neutral dyes.

**orthodontin** (or'thō-dēn'tīn) Tubular dentin, as seen in human teeth.

**orthodoxia** (or'thō-dē-ōk'sēā) Decreased arterial oxygen concentration

- while in an upright position. The condition improves when the patient assumes the supine position. SEE: *syndrome*, *hepatopulmonary*.
- orthodigita** (or'thō-dīj'ī-tā) [ʹ + *L. digitus*, finger] **1.** The division of podiatry that deals with the correction of deviated toes. **2.** The prevention and correction of deformities of the fingers or toes.
- orthodontia, orthodontics** (or'thō-dōn'shē-ā, -dōn'tiks) [ʹ + *odous*, tooth] The area of dentistry concerned with the correction of abnormal dentofacial structures. It includes treatment of malocclusion of the teeth and the surrounding muscles and nerves. The design, application, and control of functional and corrective oral appliances are aspects of orthodontic practice.
- orthodontist** (or'thō-dōn'tist) A dental specialist with postgraduate training in the diagnosis and treatment of dento-skeletal abnormalities.
- orthodox** Conventional; conforming with generally accepted standards of practice.
- orthodromic** (or'thō-drōm'ik) [Gr. *orthodromein*, to run straight forward] Moving in the normal direction; said of nerve and cardiac impulses. SEE: *antidromic*.
- orthogenic** (or'thō-jēn'ik) Pert. to, or related to, the correction, treatment, or rehabilitation of children with mental or emotional difficulties.
- orthogenics** (or'thō-jēn'iks) Eugenics.
- orthograde** (or'thō-grād) [ʹ + *L. gradi*, to walk] Walking with the body vertical or upright; pert. to bipeds, esp. humans. Opposite of pronograde.
- orthokeratology** (or-thō-kē-rā-tōl'ōjē) Use of special hard contact lenses to treat myopia by altering the curvature of the cornea. The lens presses on the center of the cornea, thus decreasing the protrusion.
- orthokinetics** (or'thō-kī-nēt'iks) A variety of tactile stimulation techniques and orthoses used to stimulate proprioceptors and enhance motor performance in rehabilitation.
- orthomelic** (or'thō-mē'lik) [ʹ + *melos*, limb] Correcting deformed arms and legs.
- orthomolecular** (or'thō-mō-lēk'ū-lār) Indicating the normal chemical constituents of the body or the restoration of those constituents to normal.
- orthomyxovirus** (or'thō-mīk'sō-vī'rūs) A virus in the family of influenza viruses.
- orthopedic, orthopaedic** (or'thō-pē'dik) Concerning the prevention or correction of bone, joint, ligament, and muscular disorders.
- orthopedics, orthopaedics** (or'thō-pē'diks) [ʹ + *pais*, child] The branch of medical science that deals with prevention or correction of disorders involv-
- ing locomotor structures of the body, esp. the skeleton, joints, muscles, fascia, and other supporting structures such as ligaments and cartilage.
- orthopedic technician** A technician who is skilled in maintaining traction devices, applying traction, making casts, and applying splints.
- orthopedist, orthopaedist** (or'thō-pē'dist) A specialist in orthopedics.
- orthophoria** (or'thō-fō'rē-ā) [ʹ + *pherein*, to bear] Coordination (alignment) of the visual axes.
- orthophthalaldehyde** (ōr-thōf'thāl-āl'dī-hīd") [ʹ + (*naphthal(ene)* + ʹ)] ABBR: OPA. A microbicidal chemical used to disinfect surfaces, endoscopes, and other heat-sensitive instruments.



Personnel who use OPA must wear gloves, goggles, and gowns to prevent contact with mucous membranes or skin.

**orthopnea** (or'thōp'nē-ā) [ʹ + *pnōia*, breath] Labored breathing that occurs when lying flat and improves when standing or sitting up. This is one of the classic symptoms of left ventricular heart failure, although it occasionally occurs in other cardiac or respiratory illnesses.

**Orthopoxvirus** (or'thō-pōks'vī-rūs) A genus of virus that includes the virus causing smallpox (*variola*) and monkeypox.

**orthopraxis** (or'thō-prāk'sīs) [ʹ + *prasein*, to make] The mechanical correction of deformities.

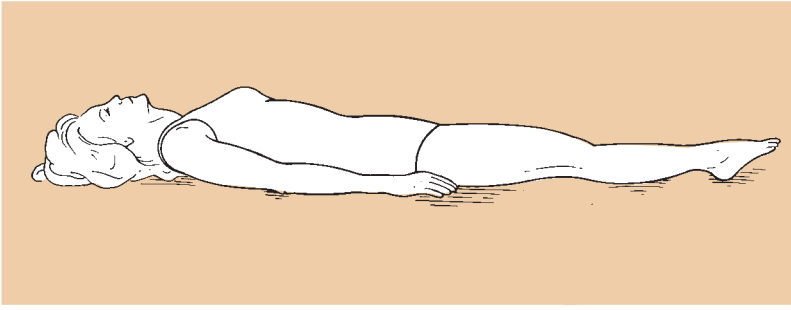
**orthopsychiatry** (or'thō-sī-kī'ā-trē) [ʹ + *psyche*, soul, + *iatreia*, treatment] The branch of psychiatry concerned with mental and emotional development. It encompasses child psychiatry and mental hygiene.

**orthoptic** (or-thōp'tik) [ʹ + *optikos*, pert. to vision] Pert. to or producing normal binocular vision.

**orthoptics** **1.** The science of correcting defects in binocular vision resulting from defects in optic musculature. **2.** The technique of eye exercises for correcting faulty eye coordination affecting binocular vision. The technique is also referred to as orthoptic training.

**orthoptist** A health care professional who specializes in the evaluation and treatment of eye movement and eye muscle disorders.

**orthoentgenography** (or'thō-rēnt-gēn-ōg'rā-fē) A technique for obtaining accurate measurement of the size and position of the internal organs using radiographic apparatus. A radiographic procedure used for the accurate measurement of long bones. SEE: *orthodiagraph*.



## ORTHOTONOS

**orthosis** (or-thō'sis) [Gr., straightening] Any device added to the body to stabilize or immobilize a body part, prevent deformity, protect against injury, or assist with function. Orthotic devices range from arm slings to corsets and finger splints. They may be made from a variety of materials, including rubber, leather, canvas, rubber synthetics, and plastic. **orthotic**, *adj.*

**ankle-foot o.** ABBR: AFO. Any of a class of external orthopedic appliances, braces, or splints devised to control, limit, or assist foot and ankle motion and provide leg support. Typically, orthotics are made of lightweight (e.g. thermoplastic) materials.

**PATIENT CARE:** The patient's foot is maintained at a right angle to the horizontal plane of the body, usually with a foot splint. When the splint is removed, dorsiflexion of the foot should be avoided.

**balanced forearm o.** Mobile arm support.

**orthostatic** (or'thō-stāt'ik) [Gr. *orthos*, straight, + *statikos*, causing to stand] Concerning or caused by an erect position.

**o. vital signs determination** The measurement of blood pressure and pulse rate first in the supine, then in the sitting, and finally in the standing position. A significant change in both of these vital signs signifies hypovolemia or dehydration. A positive test result occurs if the patient becomes dizzy or loses consciousness; or if the pulse increases by 20 or more beats per minute and the systolic blood pressure drops by 20 mm Hg within 3 min of arising from supine to sitting position or from sitting to standing position.



For patient safety, measurements may sometimes be made with the patient on a tilt table.

**orthotic** (or'thō'tik) [Gr. *orthosis*, straightening] Relating to orthosis.

**orthotics** (or-thō'tiks) **1.** The science pert. to mechanical appliances for orthopedic use. **2.** The use of orthopedic appliances.

**orthotist** (or'thō-tist) [Gr. *orthosis*, straightening] A health care professional who helps design, construct, and adjust orthotics, orthopedic braces, and other structures that support the body or its parts.

**orthotonos, orthotonus** (or-thō'tō-nōs, -nūs) [r + *tonos*, tension] Tetanic spasm marked by rigidity of the body in a straight line. **SEE: illus.**

**orthotopic** (or'thō-tōp'ik) **1.** In the correct place. **2.** Pert. to a tissue graft to a site where that tissue would normally be present.

**orthotripsy** (or'thō-trīp'sē) [r + r] The use of extracorporeal shock wave technology to treat musculoskeletal disorders.

**orthovoltage** (or'thō-vōl'tij) The median voltage used in x-ray therapy, approx. 250 kV.

**orthropsia** (or-thrōp'sē-ä) [Gr. *orthros*, time near dawn, + *opsis*, sight] A characteristic of human vision by which sight is better at dawn or dusk than in bright sunlight.

**Ortner's syndrome** (ört'nērs) [Norbert Ortner, Austrian physician, 1865–1935] Vocal paralysis caused by pressure from an enlarged heart on the recurrent laryngeal nerve.

**Ortolani's maneuver** (or'tō-lā'nēz) [Marius Ortolani, 20th-century Italian orthopedic surgeon] A test to detect congenital subluxation or dislocation of the hip. The examiner places the infant on the back with hips and knees flexed while abducting and lifting the femurs. When the result is positive, a palpable click is felt as the femur enters the dysplastic joint.

**-ory** Suffix meaning *pertaining to*, or *relating to*. **SEE: -ic; -ose.**

**Os** Symbol for the element osmium.

**os** (ōs) *pl.* **ora** [L.] Mouth, opening.

**incompetent cervical o.** A uterine cervix that cannot maintain a diameter small enough to support the increasing

- weight of the fetus. This condition usually results in early second trimester abortion. The cause is a congenital structural defect or previous trauma to the cervix. It is treated with a purse-string ligature that encircles, encloses, and reinforces the cervix.
- o. uteri*** The mouth of the uterus.
- o. uteri externum*** The opening of the cervical canal of the uterus into the vagina.
- o. uteri internum*** The internal opening of the cervical canal into the uterus.
- o. ventriculi*** The cardia of the stomach.
- OS** (ös) *pl. ossa* [L.] Bone.
- o. innominatum*** The innominate (hip) bone.
- o. peroneum*** A bone occasionally found in the tendon of the peroneus longus muscle.
- o. planum*** 1. Flat bone; any bone that has only a slight thickness. 2. The orbital plate of the ethmoid bone.
- o. pubis*** The pubic bone; the antero-inferior part of the hip bone. In the adult, it and the ilium and ischium form the pelvic bone. The superior and inferior rami unite medially to form the pubic symphysis; at its lateral end the pubic bone forms approx. one fifth of the acetabulum.
- o. vesalianum*** A bone that develops from the ossification of the posterior tubercle of the fifth metatarsal.
- OS, os** *L. oculus sinister*, left eye. SEE: *OD*.
- OSA** *obstructive sleep apnea*.
- osazone** (õ'sā-zõn) Any of a series of compounds resulting from heating sugars with acetic acid and phenylhydrazine.
- oscheal** (õs'kē-äl) [Gr. *oscheon*, scrotum] Scrotal.
- oscheitis** (õs-kē-ĩ'tis) [ʹ + *itis*, inflammation] Inflammation of the scrotum.
- oscheo-** [Gr. *oscheon*] Combining form meaning *scrotum*.
- oscheocele** (õs'kē-õ-sēl) [ʹ + *kele*, tumor, swelling] A scrotal swelling or tumor.
- oscheohydrocele** (õs'kē-õ-hĩ'drõ-sēl) [ʹ + *hydor*, water, + *kele*, tumor, swelling] Scrotal hydrocele; collection of fluids in the sac of a scrotal hernia.
- oscheolith** (õs'kē-õ-lĩth) [ʹ + *lithos*, stone] A calcification or stone in the scrotal sebaceous glands.
- oscheoplasty** (õs'kē-õ-pläs'tē) [ʹ + *plassein*, to form] Plastic surgical repair of the scrotum.
- oscillate** To rapidly move back and forth between two locations or physical states.
- oscillation** (õs'sĩl-ä'shũn) [L. *oscillare*, to swing] A swinging, pendulum-like movement; a vibration or fluctuation.
- oscillator** (õs'ĩ-lä'tõr) 1. Device for producing oscillations. 2. An electronic circuit that will produce an oscillating current of a certain frequency.
- oscillogram** (õs'ĩl-õ-gräm) [ʹ + Gr. *gramma*, something written] A graphic record made by the oscillograph.
- oscillograph** (õs'ĩl-õ-gräf) [ʹ + Gr. *graphein*, to write] An electronic device used for detecting, displaying, and recording variations in electrical phenomena. In medicine, electrocardiographs and electroencephalographs are examples of the application of this technique.
- oscillometer** (õs-ĩl-õm'ë-tër) [ʹ + Gr. *metron*, measure] A machine used to measure oscillations, esp. those of the bloodstream.
- oscillometry** (õs-ĩl-õm'ë-trē) The measurement of oscillations.
- oscillopsia** (õs'ĩ-lõp'sēä) The visual perception that stationary objects are swinging. This perception is an illusion, and is usually associated with vestibular dysfunction; also seen in multiple sclerosis.
- oscilloscope** (õ-sĩl'õ-skõp) [L. *oscillare*, to swing, + Gr. *skopein*, to examine] An instrument that makes visible the presence, nature, and form of oscillations or irregularities of an electric current. SEE: *oscillograph*.
- osculation** (õs'kü-lä'shũn) [L. *osculum*, little mouth, kiss] 1. The union of two vessels or structures by their mouths. 2. Kissing.
- osculum** (õs'kü-lũm) *pl. oscula* [L.] A tiny aperture or pore.
- ose** Suffix meaning *pertaining to or relating to*. SEE: *-ic*; *-ory*.
- ose** 1. Chemical suffix indicating that a substance is a carbohydrate, such as glucose. 2. Suffix indicating a primary alteration product of a protein, such as proteose.
- Osgood-Schlatter disease** (õz-good-shlät'ër) [Robert B. Osgood, U.S. orthopedist, 1873–1956; Carl Schlatter, Swiss surgeon, 1864–1934] Inflammation of the insertion of the patellar tendon below the knee cap. This condition is a common cause of anterior knee pain in active adolescents.
- OSHA** (õ'shäh) *Occupational Safety and Health Administration*. A U.S. governmental regulatory agency concerned with the health and safety of workers. Website: [www.osha.gov/](http://www.osha.gov/).
- osis** [Gr.] Suffix indicating *condition, status, process*, sometimes denoting an abnormal increase. SEE: *-asis*; *-sis*.
- Osler, Sir William** (õs'ler) Canadian-born physician, 1849–1919, he is considered a leading figure in contemporary medicine, diagnosis, and the humanitarian care of patients. During his career he was associated with McGill, Johns Hopkins, and Oxford Universities, where he prepared a number of editions of his monumental *The Principles and Practice of Medicine*.

**O's nodes** Small, tender cutaneous nodes, usually present in the fingers and toes, that may be seen in subacute bacterial endocarditis. The nodes are caused by emboli dislodged from infected heart valves. SEE: *infective endocarditis* for illus.

**osmatic** (öz-mät'ík) [Gr. *osmasthanai*, to smell] Pert. to or having a keen sense of smell.

**osmesis** (öz-mē'sīs) [Gr. *osmesis*, smelling] **1.** The sense of smell. **2.** The act of smelling. SYN: *olfaction*.

**osmesthesia** (öz'mēs-thē-zē-ä) [Gr. *osme*, odor, + *aisthesis*, sensation] Olfactory sensibility; the power of perceiving and distinguishing odors.

**-osmia** [Gr. *osme*, odor] A combining form indicating *odor, smell*. SEE: *osmo-*

**osmic acid** (öz'mík) OsO<sub>4</sub>; a volatile, colorless compound formed by heating osmium in air. It is used as a caustic, a stain for fats, and a tissue fixative for electron microscopy. SYN: *osmium tetroxide*.



Vapors are extremely toxic to the eyes, skin, and respiratory tract.

**osmicate** (öz'mī-kāt) To impregnate or stain with osmic acid.

**osmidrosis** (öz-mī-drō'sīs) [*o* + *hidros*, sweat] Bromidrosis.

**osmiophilic** (öz'mē-ō-fil'ík) Having an affinity for the staining material osmium tetroxide.

**osmiophobic** (öz'mē-ō-fō'bík) Having resistance to the staining material osmium tetroxide.

**osmium** (öz'mē-üm) [Gr. *osme*, smell] SYMB: Os. A metallic element with an atomic mass of 190.2 and the atomic number 76.

**o. tetroxide** Osmic acid.

**osmo-** [Gr. *osmos*, impulse] Pert. to osmosis.

**osmo-** [Gr. *osme*, odor] A combining form indicating *odor, smell*.

**osmo-** [Gr. *osmos*, impulse] A combining form meaning a *thrusting forth*.

**osmol, osmole** (ös'möl) The standard unit of osmotic pressure based on a one molal concentration of an ion in a solution.

**osmolality** (ös'mō-läl'ī-tē) Osmotic concentration; the characteristic of a solution determined by the ionic concentration of the dissolved substances per unit of solvent.

**fecal o.** The concentration of solutes in stool. In health, this is equivalent to the concentration of solutes in plasma.

**plasma o.** The osmotic concentration of plasma. Normally the ionic concentration in the plasma is maintained within a narrow range: 275 to 295 mOsm/kg. When plasma osmolality increases above normal, antidiuretic hor-

mone (ADH) [also called vasopressin] is released. ADH prevents loss of water by the kidney and thus decreases plasma osmolality. An increase in plasma osmolality also produces the sensation of thirst, which stimulates the person to drink fluids; this, too, serves to decrease plasma osmolality.

**serum o.** The osmotic concentration of the serum.

**urine o.** The osmotic concentration of the urine.

**osmolar** (öz-mō'lär) Concerning the osmotic concentration of a solution.

**osmolality** (ös'mō-läl'ī-tē) The concentration of osmotically active particles in solution.

**osmology** (öz-möl'ō-jē) [Gr. *osme*, odor, + *logos*, word, reason] **1.** The study of odors. SYN: *osphresiology*. **2.** The study of osmosis.

**osmometer** (öz-möm'ēt-ēr) [Gr. *osmos*, impulse, + *metron*, measure] A device for measuring osmotic pressure either directly or indirectly. It was formerly used to assess the extent of dehydration or blood loss.

**osmometry** (öz-möm'ē-trē) **1.** The study of osmosis. **2.** The measurement of osmotic forces using an osmometer.

**osmophore** (öz'mō-for) [Gr. *osme*, odor, + *phoros*, bearing] The portion of a chemical responsible for the odor of the compound.

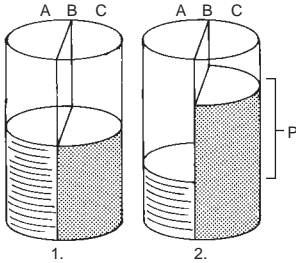
**osmoreceptor** (öz'mō-rē-sēp'tor) **1.** A receptor in the hypothalamus that is sensitive to the osmotic pressure of the serum. **2.** A receptor in the brain that is sensitive to olfactory stimuli.

**osmoregulation** (öz'mō-rēg'ū-lā'shūn) The regulation of osmotic pressure.

**osmosis** (öz-mō'sīs) [Gr. *osmos*, impulse, + *osis*, condition] The passage of solvent through a semipermeable membrane that separates solutions of different concentrations. The solvent, usually water, passes through the membrane from the region of lower concentration of solute to that of a higher concentration of solute, thus tending to equalize the concentrations of the two solutions. The rate of osmosis is dependent primarily upon the difference in osmotic pressures of the solutions on the two sides of a membrane, the permeability of the membrane, and the electric potential across the membrane and the charge upon the walls of the pores in it. SEE: *illus.*

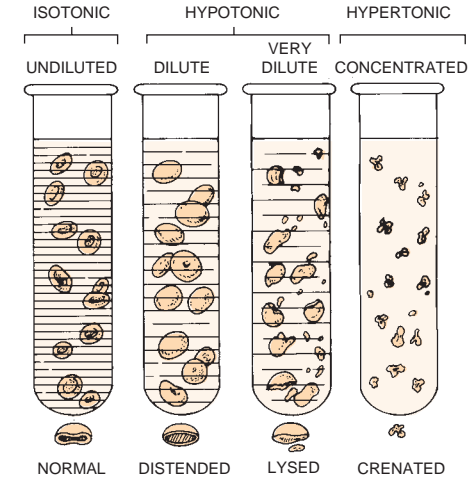
**reverse o.** A form of water treatment that removes infectious particles and dissolved ions more effectively than other water purification techniques. Water so purified can be used in hemodialysis. **osmotic** (-möt'ík), *adj.*

**osmotherapy** (öz'mō-thēr'ä-pē) [*o* + *therapeia*, treatment] Intravenous administration of highly concentrated or hypertonic solutions to increase the se-



- A. CHAMBER CONTAINING WATER.  
 B. MEMBRANOUS PARTITION SEPARATING TWO CHAMBERS.  
 C. CHAMBER CONTAINING A SOLUTION OF SALT IN WATER.  
 1. MEMBRANE B IS PERMEABLE TO WATER AND SALT.  
 2. MEMBRANE B IS SEMIPERMEABLE IN THAT IT IS IMPERMEABLE TO SALT BUT PERMEABLE TO WATER.  
 P. OSMOTIC PRESSURE CAUSES THE DIFFERENCE IN LEVELS BETWEEN CHAMBERS A AND C WHEN SEPARATED BY A SEMIPERMEABLE MEMBRANE

OSMOSIS IN WHOLE BLOOD AND IN SALT SOLUTIONS THAT HAVE INCREASED OR DECREASED SALT CONCENTRATION



NORMAL DISTENDED LYSED CRENATED  
 THE ERYTHROCYTES SWELL IN HYPOTONIC AND SHRINK (BECOME CRENATED) IN HYPERTONIC SALT SOLUTION

### OSMOSIS

rum osmolarity. This therapy is used to treat cerebral edema, among other conditions.

**osmotic pressure** (ös-möt'īk) The force with which a solvent, usually water, passes through a semipermeable membrane separating solutions of different concentrations. It is measured by determining the hydrostatic (mechanical) pressure that must be opposed to the osmotic force to bring the passage to a standstill.

**osmototoxicity** (öz'mō-tōk'sīs'ī-tē) [" + "'] The adverse effects of highly concentrated fluids on body structures. These effects are often observed when radiological contrast media with a dense concentration of solute are injected into the body during imaging procedures. Patients may experience a sense of warmth, have low or high blood pressures, or suffer adverse effects caused by cell membrane dysfunction, e.g., alterations in the flexibility of red blood cell membranes or in the permeability of the lungs to gas exchange.

**OspA** The outer surface protein A of the spirochete *Borrelia burgdorferi*. It was formerly used as an antigen in Lyme disease immunization.

**osphresiology** (ös'frē-zē-ōl'ō-jē) [" + logos, word, reason] Science of odors and the sense of smell. SYN: *osmology* (1).

**ossa** (ös'ä) [L., bones] Pl. of os.

**ossein** (ös'e-īn) [L. *ossa*, bones] The collagen of bone. It forms the framework of bone.

**osseocartilaginous** (ös'e-ō-kär'tī-lāj'ī-nūs) Concerning bone and cartilage.

**osseofibrous** (ös'e-ō-fi'brūs) [" + *fibra*, fiber] Composed of bone and fibrous tissue.

**osseointegration** (ös'sē-ō-in-tē-grā'shūn) The anchoring of prosthetic material into bone.

**osseous** (ös'e-ūs) [L. *osseus*, bony] Bone-like; concerning bones. SYN: *bony*.

**osseous system** The bony structures of the body; the skeleton. SEE: *skeleton*.

**osseous tissue** SEE: under *tissue*.

**ossicle** (ös'ī-kl) [L. *ossiculum*, little bone] Any small bone, esp. one of the three bones of the ear.

**auditory o.** One of the three bones of the middle ear: malleus, incus, and stapes. SEE: *ear* for ill.

**ossiculectomy** (ös'īk-ū-lēk'tō-mē) [L. *ossiculum*, little bone, + Gr. *ektome*, excision] Excision of an ossicle, esp. one of the ear.

**ossiculotomy** (ös'sīk-ū-lōt'ō-mē) [" + Gr. *tome*, incision] Surgical incision of one or more of the ossicles of the ear.

**ossiculum** (ō-sīk'ū-lūm) pl. **ossicula** [L.] Tiny bone, esp. one of the three in the middle ear.

**ossific** (ös-īf'īk) [" + *facere*, to make] Producing or becoming bone.

**ossificans** (ō-sīf'ī-kānz', kāns') [L. "bone-making"] Becoming or forming bony growth.

**ossification** (ös'ī-fi-kā'shūn) [" + *facere*, to make] 1. The formation of bone matrix. 2. The replacement of other tis-

sue by bone, esp. during fetal development. SEE: *osteogenesis*.

**endochondral o.** The formation of bone in cartilage, as in the formation of long bones, involving the destruction and removal of cartilage and the formation of osseous tissue in the space formerly occupied by the cartilage. SEE: *illus.*

**intramembranous o.** The formation of bone in or underneath a fibrous membrane, such as occurs in the formation of the cranial bones.

**pathologic o.** The formation of bone in abnormal sites or abnormal development of bone.

**periosteal o.** The formation of successive thin layers of bone by osteo-

blasts between the underlying bone or cartilage and the cellular and fibrous layer that covers the forming bone. Also called *subperiosteal ossification*.

**ossify** (ös'î-fî) [ʹ + *facere*, to make] To become bone tissue.

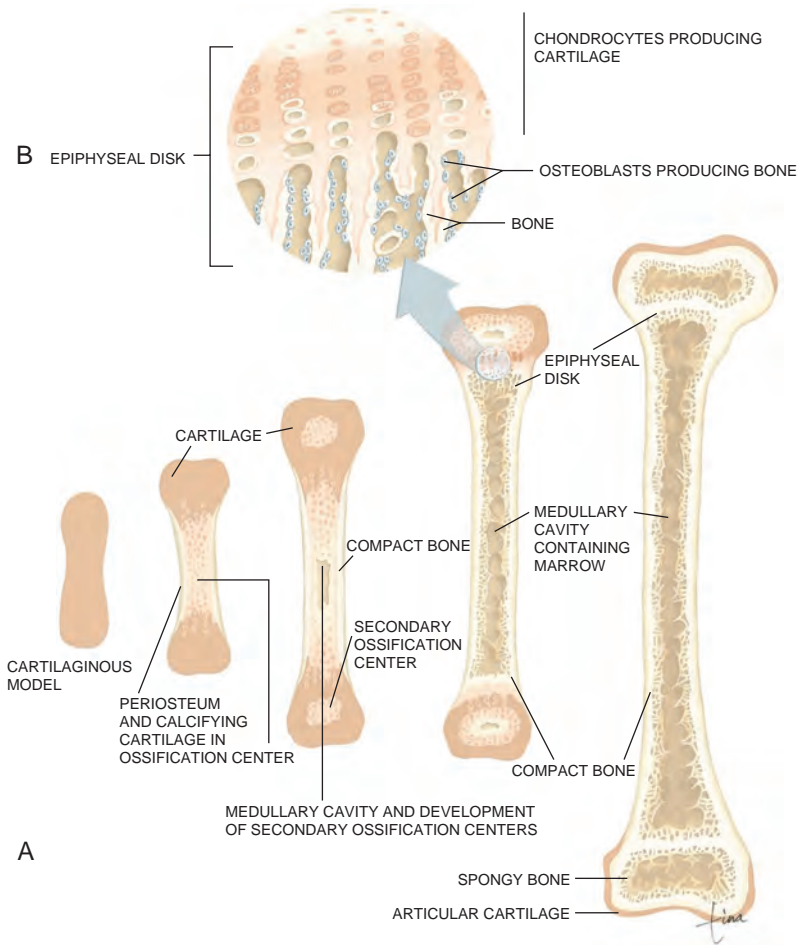
**ostalgia** (ös-täl'jē-ä) [Gr. *osteon*, bone, + *algos*, pain] Pain in a bone. SYN: *osteodynia*.

**oste-** SEE: *osteo-*.

**osteal** (ös'tē-äl) Pert. to bone.

**osteotomy, osteectomy** (ös-tèk'tō-mē, -tē-èk'tō-mē) [ʹ + *ektome*, excision] Surgical excision of a bone or a portion of one.

**osteectopia** (ös'tē-èk-tō'pē-ä) [ʹ + *ektos*, out of place] Displacement of a bone.



### ENDOCHONDRAL OSSIFICATION

Ossification process in a long bone; (A) progression from embryo to young adult, (B) microscopic view of an epiphyseal disk

**osteitis** (ös-tē-ī'tis) [ʹ + *itis*, inflammation] Inflammation of a bone. SYN: *ostitis*.

**condensing o.** 1. Osteitis in which the marrow cavity becomes filled with osseous tissue, causing the bone to become denser and heavier. SYN: *sclerosing o.* 2. A form of osteomyelitis, esp. noted in dentistry.

**o. deformans** Paget's disease.

**o. fibrosa cystica** An osteitis resulting from overactivity of the parathyroid glands with resulting disturbances in calcium and phosphorus metabolism. It is characterized by decalcification and softening of bone, nephrolithiasis, elevation of blood calcium, and lowering of blood phosphorus. Cysts form and tumors may develop. SEE: *hyperparathyroidism*.

**o. fragilitans** Osteogenesis imperfecta.

**gummatous o.** Chronic osteitis associated with syphilis and characterized by the formation of gummas.

**localized alveolar o.** A localized inflammation of a tooth socket following extraction. Destruction of the primary clot results in denuded bone surfaces. Treatment includes irrigation and placement of medications into the bony void. SYN: *dry socket*.

**o. pubis** A chronic osteitis due to repetitive stress to the symphysis pubis by the muscles that attach in the groin area, causing pain with simple daily movements and activities over the pubis symphysis. It occurs in distance runners and soccer and football players. It is best treated with rest and anti-inflammatory medication.

**rarefying o.** Chronic osteitis marked by development of granulation tissue in marrow spaces with absorption of surrounding hard bone.

**sclerosing o.** Condensing osteitis.

**ostempyesis** (ös'tēm-pī-ē'sis) [ʹ + *empyesis*, suppuration] Purulent inflammation within a bone.

**ostensible agency** In malpractice law, the responsibility an employer bears for the negligent actions of professional employees or contractors; among other duties, the employer is assumed to have diligently researched its agents, credentials, licensure, and suitability to provide care. SYN: *ostensible authority*.

**ostensible authority** (ös-těn'sī-bīl) Ostensible agency.

**osteo-, oste-** [Gr. *osteon*, bone] Combining form meaning *bone*.

**osteogenesis** (ös'tē-ō-ăn''ā-jěn'ē-sis) [ʹ + Gr. *ana*, again, + L. *genesis*, generation, birth] Regeneration of bone.

**osteoaesthesia** (ös'tē-ō-ăn''ēs-thē'zē-ă) [ʹ + *an-*, not, + *aesthesia*, sensation] The condition of the bone being insen-

sitive, esp. to stimuli that would normally produce pain.

**osteoarthritis** (ös'tē-ō-ăr-thrī'tis) [ʹ + *arthron*, joint, + *itis*, inflammation] ABBR: OA. A type of arthritis marked by progressive cartilage deterioration in synovial joints and vertebrae. Risk factors include aging, obesity, overuse or abuse of joints (repetitive motions, bending, lifting), as in sports or strenuous occupations, instability of joints, excessive mobility, immobilization, and trauma. Signs and symptoms include pain and inflammation in one or more joints, typically in the hands, knees, hips, and spine. The dominant side of the body is involved somewhat more often than the nondominant side. Affected joints become enlarged, lose range of motion, make sounds, or feel noisy or creaky. Diagnostic testing includes joint and symptom evaluation, including assessment of the location and pattern of pain and tests to rule out other diseases, including x-rays, joint fluid analysis, and blood tests. SYN: *degenerative joint disease*. SEE: *Nursing Diagnoses Appendix; illus*.



**OSTEOARTHRITIS OF THE KNEE**

It is especially prominent in the area above the fibula

**PATIENT CARE:** Treatment is supportive, using exercise balanced with rest and locally applied heat. Weight reduction, if needed, can ease joint pain and improve mobility; a body mass index below 24.9 is desirable. Aerobic exercise and flexibility routines can prevent joint stiffness related to lack of movement, and strong muscles provide



better joint support. Swimming and aquatic exercises, which improve aerobic fitness without stressing joints, are encouraged. Meditation and other forms of relaxation may be beneficial as part of the patient's daily routine. Analgesics provide pain relief. Acetaminophen is the drug of choice, unless contraindicated. Nonsteroidal anti-inflammatory drugs (NSAIDs) are good alternatives for pain that is unresponsive to acetaminophen, although these agents increase the risk of gastrointestinal injury, bleeding, and renal failure. Other useful drugs include low doses of narcotic pain relievers, steroids, and intra-articular injections. Some patients, esp. those with osteoarthritis of the knee, benefit from joint bracing. If degeneration reaches the point where a joint is "bone on bone," joint replacement surgery usually is recommended, providing greatly improved mobility and function as well as pain relief.

**osteopathopathy** (ös"tē-ō-är-thröp'ä-thē) [" + " + *pathos*, disease, suffering] Any disease involving the joints and bones.

**hypertrophic pulmonary o.** A disorder characterized by enlargement of the distal phalanges of the fingers and toes and a thickening of their distal ends, accompanied by a peculiar longitudinal curving of nails. The wrists and interphalangeal joints may become enlarged, as may the distal ends of the tibia, the fibula, and the jaw. This condition may be associated with emphysema, pulmonary tuberculosis, chronic bronchitis, bronchiectasis, and congenital heart disease.

**osteothrotomy** (ös"tē-ō-är-thröt'ō-mē) [" + " + *tome*, incision] Surgical excision of the articular end of a bone.

**osteoblast** (ös'tē-ō-bläst) [Gr. *osteon*, bone, + *blastos*, germ] A cell derived from mesenchymal cells. It manufactures bone matrix.

**osteoblastoma** (ös'tē-ō-bläs-tō'mä) [" + " + *oma*, tumor] A large, benign tumor of osteoblasts in a patchy osteoid matrix. It occurs mostly in the vertebral columns of young people.

**osteocampsia** (ös'tē-ō-kämp'sē-ä) [" + *kamptein*, to bend] Curvature of a bone, as in osteomalacia.

**osteocarcinoma** (ös'tē-ō-kär-sin-ō'mä) [" + *karkinos*, cancer, + *oma*, tumor]  
1. Combined osteoma and carcinoma.  
2. Carcinoma of a bone.

**osteoartilaginous** (ös'tē-ō-kär'ti-lä'j'i-nūs) Concerning bone and cartilage.

**osteochondral** (ös'tē-ō-kön'dräl) Concerning bone and cartilage.

**osteochondritis** (ös'tē-ō-kön-drit'tis) [" + *chondros*, cartilage, + *itis*, inflammation] Inflammation of bone and cartilage.

**o. deformans juvenilis** Chronic in-

flammation of the head of the femur in children, resulting in atrophy and shortening of the neck of the femur with a wide flat head. SYN: *Perthes' disease*; *Waldenström's disease*.

**o. dissecans** A condition affecting a joint in which a fragment of cartilage and its underlying bone become detached from the articular surface. It commonly occurs in the knee joint. SYN: *osteochondrolysis*.

**osteochondrodysplasia** (ös"tē-ō-kön-drō-dis-plä'zē-ä, -zhä) [" + " + "] Any of several diseases or conditions in which bone and cartilage develop abnormally.

**osteochondrodystrophy** (ös"tē-ō-kön'drō-dis'trō-fē) [" + " + *dys*, bad, + *trephein*, to nourish] A disorder of skeletal growth resulting from bone and cartilage malformation. The condition produces a form of dwarfism. SYN: *Morquio's syndrome*.

**familial o.** Morquio's syndrome. SEE: *mucopolysaccharidosis IV*.

**osteochondrolysis** (ös"tē-ō-kön-drōl'ī-sis) [" + " + *lysis*, dissolution] Osteochondritis dissecans.

**osteochondroma** (ös"tē-ō-kön-drō'mä) [" + " + *oma*, tumor] A tumor composed of both cartilaginous and bony substance.

**osteochondromatosis** (ös"tē-ō-kön'drō-mä-tō'sis) [" + " + " + *osis*, condition] A disease in which there are multiple osteochondromata.

**osteochondrosarcoma** (ös"tē-ō-kön'drō-sär-kō'mä) [" + " + *sarx*, flesh, + *oma*, tumor] Chondrosarcoma occurring in bone.

**osteochondrosis** (ös"tē-ō-kön-drō'sis) [" + " + *osis*, condition] A disease causing painful degenerative changes in the ossification centers of the epiphyses of bones, particularly during periods of rapid growth in children (Osgood-Schlatter disease). It is most likely to result from trauma before fusion of the epiphysis to the main bone that occurs between ages 10 and 15; thus it is most common in active adolescent boys (rather than girls) and may affect one or both knees. Other causes are a deficiency in local blood supply or genetic factors. The process may result in aseptic necrosis of bone, or there may be gradual healing and repair.

**SYMPTOMS:** The patient experiences constant aching pain and tenderness over the tibial tubercle, which worsens when running, jumping, going up or down stairs, or forcefully flexing the leg. Soft-tissue swelling and localized heat and tenderness may be present.

**DIAGNOSIS:** Diagnosis is based on clinical examination, x-ray studies, and bone scans.

**PATIENT CARE:** The disease usually is self-limiting; treatment is conservative, supportive, and palliative. Bedrest

is encouraged, and support is offered through disruption of normal activity. The knee may be immobilized in extension for 6 to 8 weeks if necessary. Quadriceps strengthening, hip extension, abductor strengthening, and hamstring and quadriceps stretching exercises are taught and practiced, with ice applications after exercise and for pain. The patient learns the correct use of crutches. Neurocirculatory function distal to supportive devices (splint, elastic support, or cast) is evaluated. Joint mobility and limitation of motion are assessed daily. If conservative treatment is ineffective (which is rare), the orthopedic surgeon removes or fixates the epiphysis or drills holes through the tubercle to the main bone, forming channels for rapid revascularization.

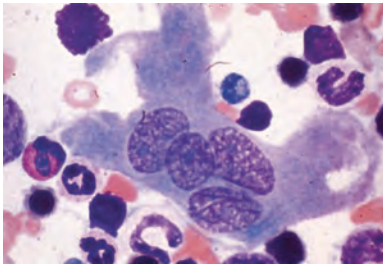
**o. deformans tibiae** Degeneration or aseptic necrosis of the medial condyle of the tibia.

**osteoclasia, osteoclasia** (ös'tē-ō-klā'zē-ä, -ök'lä-sis) [" + *klasis*, a breaking]

**1.** Surgical fracture of a bone in order to remedy a deformity. SYN: *diaclasia*. **2.** Bony tissue absorption and destruction.

**osteoclast** (ös'tē-ō-kläst) [" + *klan*, to break]

**1.** A device for fracturing bones for therapeutic purposes. **2.** A giant, multinucleated cell derived from blood cell (monocyte) precursors formed in the bone marrow of growing bones. Osteoclasts are found in depressions (called Howship's lacunae) on the surface of the bone. By absorbing calcium salts, they remove excess bone tissue, as in the remodeling of growing bones or damaged bone in the repair of fractures. SEE: **illus. osteoclastic** (-kläs'tik), *adj.*



OSTEOCLAST

With multiple nuclei (orig. mag.  $\times 640$ )

**osteoclast activating factor** ABBR: OAF.

A lymphokine produced in certain conditions associated with resorption of bone, including periodontal disease and lymphoid malignancies such as multiple myeloma and malignant lymphoma. Interleukin-1 is an OAF, as are other substances produced by T lymphocytes and prostaglandins.

**osteoclastoma** (ös'tē-ō-kläs-tō'mä) [" +

" + *oma*, tumor] Giant cell tumor of bone.

**osteocope** (ös'tē-ō-köp) [" + *kopos*, pain] Extreme pain in the bones, esp. in syphilitic bone disease. **osteocopic** (-köp'ik), *adj.*

**osteocranium** (ös'tē-ō-krā'nē-üm) [" + *kranion*, skull] The portion of the cranium formed of membrane bones in contrast to that formed of cartilage (chondrocranium).

**osteocystoma** (ös'tē-ō-sis-tō'mä) [" + *kystis*, sac, bladder, + *oma*, tumor] Cystic tumor of a bone.

**osteocyte** (ös'tē-ō-sīt") [" + *kytos*, cell] A mesodermal bone-forming cell that has become entrapped within the bone matrix. It lies within a lacuna with processes extending outward through canaliculi and, by its metabolic activity, helps to maintain bone as a living tissue.

**osteodensitometer** (ös'tē-ō-dēn'sitōm'è-tèr) A device used for determining the density of bones. SEE: *dual energy x-ray absorptiometry*.

**osteodentin** (ös'tē-ō-dēn'tin) Dentin that forms very rapidly or in response to severe trauma so that cells and blood vessels are incorporated, resembling bone.

**osteodesmosis** (ös'tē-ō-dēs-mō'sis) [" + *desmos*, tendon, + *osis*, condition] The transformation of tendon into bone.

**osteodiastasis** (ös'tē-ō-dī-äs'tä-sis) [" + *diastasis*, separation] The separation of two adjacent bones.

**osteodynia** (ös'tē-ō-din'ē-ä) [" + *odyne*, pain] Ostalgia.

**osteodystrophy** (ös'tē-ō-dīs'trō-fè) [" + *dys*, ill, + *trophe*, nourishment] Defective bone development.

**renal o.** Bone degeneration that results from the secondary hyperparathyroidism of chronic renal failure. Its hallmarks are increased bone resorption by osteoclasts, decreased new bone formation, and decreased bone mass.

**osteoeiphysis** (ös'tē-ō-ē-pif'is-is) [" + *epi*, upon, + *physis*, growth] A small piece of bone that is separated in childhood from a larger bone by cartilage; during later growth, the two bones join.

**osteofibroma** (ös'tē-ō-fi-brō'mä) [" + *L. fibra*, fiber, + *Gr. oma*, tumor] A tumor composed of bony and fibrous tissues. SYN: *fibro-osteoma*.

**osteogen** (ös'tē-ō-jēn) [" + "'] A tissue layer of the inner periosteal layer from which bone is formed.

**osteogenesis, osteogeny** (ös'tē-ō-jēn'è-sis, -øj'è-nè) The formation and development of bone. SEE: *ossification*. **osteogenic**, *adj.*

**distraction o.** ABBR: DO. A method of lengthening bones by making a series of controlled fractures which are then spread to desired locations and held in place with hinges, rods, and/or wires.

The technique is used primarily in orthopedic or maxillofacial surgery to repair deficits in long bones or facial bones.

**o. imperfecta** An inherited disorder of the connective tissue marked by defective bone matrix, short stature, and abnormal bony fragility. Additional clinical findings are multiple fractures with minimal trauma, blue sclerae, early deafness, opalescent teeth, a tendency to capillary bleeding, translucent skin, and joint instability. Although the disease is heterogeneous, two different classifications of osteogenesis imperfecta are used for clinical distinction. *Osteogenesis imperfecta congenita* manifests in utero or at birth. *Osteogenesis imperfecta tarda* occurs later in childhood with delayed onset of fracturing and much milder manifestations. The healing of bone fractures progresses normally. Later in life, the tendency to fracture decreases and often disappears. The vast majority of cases are inherited as an autosomal dominant trait, although a small percentage of congenital cases are transmitted as an autosomal recessive. There is no known cure for osteogenesis imperfecta; therefore, treatment is supportive and palliative. SYN: *Bruck's disease*.

**osteogenic** (ös'tē-ō-jěn'ik) Pert. to osteogenesis.

**osteography** (ös'tē-ōg'raf-ē) [Gr. *osteon*, bone, + *graphein*, to write] A descriptive treatise of the bones.

**osteohalisteresis** (ös'tē-ō-häl-is'tēr-ē'sis) [" + *hals*, salt, + *sterein*, to deprive] Softening of the bones caused by a deficiency of mineral constituents of the bone.

**osteoid** (ös'tē-oyd) [" + *eidos*, form, shape] 1. Resembling bone. 2. The non-calcified matrix of young bone. Also called prebone.

**osteokinematics** (ös'tē-ō-kīn'ē-mät'iks) The branch of biomechanics concerned with the description of bone movement when a bone swings through a range of motion around the axis in a joint, such as with flexion, extension, abduction, adduction, or rotation.

**osteolipochondroma** (ös'tē-ō-lī-pō'kōn-drō'mā) [" + *lipos*, fat, + *chondros*, cartilage, + *oma*, tumor] A cartilaginous tumor containing fatty and bony tissue.

**osteologist** (ös'tē-ōl'ō-jist) [" + *logos*, word, reason] A specialist in the study of the bones.

**osteology** (ös-tē-ōl'ō-jē) [" + *logos*, word, reason] The science concerned with the structure and function of bones.

**osteolysis** (ös'tē-ōl'ī-sis) [" + *lysis*, dissolution] A softening and destruction of bone without compensatory osteoclastic activity. Osteolysis occurs within com-

pact bone and results from a breakdown of the organic matrix and subsequent leaching out of the inorganic fraction. The condition is probably caused by localized metabolic disturbances, vascular changes, or the release of hydrolytic enzymes by osteocytes.

**osteolytic** (ös'tē-ō-lit'ik) Pert. to osteolysis.

**osteoma** (ös-tē-ō'mā) pl. **osteomata** pl. **osteomas** [" + *oma*, tumor] A benign bony tumor; a bonelike structure that develops on a bone or at other sites. SYN: *exostosis*.

**cancelous o.** A soft and spongy tumor. Its thin and delicate trabeculae enclose large medullary spaces similar to those in cancellous bone.

**cavalryman's o.** A bony outgrowth of the femur at the insertion of the adductor femoris longus.

**o. cutis** A benign formation of bone nodules in the skin.

**dental o.** A bony outgrowth of the root of a tooth.

**o. durum** A very hard osteoma in which the bone is ivory-like.

**o. medullare** A bony tumor containing medullary spaces.

**osteoid o.** A rare benign bone tumor composed of sheets of osteoid tissue that is partially calcified and ossified. The condition occurs esp. in the bones of the extremities of the young.

**o. spongiosum** A spongy tumor in the bone. SYN: *osteospongioma*.

**osteomalacia** (ös'tē-ō-mäl-ā'shē-ā) [Gr. *osteon*, bone, + *malakia*, softening] A vitamin D deficiency in adults that results in a shortage or loss of calcium salts, causing bones to become increasingly soft, flexible, brittle, and deformed. An adult form of rickets, osteomalacia can also be traced to liver disease, cancer, or other ailments that inhibit the normal metabolism of vitamin D. **osteomalacic** (-mäl-ā'sik), *adj.*

**SYMPTOMS:** Clinical findings are pains in the limbs, spine, thorax, and pelvis; fractures; anemia; and progressive weakness.

**ETIOLOGY:** The disease is caused by any of the many vitamin D disorders or by deranged phosphorus metabolism.

**TREATMENT:** In patients with vitamin D-deficient diets, nutritional supplements are helpful.

**oncogenic o.** A rare disorder in which low serum phosphorus levels and excessive wasting of phosphorus by the kidneys accompany weakening and softening of bone. The disease is found in patients with cancer and is caused by excessive circulating levels of fibroblast growth factor. SYN: *tumor-induced o.*

**tumor-induced osteomalacia** Oncogenic osteomalacia.

**osteomatosi** (ös'tē-ō'mä-tō'sis) [" + "

+ *osis*, condition] The formation of multiple osteomas.

**osteomeatal complex** (ôs"tē-ō-mē-ā'täl)

The middle turbinate and the middle meatus of the nose.

**osteometry** (ôs-tē-ôm'ët-rē) [" + *metron*, measure] Measurement of bones and their relationships within the skeleton.

**osteomyelitis** (ôs"tē-ō-mī"ël-ī'tīs) [" + *myelos*, marrow, + *itis*, inflammation] Inflammation of bone and marrow, usually caused by infection (and less often by radiation or other causes). It most commonly occurs in the long bones or spine. SEE: *bone scan*; *Nursing Diagnosis Appendix*.

**ETIOLOGY:** Infections may reach the bone by several routes. Usually, disease-causing germs are carried to the bone as a result of a bloodborne infection (hematogenous spread). Organisms also may invade bone from an adjacent site such as a decubitus ulcer or an infected tooth socket (contiguous infection), or be introduced during traumatic injury or bone surgery. Pyogenic bacteria, esp. *Staphylococcus aureus*, are the most common cause, but gram-negative bacteria, mycobacteria, fungi, and viruses also cause bone infection; no organism can be identified in approx. 50% of patients. Osteomyelitis occurs more commonly in children than adults, and in boys more frequently than in girls. Peripheral vascular disease, sickle cell disease, urinary tract infections, prosthetic joints, inadequate nutrition, diabetes mellitus, aging, and soft tissue infections increase the risk of osteomyelitis.

**SYMPTOMS:** Clinical presentation of osteomyelitis may be overt or very subtle. Severe throbbing pain over the affected part, fever, and malaise are commonly seen in hematogenous infection. However, only mild pain, swelling, and redness, with or without fever, are seen in more localized infection. Purulent drainage may be present. In chronic osteomyelitis, symptoms are similar, persisting over years and flaring up after minor trauma. Sometimes persistent purulent drainage from a pocket in an old sinus tract is the only indication of chronic infection.

**DIAGNOSIS:** Laboratory studies may reveal an elevated white blood cell count or erythrocyte sedimentation rate; x-ray studies or nuclear medical scans may show bone destruction. Biopsies and bone cultures are necessary to determine the causative organism.

**TREATMENT:** All forms of osteomyelitis require long courses of treatment with high-dose antibiotics, although many of them, including most cases of osteomyelitis that are found in the limbs of diabetics and many infections

associated with prosthetic hardware, will not be cured without surgery. SEE: *diabetic foot infection*.

**PATIENT CARE:** The patient may be hospitalized initially for intravenous antibiotics and débridement, incision and drainage of any abscesses, and/or intracavitary instillation of antibiotics, or he or she may be cared for at home. Activity and weight-bearing may be restricted to minimize the risk of pathological fractures. The affected part is immobilized and elevated, and adequate analgesics are given to relieve the severe pain and muscle spasms. Gentle passive range of motion is performed on the joints above and below the site of infection. Warm soaks may be applied to enhance blood flow and, thus, delivery of antibiotics to the area. If surgery has been performed and/or drainage is present, the site is monitored for healing; strict sterile technique is used for all dressing changes, and all dressings are disposed of carefully. Adequate hydration and a diet high in protein and vitamin C are provided to promote healing. If the patient is at home, family members are taught the principles of infection control and the need for follow-up to prevent recurrence. Emotional support and diversionary activities should be provided.

**osteon** (ôs'tē-ôn) [Gr., bone] The microscopic unit of compact bone, consisting of a haversian canal and the surrounding lamellae. SEE: *haversian system*.

**osteonecrosis** (ôs"tē-ō-nē-krō'sīs) [" + *nekrosis*, state of death] The death of a segment of bone usually caused by insufficient blood flow to a region of the skeleton. This is a relatively common disorder and an estimated 10% of total joint replacements are for osteonecrosis. From 5% to 25% of patients receiving prolonged therapy with corticosteroids will develop this condition. Treatment is symptomatic, but in some cases of osteonecrosis of the knee or hip joint prosthetic replacement is required.

**osteonectin** (ôs"tē-ō-nēk'tin) A glycoprotein present in the noncollagenous portion of the matrix of bone.

**osteopath** (ôs'tē-ō-pāth) [" + *pathos*, disease] A practitioner of osteopathy.

**osteopathic** (ôs"tē-ō-pāth'ik) Concerning osteopathy.

**osteopathic medicine** Osteopathy.

**osteopathology** (ôs'tē-ō-pāth-ōl'ō-jē) [" + *pathos*, disease, + *logos*, word, reason] **1.** Any bone disease. SYN: *osteopathy* (1). **2.** The study of bone diseases.

**osteopathy** (ôs-tē-ōp'ā-thē) [" + *pathos*, disease, suffering] **1.** Any bone disease. **2.** A system of medicine founded by Dr. Andrew Taylor Still, MD (1828–1917). It is based upon the theory that the human body is a vital organism in which structural and func-

tional states are of equal importance and that the body is able to rectify toxic conditions when it has favorable environmental circumstances and satisfactory nourishment.

Although manipulation was historically the primary method used in osteopathy to restore balance to the body, contemporary osteopaths rely much more heavily on the use of medications and surgery than upon body adjustments. Osteopathy is recognized as a standard method or system of medical and surgical care. Physicians with a degree in osteopathy use the designation DO. SYN: *osteopathic medicine*.

**osteopenia** (ös"tē-ō-pē'nē-ä) [" + *penia*, lack] A significant decrease in the amount of bone mineral density (BMD) normally found in a population or group. The World Health Organization specifies that when BMD is between 1 and 2.5 standard deviations below normal, osteopenia exists. Decreases in BMD that exceed 2.5 standard deviations below normal are called osteoporosis. SEE: *osteoporosis*.

**osteoperiostitis** (ös"tē-ō-pēr"ē-ös-tī'tīs) [" + " + " + *itis*, inflammation] Inflammation of a bone and its periosteum.

**osteopetrosis** (ös"tē-ō-pē-trō'sīs) [" + *petra*, stone, + *osis*, condition] A rare hereditary dysplastic disease of bone with at least four subtypes, two of which are *Type I*: the infantile (malignant) form, an autosomal recessive trait; and *Type II*: the adult (benign) form (also known as Albers-Schönberg disease), an autosomal dominant trait. In both types of osteopetrosis, normal bone metabolism is disrupted. Although bone continues to be formed, normal resorption diminishes, and the bones become increasingly dense. Radiographs reveal the spotted, marble-like appearance of abnormally calcified bone. In severe cases, this leads to cranial nerve entrapment, bone marrow failure, and recurrent fractures.

**PROGNOSIS:** If untreated, the infantile form is usually fatal during the first decade of life.

**TREATMENT:** Some infants have responded to bone marrow transplants. Children who are not candidates for bone marrow transplants have improved considerably with long-term administration of interferon gamma-1b. Therapy for the adult type is symptomatic.

**osteophlebitis** (ös"tē-ō-flē-bī'tīs) [" + *phleps*, *phleb*-, vein, + *itis*, inflammation] Inflammation of the veins of a bone.

**osteophyte** (ös'tē-ō-fit) [" + *phyton*, plant] A bony excrescence or outgrowth, usually branched in shape.

**osteoplastic** (ös"tē-ō-pläs'tik) [" +

*plastikos*, formed] 1. Pert. to bone repair by plastic surgery or grafting. 2. Concerning bone formation.

**osteopoikilosis** (ös"tē-ō-poy"ki-lō'sīs) [" + *poikilos*, spotted] A benign, hereditary disease of the bones marked by excessive calcification in spots less than 1 cm in diameter.

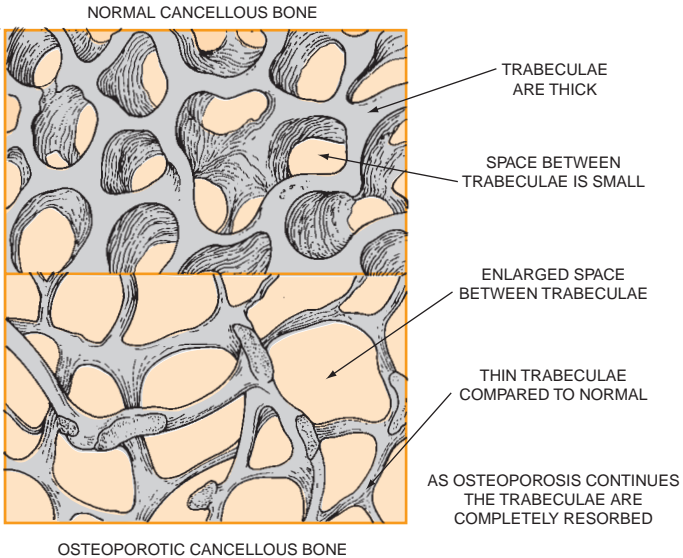
**osteopontin** (ös"tē-ō-pōn'tin) An extracellular matrix glycoprotein (approximate molecular weight 44 to 64 kD). It has been implicated in the pathophysiology of inflammatory, autoimmune, and malignant disorders as well as in wound repair.

**osteoporosis** (ös"tē-ō-por-ō'sīs) [" + *poros*, a passage, + *osis*, condition] Loss of bone mass that occurs throughout the skeleton, predisposing patients to fractures. Healthy bone constantly remodels itself by taking up structural elements from one area and patching others. In osteoporosis, more bone is resorbed than laid down, and the skeleton loses some of the strength that it derives from its intact trabeculation. Aging causes bone loss in both men and women, predisposing them to vertebral and hip fractures. This is called type II osteoporosis (formerly "senile" osteoporosis). Type I osteoporosis (also known as "involutional" bone loss) occurs as a result of the loss of the protective effects of estrogen on bone that takes place at menopause. SYN: *rarefaction of bone*. SEE: *illus*; *Nursing Diagnoses Appendix*. **osteoporotic** (-por-ōt'ik), *adj*.

**ETIOLOGY:** Multiple modifiable factors contribute to bone mass and strength: increased body weight, higher levels of sex hormones, and frequent weight-bearing exercise all build up bone and prevent fractures. Bone loss and the risk of fractures increase with age, immobilization, thyroid hormone excess, the use of corticosteroids and some anticonvulsant drugs, the consumption of alcohol, tobacco, and caffeine, and after menopause. Genetics (a nonmodifiable risk factor) also contributes to osteoporosis. SEE: *table*.

**SYMPTOMS:** Bone loss progresses for many years without causing symptoms. When it results in fractures, bone pain and loss of mobility may be disabling. Signs of osteoporosis include deformities of the skeleton, such as kyphosis (the so-called "dowager's hump"), and loss of height, especially if vertebral compression fractures occur.

**TREATMENT:** Supplemental calcium and regular exercise help slow or prevent the rate of bone loss and are recommended for most men and women. Bisphosphonate drugs (such as alendronate), calcitonin, sodium fluoride, and other agents are useful for patients of either gender. In menopausal women, estrogen supplementation or the selec-



### OSTEOPOROSIS

tive estrogen receptor modulators help prevent bone loss and fractures, but calcium supplementation has not been shown to be helpful.

**PATIENT CARE:** Protection against osteoporosis should begin in childhood and adolescence, focusing on building bone mass. Encourage children to eat calcium-rich foods and teach parents to encourage regular exercise, including school gym classes and sports programs, to build strong bones and establish

healthy lifestyle habits. Parents also should be informed about the effects eating disorders, excessive dieting, excessive exercise, alcohol consumption, and smoking have on bone density. From the mid-20s through age 35, focus continues to be placed on building and maintaining bone mass through a calcium-rich diet. After age 35, bone resorption exceeds bone formation. Emphasis is placed on preventing bone loss through a healthy diet, use of calcium (plus vitamin D) supplements (ensure an intake of at least 1000 mg of calcium per day), and weight-bearing exercises such as weight-lifting, walking, jogging, dancing, and climbing stairs. High-impact aerobics may create too much stress on the bones of older adults and should be avoided.

After patients have been diagnosed with osteoporosis, time should be spent assessing their diets and activity levels. Although patients should engage in walking or other weight-bearing activity for 30 to 60 min three to four times a week, this goal may need to be approached slowly. Foods that are rich in calcium include dairy products, spinach, sardines, and nuts. Calcium supplements totaling 1000 to 1500 mg per day should be consumed. Supplements can prevent further bone loss. Based on bone density testing, alendronate or another drug that inhibits bone resorption may be prescribed in a daily or weekly formulation. Bisphosphonates like alendronate should be taken on an empty stomach with a full glass (8 oz) of water.

### Risk Factors for Osteoporosis

- Female
- Advanced age
- White or Asian
- Thin, small-framed body
- Positive family history
- Low calcium intake
- Early menopause (before age 45)
- Sedentary lifestyle
- Nulliparity
- Smoking
- Excessive alcohol or caffeine intake
- High protein intake
- High phosphate intake
- Certain medications, when taken for a long time (high doses of glucocorticoid, phenytoin, thyroid medication)
- Endocrine diseases (hyperthyroidism, Cushing's disease, acromegaly, hypogonadism, hyperparathyroidism)

SOURCE: Stanley, M and Beare, PG: Gerontological Nursing, FA Davis, Philadelphia, 1995.

The patient should remain in an upright position for 30 min after taking these medications to avoid pill-induced esophagitis.

**DIAGNOSIS:** Dual energy x-ray absorptiometry (DEXA scanning) is recommended by the World Health Organization for the early diagnosis of bone loss. Dual photon absorptiometry and quantitative computerized tomographic scanning of bone can also be used.

**o. circumscripta cranii** Localized osteoporosis of the skull associated with Paget's disease.

**o. of disuse** Osteoporosis due to the lack of normal functional stress on the bones. It may occur during a prolonged period of bedrest or as the result of being exposed to periods of weightlessness (e.g., astronauts in outer space).

**glucocorticoid o.** Bone loss that results from prolonged treatment with oral or inhaled steroids, such as prednisone, beclomethasone, or triamcinolone.

**juvenile o., idiopathic juvenile o.** A rare childhood disease of inadequate bone mineral density, characterized by poor bone formation that usually improves spontaneously during puberty or young adulthood. Affected children often complain of bone or back pain, muscle weakness, or impaired gait. Fractures of long bones and vertebral compression fractures are common. Other diseases of bone formation, such as osteogenesis imperfecta, must be excluded before a diagnosis of juvenile osteoporosis is made. Affected children are usually asked to refrain from participation in sports to lessen the risk of fractures.

**post-traumatic o.** Loss of bone tissue following trauma, esp. when there is damage to a nerve supplying the injured area. The condition may also be caused by disuse secondary to pain.

**osteoradionecrosis** (ös'tē-ō-rā'dē-ō-nē-kro'sis) [Gr. *osteon*, bone, + L. *radiatio*, radiation, + Gr. *nekrosis*, state of death] Death of bone following irradiation.

**osteorrhaphy** (ös-tē-or'ä-fē) [ + *rhapshe*, seam, ridge] The suturing or wiring of bone fragments. SYN: *osteosuture*.

**osteosarcoma** (ös'tē-ō-sär-kō'mä) [ + *sarx*, flesh, + *oma*, tumor] Osteogenic sarcoma.

**osteosclerosis** (ös'tē-ō-sklē-rō'sis) [ + *skleros*, hard, + *osis*, condition] An abnormal increase in thickening and density of bone.

**o. fragilis** Osteopetrosis.

**osteosis** (ös'tē-ō'sis) [ + *osis*, condition] The presence of bone-containing nodules in the skin.

**o. cutis** The formation of bone tissue in skin and subcutaneous tissue.

**osteospongioma** (ös'tē-ō-spōnjē-ō'mä) [

+ *spongios*, sponge, + *oma*, tumor] A spongy tumor in bone. SYN: *osteoma spongiosum*.

**osteostatin** (ös'tē-ō-stät'in) [ + " ] The C-terminal portion of parathyroid-hormone-related protein. It inhibits the resorption of bone by osteoclasts and participates in metastasis of cancer cells into bone.

**osteosteatoma** (ös'tē-ō-stē'ä-tō'mä) [ + *stear*, fat, + *oma*, tumor] A benign fatty tumor with bony elements.

**osteosuture** (ös'tē-ō-sū'chür) [ + L. *sutura*, a stitch] Osteorrhaphy.

**osteosynovitis** (ös'tē-ō-sin'ō-vi'tis) [ + *syn*, with, + *oon*, egg, + *itis*, inflammation] Synovitis.

**osteosynthesis** (ös'tē-ō-sin'thē-sis) [ + *synthesis*, a joining] Surgical fastening of the ends of a fractured bone by mechanical means, such as a screw or plate.

**osteotelangiectasia** (ös'tē-ō-tēl-än'jē-ēk-tä'zē-ä) [ + *telos*, end, + *angeion*, vessel, + *ektasis*, a stretching] A sarcomatous, heavily vascularized tumor of bone.

**osteothrombosis** (ös'tē-ō-thrōm-bō'sis) [ + *thrombosis*, a clotting] The formation of a blood clot in the veins of a bone.

**osteotome** (ös'tē-ō-tōm) [ + *tome*, incision] A chisel beveled on both sides for cutting through bones.

**osteotomy** (ös-tē-ōt'ō-mē) [ + *tome*, incision] The operation of cutting through a bone.

**C-form o.** A C-shaped cut through the ramus of the mandible to allow forward placement of the mandible in correcting a retrognathic condition.

**condylar neck o.** Surgery on the condylar neck of the mandible to correct prognathism.

**cuneiform o.** The excision of a wedge of bone.

**linear o.** The lengthwise division of a bone.

**Macewen's o.** Supracondylar section of the femur for correction of genu valgum.

**subtrochanteric o.** Division of the shaft of the femur below the lesser trochanter to correct ankylosis of the hip joint.

**transtrochanteric o.** Section of the femur through the lesser trochanter for correction of a deformity about the hip joint.

**osteotribe** (ös'tē-ō-trib) [ + *tribein*, to rub] A bone rasp.

**osteotrite** (ös'tē-ō-trit) [ + *tribein*, to grind or rub] An instrument used to scrape away diseased bone.

**osteotylus** (ös'tē-ōt'i-lüs) [ + *tylos*, callus] The callus around the ends of bones that have been fractured.

**ostitis** (ös-ti'tis) [Gr. *osteon*, bone, + *itis*, inflammation] Osteitis.

**ostium** (ôs'tē-ŭm) *pl. ostia* [L. *ostium*, a little opening] A small opening, esp. one into a tubular organ. **ostial** (-äl), *adj.*

**o. primum** The opening in the first septum of the embryonic heart; it closes as the ventricles form.

**o. primum defect** An atrial septal defect located low in the septum, resulting from the incomplete closure of the ostium primum.

**o. secundum** An opening in the higher part of the septum of the atria of the embryonic heart. This becomes the foramen ovale and closes shortly after birth.

**o. secundum defect** An atrial septal defect located high in the septal wall, usually resulting from incomplete formation of the edge of the ostium secundum.

**ostomate** (ôs'tō-māt) [L. *ostium*, little opening] One who has a surgically formed fistula connecting the intestinal or urinary tract to a site on the skin surface (stoma), usually through the abdominal wall. SEE: *colostomy*; *ileostomy*.

**ostomy** (ôs'tō-mē) A surgically formed fistula connecting a portion of the intestine or urinary tract to the exterior (usually through the abdominal wall). SEE: *colostomy*; *ileostomy*.

**OSTOMY CARE:** Whether the ostomy is temporary or permanent, the patient should be assured that it will be possible to carry on normal activities with a minimum of inconvenience. Prior to being discharged from the hospital, the patient and/or family should be provided full explanation and demonstration of ostomy care. Consultation with another patient who has become competent in ostomy care will be esp. helpful. Those individuals may be contacted through ostomy clubs that have been organized in various cities. The patient should be provided with precise directions concerning places that sell ostomy care equipment. Detailed instructions for care and use of ostomy devices are included in the package.

Specific care involves the stoma (enterostomal care) and irrigation of the bowel, when appropriate, leading to the stoma. In caring for a double-barrel colostomy, it is important to irrigate only the proximal stoma.

**STOMA CARE:** The character of the material excreted through the stoma will depend on the portion of the bowel to which it is attached. Excretions from the ileum will be fluid and quite irritating to skin; those from the upper right colon will be semifluid; those from the upper left colon are partly solid; and those from the sigmoid colon will tend to be solid. Care of the stoma, whether for ileostomy or colostomy, is directed toward maintaining the peristomal skin

and mucosa of the stoma in a healthy condition. This is more difficult to achieve with an ileostomy than with a lower colon colostomy. The skin surrounding the stoma can be protected by use of commercially available disks (washers) made of karaya gum or hypoallergenic skin shields. The collecting bag or pouch can be attached to the karaya gum washer or skin shield so that a watertight seal is made. The karaya gum washers can be used on weeping skin, but the skin shields cannot. New skin will grow beneath the karaya gum. The stoma may require only a gauze pad covering in the case of a sigmoid colostomy that is being irrigated daily or every other day. If a plastic bag is used for collecting drainage, it will need to be emptied periodically and changed as directed. At each change of the bag, meticulous but gentle skin care will be given. The stoma should not be digitally dilated except by those experienced in enterostomal care.

**IRRIGATION OF COLOSTOMY:** Many individuals will be able to regulate the character of their diet so that the feces may be removed from the colonic stoma at planned intervals. The stoma is attached to a plastic bag held in place with a self-adhering collar or a belt. Tap water at 40°C (104°F), is introduced slowly through a soft rubber catheter or cone. The catheter is inserted no further than 10 to 15 cm, and the irrigating fluid container is hung at a height that will allow fluid to flow slowly. The return from the irrigation may be collected in a closed or open-ended bag. The latter will allow the return to empty into a basin or toilet. The return of fluid and feces should be completed in less than one-half hour after irrigating fluid has entered the bowel.

At the completion of the irrigating process, the skin and stoma should be carefully cleaned and the dressing or pouch replaced. The equipment should be cleaned thoroughly and stored in a dry, well-ventilated space. When irrigation of an ostomy is provided for a hospitalized patient, charting is done on the amount and kind of fluid instilled, the amount and character of return, the care provided for the stoma, the condition of the stoma, and if a pouch or bag is replaced.

**MISCELLANEOUS CONSIDERATIONS:** Odor may be controlled by avoiding foods that the individual finds to cause undesirable odors. Chlorophyll or bismuth subgallate tablets may control odor as well. Gas may be controlled by avoiding foods known to produce gas, which will vary from patient to patient, and with the use of simethicone products. The diet should be planned to provide a stool consistency that will be nei-



ther hard and constipating nor loose and watery. The patient may learn this by trial and error and by consulting with nutritionists and ostomy club members. Daily physical activity, sexual relations, and swimming are all possible. **SEE:** *illus.*



**OSTOMY APPLIANCE**

**Oswestry disability index, Oswestry disability scale, Oswestry disability score** (ōs-wēs'trē) A questionnaire that requires the patient to rate the effect of back pain on 10 different activities, each having six levels of disability. This test was designed to assess patients with failed back surgery but is widely used for patients with other spinal conditions.

**ot-** SEE: *oto-*.

**OT** *occupational therapy.*

**otalgia** (ō-tāl'jē-ā) [Gr.] Pain in the ear.

**SYN:** *earache; otodynia.*

**TREATMENT:** Local treatment consists of application of heat in the form of compresses or a hot water bottle or instillation of warm glycerin in the affected ear. Generally, nasal astringents help maintain the patency of the eustachian tube, and appropriate systemic antibiotics may be used if there is an infection.



Medicines should not be placed in the external auditory canal unless the eardrum is intact.

**Ota's nevus** (ō'tāz) Blue, gray, or black macular discoloration of the skin, typically above or just below the eyes. It may be congenital or appear in childhood or adolescence. Close follow-up of this lesion is needed because malignant melanoma may develop in it. **SEE:** *mongolian spot.*

**OT(C)** *occupational therapist (Canada);* one who is certified by the Canadian Association of Occupational Therapists.

**OTC** *over the counter;* refers to drugs and devices available without a prescription.

**OTD** *organ tolerance dose;* the maximum amount of radiation tolerated by specific tissues.

**Othello syndrome** (ō-thēl'ō) [Fr. Shakespeare's *Othello* (1604)] The paranoid delusion that one's spouse is unfaithful.

**otic** (ō'tik) [Gr. *otikos*] Concerning the ear.

**otitis** (ō-tī'tis) [Gr. *otos*, ear, + *itis*, inflammation] Inflammation of the ear. It is differentiated as externa, media, and interna, depending upon which portion of the ear is inflamed. **otitic** (ō-tit'ik), *adj.*

**acute o. media** ABBR: AOM. The presence of fluid in the middle ear accompanied by signs and symptoms of local or systemic infection. In the U.S. 12,000,000 cases of otitis media are estimated to occur each year. More than 90% of children experience at least one episode by age 2 years. Because infants and children have short, horizontal eustachian tubes, they are at risk for obstructions of the middle ear, allowing fluid to accumulate and bacteria to proliferate in the fluid, resulting in inflammation and infection.

**ETIOLOGY:** The most common causes are viruses, such as respiratory syncytial virus (RSV) and influenza virus, and bacteria, including *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis*. Risk factors for middle ear infection include age under 2 years, exposure to family members or others with respiratory infections, day care attendance, lower socioeconomic status, exposure to second-hand smoke or wood-burning stoves, allergies, excessive use of a pacifier, and feeding with a propped bottle or in a supine position.

**SYMPTOMS:** There may be pain in the ear, drainage of fluid from the ear canal, ear-tugging, and hearing loss. Systemic signs include fever, irritability, headache, lethargy, anorexia, and vomiting. History of a recent upper respiratory infection is common.

**TREATMENT:** Since AOM is usually self-limiting and resolves in 1 to 2 weeks without antibiotics, the best approach is to watch and wait, explaining to parents that if the child does not show improvement in 2 to 3 days, an antibiotic may be needed, but that inappropriate use of antibiotics leads to bacteria that are resistant to these drugs. Antibiotics, however, should be prescribed for the child under age 2 or when the eardrum is bulging and fever is present. Amoxicillin is the drug of choice when antibiotics are required. Parents should be warned that if improvement is not seen in 2 to 3 days on this therapy, the primary care provider should be notified, because this may indicate that the causative bacteria are amoxicillin-resistant, requiring a

different drug, such as amoxicillin-clavulanate (Augmentin), cefuroxime (Ceftin) or ceftriaxone (Rocephin). Anesthetic eardrops may be prescribed if the tympanic membrane is intact and there is no discharge from the ear. Antihistamines, decongestants, homeopathic, and naturopathic remedies are not beneficial in AOM and should not be given. Pain is usually treated with acetaminophen or ibuprofen. Cold or hot pack applications help to ease the pain, as does positioning the child with the head propped up. Some evidence suggests that vaccinations against common viral illnesses (such as influenza and RSV) will diminish the incidence of AOM.

Vaccination against *Streptococcus pneumoniae* prevents ear infections and limits the need for giving antibiotics in children.

**DIAGNOSIS:** Clinical diagnosis relies on the visualization of a red tympanic membrane with limited mobility (established by pneumatic otoscopy or tympanogram). Definitive diagnosis of the causative organism relies on tympanocentesis, that is, puncturing the eardrum with a needle to aspirate and culture the fluid in the middle ear. This test is rarely performed in routine outpatient care.

**PATIENT CARE:** Because some children are prone to recurrences, parents are taught to recognize signs of otitis media and to seek medical assistance when their child complains of pain or they observe the child tugging his ears or demonstrating pain in other ways. Parents should be taught to help prevent recurrent AOM by not smoking or allowing smoking around children. Parents who smoke should be encouraged to quit, or at the very least to limit their smoking to out-of-doors. Use of pacifiers should be limited, because the pressure of vigorous sucking opens the eustachian tubes, allowing nasopharyngeal secretions to enter the middle ear. Breast-feeding should be encouraged for at least the first 3 months to enhance transfer of antibodies and reduction of infections. Bottle-fed infants should never be propped with the bottle and should have the head elevated during feedings. Parents should be reminded that good hand hygiene is the best way to prevent the spread of infections, and that, if the child is in day-care, they should make sure the facility has soap and sinks readily available and enforces hand hygiene policies. Failure to treat acute and chronic ear infections may lead to spontaneous rupture of the eardrum, temporary or permanent hearing loss in children, and subsequent communication disorders; therefore, parents must understand the importance of proper medical follow-up. The child

should be referred to an ENT specialist for evaluation in the presence of recurrent AOM (6 episodes in 12 months), associated complications (mastoiditis), AOM that does not respond to treatment, and problems with hearing, speech, or language.

**allergic o. media** Otitis media with effusion.

**o. externa** Infection or inflammation of the external auditory canal. It may be caused by a contact allergy, an acute bacterial infection, or by fungi. In diabetics and the immunosuppressed patient, the infection may invade the base of the skull, resulting in deep bone infection.

**furuncular o.** A furuncle formation in the external meatus of the ear.

**o. interna** Labyrinthitis.

**o. labyrinthica** Inflammation of the labyrinth of the ear.

**o. mastoidea** Inflammation of the middle ear, involving the mastoid spaces.

**o. media** Acute otitis media.

**o. media with effusion** The presence of fluid in the middle ear without signs or symptoms of acute infection. This causes retraction of the eardrum. Upon examination, a level of air fluid may be seen through the tympanic membrane. The cause of the obstruction may be enlarged adenoid tissue in the pharynx, inflammation in the pharynx, tumors in the pharyngeal area, or allergy. **SYN:** *allergic o. media; nonsuppurative o. media; secretory o. media; serous o. media.*

**TREATMENT:** Nasal decongestants may afford symptomatic relief. The use of antibiotics is controversial. Adenoidectomy and bilateral myringotomy may be necessary if conservative measures, including insertion of a ventilation or tympanostomy tube, are not effective. Adenoidectomy is not advisable in children under 4 years of age. **SEE:** *tympanocentesis; tympanostomy tube.*



The routine use of grommets, also called ventilation tubes, as part of the initial therapy for otitis media is not advised. Their use should be reserved for persistent or recurrent infections that have failed to respond to appropriate therapy.

**o. mycotica** Inflammation of the ear caused by a fungal infection.

**necrotizing o. externa** Infection of the base of the skull that originates in the external auditory canal. It is usually caused by infection with the bacterium *Pseudomonas aeruginosa*. The disease occurs most often in diabetic and other immunocompromised patients. It may be life-threatening and requires prolonged antibiotic therapy. Hyperbaric

oxygen treatments are used in patients with the most advanced and refractory disease.

**nonsuppurative o. media** Otitis media with effusion.

**o. parasitica** Inflammation of the ear caused by a parasite.

**secretory o. media** Otitis media with effusion.

**serous o. media** Otitis media with effusion.

**oto-, ot-** [Gr. *otos*, ear] Combining forms meaning *ear*.

**otoacoustic** (ō'tō-ă-koo'stīk) [" + "]  
1. Pert. to or aiding hearing. 2. A device to aid hearing; an ear trumpet.

**otoacoustic emissions test** ABBR: OAE test. A screening test for deafness that assesses the functioning of the cochlea. It is used esp. in newborns as a quick way of identifying possible congenital hearing loss. The test is performed by placing a probe in the external ear canal. The probe emits a series of clicks and then measures the echoes returning from the cochlea.

**otocephaly** (ō'tō-sēf'ă-lē) [" + *kephale*, head] A congenital absence of the lower jaw and fusion or near fusion of the ears on the front of the neck.

**otocyst** (ō'tō-sīst) [" + *kystis*, sac, bladder] An embryonic chamber from which the membranous labyrinth arises.

**otodynia** (ō'tō-dīn'ē-ă) [" + *odyne*, pain] Otalgia.

**otogenic, otogenous** (ō'tō-jěn'īk, ō-tōj'ēn-ūs) [" + *gennan*, to produce] Originating in the ear.

**otolaryngologist** (ō'tō-lar'īn-gōl'ō-jīst) [" + *larynx*, larynx, + *logos*, word, reason] A specialist in otolaryngology.

**otolaryngology** (ō'tō-lar'īn-gōl'ō-jē) The division of medical science that includes otology, rhinology, and laryngology.

**otolith** Microscopic crystals of calcium carbonate on the hair cells of the maculae of the utricle and saccule of the middle ear. These are important in sensing the orientation to gravity. SYN: *statoconia*; *statolith*.

**otological** (ō'tō-lōj'ī-kāl) [" + *logos*, word, reason] Relating to study of diseases of the ear.

**otologist** (ō-tōl'ō-jīst) One knowledgeable in the anatomy, physiology, and pathology of the ear; a specialist in diseases of the ear.

**otology** (ō-tōl'ō-jē) [Gr. *otos*, ear, + *logos*, word, reason] The science dealing with the ear, its function, and its diseases.

**otomycosis** (ō'tō-mū'kor-mī-kō'sīs) [" + L. *mucor*, mold, + Gr. *mykes*, fungus, + *osis*, condition] *Mucormycosis* of the ear.

**otomycosis** (ō'tō-mī-kō'sīs) [" + " + *osis*, condition] An infection of the external auditory meatus of the ear

caused by a fungus. SYN: *myringomycosis*.

**otoneurology** (ō'tō-nū-rōl'ō-jē) [" + " + *logos*, word, reason] The division of otology that deals with the inner ear, esp. its nerve supply, nerve connections with the brain, and auditory and labyrinthine pathways and centers within the brain. SYN: *neuro-otology*.

**otopharyngeal** (ō'tō-fār-in'jē-ăl) [" + *pharynx*, throat] Concerning the ear and pharynx.

**otopharyngeal tube** Eustachian tube.

**otoplasty** (ō'tō-plās'tē) [" + *plassein*, to form] Plastic surgery of the ear to correct defects and deformities.

**otorhinology** (ō'tō-rī-nō-lār'īn-gōl'ō-jē) [" + *rhis*, nose, + *larynx*, larynx, + *logos*, word, reason] The science of the ear, nose, and larynx, and their functions and diseases.

**otorhinology** (ō'tō-rī-nōl'ō-jē) [" + " + *logos*, word, reason] The branch of medicine dealing with the ear and nose and their diseases.

**otorrhea** (ō'tō-rē'ă) [" + *rhein*, flow] Inflammation of ear with purulent discharge. SEE: *otitis*.

**cerebrospinal fluid o.** Leakage of cerebrospinal fluid from the external auditory canal. It is usually the result of prior surgery to the ear or mastoid bone or of trauma to the skull, and may predispose patients to meningitis.

**otosclerosis** (ō'tō-sklē-rō'sīs) [" + *skle-rosis*, hardening] Chronic progressive deafness, esp. for low tones. It is caused by the formation of spongy bone, esp. around the oval window, with resulting ankylosis of the stapes. In the late stages of this condition, atrophy of the organ of Corti may occur. The cause of this condition is unknown, but it may be familial. It is more common in women and may be made worse by pregnancy.

TREATMENT: Because the three bones of the middle ear become fused, patients cannot normally transmit sound to the inner ear from the vibrations of the tympanic membrane. Various surgical procedures, including stapedectomy, have been used with considerable improvement in hearing.

**otoscope** (ō'tō-skōp) [" + *skopein*, to examine] A device for examination of the ear.

**otoscopy** (ō-tōs'kō-pē) The use of an otoscope in examining the ear.

**otospongiosis** (ō'tō-spūn'jē-ō'sīs) The growth of bony tissue within the labyrinth of the inner ear, which may cause significant hearing loss.

**otosteal** (ō-tōs'tē-ăl) [" + *osteon*, bone] Pert. to the bones (ossicles) of the middle ear.

**ototoxic** (ō'tō-tōk'sīk) [" + *toxikon*, poison] Having a detrimental effect on the eighth nerve or the organs of hearing.

**OTR/L** *Licensed Occupational Therapist.*

**Ottawa ankle rules** ABBR: OAR. Practice guidelines developed in Canada in 1992 to reduce the number of unnecessary ankle x-rays in emergency departments. The inability to walk four steps or the presence of point tenderness over the posterior half of the lateral malleolus or the base of the fifth metatarsal warrant radiographic examination. SEE: *modified Ottawa ankle rules*.

**Otto pelvis** (öt'ō) [Adolph W. Otto, Ger. surgeon, 1786–1845] The protrusion of the acetabulum into the pelvic cavity. This condition may occur in association with severe osteoarthritis of the hip.

**O.U., o.u.** L. *oculus uterque*, each eye.

**-ous** 1. Suffix meaning *possessing, full of*.  
2. Suffix meaning *pertaining to*.

**outbreak** The sudden increase in the incidence of a disease or condition.

**outbreeding** The mating of unrelated (or very distantly related) members of a species. It is the opposite of inbreeding.

**outcome** A result or consequence (e.g., of a disease, an interpersonal interaction, a chemical reaction, drug, or operation).

**o. criteria** Predetermined goals for quality assurance and improvement.

**expected o.** 1. The anticipated results of a therapeutic intervention.  
2. The anticipated findings of a scientific investigation. Expected outcomes are most useful when they are described in precisely defined terms.

**functional o.** In rehabilitation therapy, a long-term goal toward which a therapeutic program is directed to help a patient return to or achieve a specific activity level.

**positive o.** In health care, the remediation of functional limitations or disability; the prevention of illness or injury; or an improvement in patient satisfaction.

**outcome and assessment information set** ABBR: OASIS. A group of items that represent the core of a comprehensive assessment for adult home health patients. It forms the basis for measuring patient outcomes for purposes of Outcomes Based Quality Improvement (OBQI) and Medicare reimbursement.

The data set is composed of 79 health and functional status patient assessment items that are discipline-neutral. When measured at two or more points in time, they serve as outcome measures.

**outflow** In neurology, the passage of impulses outwardly from the central nervous system.

**craniosacral o.** Impulses passing through parasympathetic nerves.

**outlet** 1. A vent or opening through which something can escape. 2. The lower pelvic opening between the tip of the coccyx, the ischial tuberosities, and the lower margin of the symphysis pu-

bis. 3. A pharmacy or other agency that dispenses medications.

**pelvic o.** Outlet (2).

**quick-connect o.** A device that allows a compressed gas container to be quickly connected to and disconnected from the delivery unit.

**out-of-body experience** The perception of being away from and overlooking oneself; the feeling that the mind has separated from the body.

**out-of-hospital** A term used in emergency medicine to mean "in the field," "in the community," "at the patient's home or workplace," or "prehospital." Assessments performed and treatments given out-of-hospital often stabilize a patient or initiate critically needed care.

**out-of-pocket expenses** The financial obligations for health care services that must be paid by the insured participant in a health benefits plan. Examples of such expenses include copayments or deductibles.

**outpatient** One who receives treatment at a hospital, clinic, or dispensary but is not hospitalized.

**outpocketing** Evagination.

**output** 1. Information sent from a computer to an external device such as a display screen, disk drive, printer, or modem. 2. That which is produced, ejected, or expelled.

**cardiac o.** SEE: *cardiac output*.

**energy o.** The work expended by the body per unit of time.

**urinary o.** The amount of urine produced by the kidneys.

**outtrigger** An attachment for hand splints that permits the fingers to be placed in elastic traction.

**outsourcing** A method in which services usually provided by the health care agency are now allocated to another firm or agency.

**ova** (ō'vā) [L. *ovum*, egg] Pl. of ovum.

**oval** (ō'vāl) [L. *ovalis*, egg shaped] 1. Concerning an ovum, the reproductive cell of the female. 2. Having an elliptical shape like an egg.

**ovalbumin** (ō'vāl-bū'min) [" + *albumen*, white of egg] Albumin occurring in egg white. Ovalbumin is one of the major allergens found in egg white. Allergens present in ovalbumin are designated *Gad d* by the World Health Organization.

**ovalocyte** (ō'vāl-ō-sīt") [" + Gr. *kytos*, cell] An elliptical red blood corpuscle.

**ovalocytosis** (ō'vāl"ō-sī-tō'sis) [" + " + *osis*, condition] An abnormally large amount of elliptical red blood cells in the blood.

**ovarialgia, ovarialgia** (ō'vār-āl'jē-ā, -ē-āl'jē-ā) [LL. *ovarium*, ovary, + Gr. *algos*, pain] Ovarian pain.

**ovari-** SEE: *ovario-*.

**ovarian** (ō-vā'rē-ān) [LL. *ovarium*,

ovary] Concerning or resembling the ovary.

**ovarian cyst** A fluid-filled sac that develops in the ovary and consists of one or more chambers. Although nonmalignant, the cyst may have to be removed surgically because of twisting of the pedicle, which causes gangrene, or because of pressure. SEE: *polycystic ovary syndrome*.

**ovarian factor** Any cause of female infertility that results from failure of egg production by the ovaries.

**ovarian hyperstimulation syndrome** ABBR: OHSS. A potentially life-threatening complication that may occur in women receiving drugs to stimulate ovulation. The acute onset occurs within the first week ovulation is induced and is characterized by marked cystic ovarian enlargement, ascites, hydrothorax, arterial hypotension, tachycardia, hemoconcentration, oliguria, sodium retention, hypernatremia, and in severe cases renal failure. The condition is usually mild if the diameter of the ovary is less than 8 cm; moderate if 8 to 12 cm; and severe if greater than 12 cm.

Treatment includes symptomatic therapy to maintain circulatory function, bedrest, a low-sodium diet, and diuretic therapy. The life-threatening possibility can be avoided with close monitoring and withholding of drugs if ovarian response becomes excessive.

**ovarian reserve** The number of remaining oocytes or follicles in the ovaries. The number typically falls with increasing age; it also declines as a result of some types of chemotherapy. Women with very limited ovarian reserves may have difficulty conceiving a child without assisted reproductive techniques.

**ovarian stimulation** A treatment for female infertility that encourages the ovaries to produce and release more eggs than they normally do during each monthly cycle.

**ovariectomy** (ō'vā-rē-ĕk'tō-mē) [" + Gr. *ektome*, excision] The partial or complete excision of an ovary. SEE: *oophorectomy*.

**ovario-, ovari-** [LL. *ovarium*, ovary] Combining forms meaning ovary.

**ovariocele** (ō-vā'rē-ō-sēl) [" + Gr. *kele*, tumor, swelling] An ovarian tumor or hernia.

**ovariocentesis** (ō-vā'rē-ō-sēn-tē'sīs) [" + Gr. *kentesis*, puncture] Surgical puncture and drainage of an ovarian cyst.

**ovariocyesis** (ō-vā'rē-ō-sī-ē'sīs) [" + Gr. *kyesis*, pregnancy] An ectopic pregnancy in an ovary. SEE: *gestation, ectopic*.

**ovariogenic** (ō-vā'rē-ō-jēn'ĭk) [" + *gennan*, to produce] Originating in the ovary.

**ovariopexy** (ō-vā'rē-ō-pēk'sē) [" +

*pexis*, fixation] Surgical fixation of the ovary to the abdominal wall.

**ovariorrhexis** (ō-vā'rē-ō-rĕk'sīs) [" + Gr. *rhexis*, a rupture] Rupture of an ovary.

**ovariostomy** (ō-vā'rē-ōs'tō-mē) [" + Gr. *stoma*, mouth] The creation of an opening in an ovarian cyst for the purpose of drainage.

**ovariotomy** (ō-vā'rē-ōt'ō-mē) [LL. *ovarium*, ovary, + Gr. *tome*, incision]

1. The incision or removal of an ovary.

2. The removal of a tumor of the ovary.

**ovariotubal** (ō-vā'rē-ō-tū'bāl) [" + *tuba*, a narrow duct] Concerning the ovary and oviducts.

**ovaritis** (ō'vā-rī'tīs) [" + Gr. *itis*, inflammation] The acute or chronic inflammation of an ovary, usually secondary to inflammation of the oviducts or pelvic peritoneum. It may involve the substance of the organ (oophoritis) or its surface (perioophoritis).

**ovarium** (ō-vā'rē-ŭm) *pl. ovaria* [LL.] The ovary.

**ovary** (ō'vā-rē) [LL. *ovarium*, ovary] One of two almond-shaped glands in the female that produces the reproductive cell, the ovum, and three hormones: estrogen, progesterone, and inhibin. The ovaries lie in the fossa ovarica on either side of the pelvic cavity, attached to the uterus by the utero-ovarian ligament, and close to the fimbria of the fallopian tube. Each ovary is about 4 cm long, 2 cm wide, and 8 mm thick and is attached to the broad ligament by the mesovarium and to the side of the pelvis by the suspensory ligament. At menarche, the surface of the ovary is smooth; at menopause, the rupture and atrophy of follicles make it markedly pitted.

Each ovary consists of two parts. The outer portion (cortex) encloses a central medulla, which consists of a stroma of connective tissue containing nerves, blood and lymphatic vessels, and some smooth muscle tissue at region of hilus. The cortex consists principally of follicles in various stages of development (primary, growing, and mature or graafian). Its surface is covered by a single layer of cells, the germinal epithelium, beneath which is a layer of dense connective tissue, the tunica albuginea. Each of the 400,000 follicles present in the ovaries at birth has the potential for maturity, but fewer than 600 mature during a woman's reproductive years (usually one per cycle). Other structures (corpus luteum, corpus albicans) may be present. The blood supply is mainly derived from the ovarian artery, which reaches the ovary through the infundibulopelvic ligament. SEE: *fertilization* for illus.; *oogenesis* for illus.

**PHYSIOLOGY:** The functional activity of the ovary is controlled primarily by gonadotropins of the hypophysis, fol-

hicle-stimulating hormone (FSH), and luteinizing hormone (LH). The hormones produced are estrogen, progesterone, and inhibin. Estrogen is secreted by the developing follicle and by the corpus luteum if the ovum is fertilized. Estrogen stimulates development of the secondary sexual characteristics, growth of the mammary glands, and growth of the endometrium for possible implantation of a fertilized egg. Progesterone is secreted by the corpus luteum; it contributes to growth of the endometrium and mammary glands. Inhibin is secreted by cells of the follicle and the corpus luteum; it decreases the secretion of FSH.

**overbite** The vertical extension of the incisal ridges of the upper teeth over the incisal ridges of the lower anterior teeth when the jaws are in occlusion. SYN: *closed bite*; *overclosure*.

**overclosure** Overbite.

**overcompensation** The process by which a person substitutes an opposite trait or exerts effort in excess of that needed to compensate for, or conceal, a psychological feeling of guilt, inadequacy, or inferiority. It may lead to maladjustment.

**overcorrection** The use of too powerful a lens to correct a defect in the refractive power of the eye.

**overdenture** A denture supported by the soft tissue and whatever natural teeth remain. These have been altered so the denture will fit over them.

**PATIENT CARE:** Patients with overdentures must remove and thoroughly clean the denture daily.

**overdetermination** The idea in psychoanalysis that every symptom and dream may have several meanings, being determined by more than a single association.

**overdistention** (ō'vēr-dīs-tēn'shīn) Excessive stretching, insufflation, or inflation of an organ, e.g., of the lungs during mechanical ventilation or of the urinary bladder in bladder outlet obstruction.

**overdose** ABBR: OD. An excessive and potentially toxic amount of a medication, given in error or taken intentionally (e.g., by patients making suicide gestures or suicide attempts).

**overeruption** A condition in which the occluding surface of a tooth projects beyond the line of occlusion. SYN: *supereruption*; *supraocclusion*.

**overexertion** Physical exertion to a state of abnormal exhaustion.

**overexposure** (ō'vēr-ĕk-spō'zhūr) Excessive contact with chemicals, drugs, physical agents, or psychological stimuli.

**overextension** In dentistry, the assessment of the vertical extent of a root canal filling, denoting an extrusion beyond the apical foramen.

**overflow** The continuous escape of fluid

from a vessel or viscous, as of urine or tears.

**overgrowth** 1. Excessive growth. SYN: *hyperplasia*; *hypertrophy*. 2. In bacteriology, the growth of one type of microorganism on a culture plate so that it covers and obscures the growth of other types.

**overgrowth syndrome** A general term for a group of disorders of childhood physical development in which head circumference and height are larger than normal, and there is a tendency to develop malignant tumors.

**overhang** The undesirable extension of filling material beyond the margins of a cavity preparation.

**TREATMENT:** Treatment includes reshaping or replacing the restoration.

**overhydration** (ō'vēr-hī-drā'shūn) An excess of fluids in the body.

**overjet** (ō'vēr-jēt) Horizontal overlap of the teeth, esp. between the lingual surface of the maxillary incisors and the labial surfaces of the mandibular incisors.

**overlap** Something that covers the tissue or object but also extends past the border.

**overlap syndrome** A rheumatological disorder with features suggestive of several kinds of connective tissue disease, but not definitively diagnostic of any single syndrome. Overlap syndromes typically have elements of systemic lupus erythematosus, rheumatoid arthritis, and progressive systemic sclerosis, among other illnesses.

**overlay** 1. An addition superimposed upon an already existing state. 2. In dentistry, a cast restoration for the occlusal surface of one or more cusps of a tooth but not a three-quarter or full-cast crown.

**psychogenic o.** The emotional component of a symptom or illness that has an organic basis.

**overlaying** (ō'vēr-lā'īng) The asphyxiation of an infant when a larger person lies on top of the baby and presses his or her face into the bed, preventing the infant from breathing.

**overmedication** Side effects, drug interactions, or other potential problems that result from the excessive use or excessive prescription of medications. Overmedication is a common problem in the elderly, who may have multiple diseases and conditions and multiple health care providers.

**overpressure** A force applied passively to a joint and surrounding soft tissue at the end of the range of motion in order to determine the end feel of the tissues.

**overproduction** Excessive output of an organic element during the reparative process, as in excessive callus development after a bone fracture. SEE: *keloid*.

**overprotection** Limitation of the behavior or autonomy of another person due

to excessive concern for that person's safety or ability to function independently.

**over-response** An abnormally intense reaction to a stimulus; an inappropriate degree of response.

**overriding** The slipping of one end of a fractured bone past the other part.

**overshoot** A response to a stimulus that is greater than would normally be expected.

**overt** (ō-věrt) [O.Fr. "open"] Easily observable; clinically obvious; symptomatic. When said of diseases, it is the opposite of occult.

**overtoe** (ō'vēr-tō) Hallux varus of the great toe to the extent that it rests over the other toes.

**overuse syndrome** An injury to musculoskeletal tissues typically affecting the upper extremity or cervical spine, resulting from repeated movement, temperature extremes, overuse, incorrect posture, or sustained force or vibration. Resulting disorders include carpal tunnel syndrome, tenosynovitis, tendinitis, pronator syndrome, peritendinitis, thoracic outlet syndrome, and cervical syndrome. Treatment for these conditions often involves surgery or immobilization. There is a growing awareness of the importance of prevention through education, task modification, and workplace design based on ergonomic principles. SYN: *cumulative trauma syndrome*; *repetitive motion injury*; *repetitive strain injury*. SEE: *ergonomics*.

**overvalued idea** An unreasonable and strongly held belief or idea. Such a belief is beyond the norm of beliefs held or accepted by other members of the person's culture or subculture.

**overweight** (ō-vur-wāt') **1.** Having weight in excess of what is normal for a person's age, height, and build. **2.** Having a body mass index (BMI) that exceeds the 95th percentile of other people of the same age. **3.** Having a body mass index greater than 25 and less than 30.

**ovi-** [L. *ovum*, egg] Combining form meaning egg.

**ovi albumin** (ō'vē-āl-bū'mīn) [L.] Ovalbumin.

**ovicide** (ō'vī-sīd) [L. *ovum*, egg, + *caedere*, to kill] An agent destructive to ova.

**oviduct** (ō'vī-dūkt) [" + *ductus*, a path] Fallopian tube.

**oviferous** (ō-vīf'ēr-ūs) [" + *ferre*, to bear] Containing or producing ova.

**oviform** (ō'vī-form) [" + *forma*, shape] **1.** Having the shape of an egg. **2.** Resembling an ovum.

**ovigenesis** (ō'vī-jěn'ē-sīs) [" + Gr. *gennan*, to produce] Oogenesis.

**ovigerms** (ō'vī-jěrm) [" + *germen*, a bud] The cell that produces or develops into an ovum.

**ovine** (ō'vīn) [L. *ovinus*, of a sheep] Concerning sheep.

**oviparity** (ō'vī-pār'ī-tē) The quality of being oviparous.

**oviparous** (ō-vīp'ār-ūs) [L. *ovum*, egg, + *parere*, to produce] Producing eggs that are hatched outside the body; egg laying; the opposite of ovoviviparous.

**oviposition** (ō'vī-pō-zīsh'ūn) [" + *ponere*, to place] The laying of eggs as in oviparous reproduction.

**ovipositor** (ō'vī-pōs'ī-tor) A specialized tubular structure found in many female insects, through which they lay their eggs in plants or soil.

**ovo-** [L. *ovum*, egg] Combining form meaning egg.

**ovocenter** (ō'vō-sēn'tēr) The centrosome of a fertilized ovum.

**ovocyte** (ō'vō-sīt) [" + *kytos*, cell] Oocyte.

**ovoflavin** (ō'vō-flā'vīn) [" + *flavus*, yellow] A flavin derived from eggs; identical to riboflavin.

**ovogenesis** (ō'vō-jěn'ē-sīs) [" + Gr. *genesis*, generation, birth] Production of ova. SYN: *oogenesis*.

**ovoglobulin** (ō'vō-glōb'ū-līn) [" + *globulus*, globule] The globulin found in egg white. SEE: *albumin*; *protein*, *simple*.

**ovoid** (ō'voyd) [L. *ovum*, egg, + Gr. *eidos*, form, shape] **1.** Shaped like an egg. **2.** A cylindrical apparatus attached to a handle, used as a pair to hold a radioactive source during brachytherapy of the cervix.

**ovomucin** (ō'vō-mū'sīn) A glycoprotein in the white of an egg.

**ovomucoid** (ō'vō-mū'koyd) [" + *mucus*, mucus, + Gr. *eidos*, form, shape] A glycoprotein derived from egg whites. It is a major allergen for people who are allergic to egg whites. Abbreviated *Gal d* by the World Health Organization.

**ovoplasm** (ō'vō-plāzm) [" + LL. *plasma*, form, mold] The protoplasm of an unfertilized egg. SEE: *ooplasm*.

**ovotestis** (ō'vō-tēs'tīs) A gonad that contains both testicular and ovarian tissue.

**ovovitellin** (ō'vō-vī-těl'īn) [" + *vitellus*, yolk] A protein found in an egg yolk.

**ovoviviparous** (ō'vō-vī-vīp'ā-rūs) [" + *vivus*, alive, + *parere*, to bring forth, to bear] Reproducing by eggs that have a well-developed membrane and that hatch inside the maternal organism; opposite of oviparous.

**ovular** (ō'vū-lār) [L. *ovulum*, little egg] Concerning an ovule or ovum.

**ovulation** (ō'vū-lā'shūn) [L. *ovulum*, little egg] The periodic ripening and rupture of the mature graafian follicle and the discharge of the ovum from the cortex of the ovary. Under the influence of follicle-stimulating hormone secreted by the anterior pituitary, the follicle matures. The enlarging and maturing follicle causes a slight protrusion of the ovarian surface. Final follicular matu-

ration and rupture occur in response to a sudden surge of luteinizing hormone. The ovum is expelled, captured by the fimbriae, and guided into the fallopian tube. Rapid changes occur in the ruptured follicle as it becomes the corpus luteum and secretes large amounts of progesterone. In the absence of fertilization, the corpus luteum degenerates within about a week, forming a fibrous scar known as corpus albicans. SEE: *conception*; *fertilization* for *illus*; *menstrual cycle* for *illus*.

**ovulation induction** Stimulating ovulation by the use of drugs such as clomiphene citrate, bromocriptine, human menopausal gonadotropin, or gonadotropin-releasing hormone. SEE: *fertilization, in vitro*; *syndrome, ovarian hyperstimulation*.

**ovulatory** (ōv'ū-lā-tō'rē) Concerning ovulation.

**ovule** (ō'vūl) [L. *ovulum*] **1.** The ovum in the graafian follicle. **2.** A small egg.

**ovulogenous** (ō-vū-lōj'ēn-ūs) **1.** Giving rise to ovules or ova. **2.** Originating from an ovule or ovum.

**ovum** (ō'vūm) *pl. ova* [L., egg] **1.** The female reproductive or germ cell. **2.** A cell that is capable of developing into a new organism of the same species. Usually fertilization by a spermatozoon is necessary, although in some lower animals ova develop without fertilization (parthenogenesis). SEE: *conception*; *fertilization*; *menstrual cycle*; *menstruation*.

**alecithal o.** An ovum with a small yolk portion that is distributed throughout the protoplasm. SYN: *isolecithal o.*

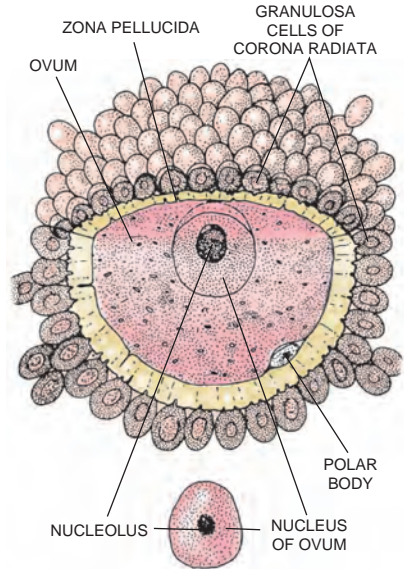
**centrolecithal o.** An ovum having a large central food yolk, as in a bird's egg.

**holoblastic o.** An ovum that undergoes complete cleavage, as opposed to partial or meroblastic cleavage.

**human o.** The female gamete, required for reproduction. The ovum develops from an oogonium within the graafian follicle of the ovary and matures through the meiotic process of oogenesis. A mature ovum is about 0.13 to 0.14 mm (0.0051 to 0.0055 in) in diameter. At ovulation, the ovum is bounded by a translucent cellular membrane (the zona pellucida), which is connected to a layer of follicular cells (the corona radiata); these cells enclose the cytoplasm, nuclei, and chromatin material. The exact time during which a human ovum is capable of fertilization and further development before degenerating is not known; however, it is probably 24 hr. SEE: *illus. oogenesis*; *ovulation*.

**isolecithal o.** Alecithal ovum.

**mature ovum** A secondary oocyte that has completed its second meiotic division as a result of contact with a



HUMAN OVUM

sperm. The nucleus of the mature ovum becomes the female pronucleus.

**meroblastic o.** An ovum in which only the protoplasmic region undergoes cleavage, characteristic in ova containing a large amount of yolk.

**permanent o.** An ovum ready for fertilization.

**primordial o.** A germ cell that arises very early in the development of the embryo, usually in the yolk sac endoderm, migrates into the urogenital ridge, and is the precursor for the functional gamete.

**teleolecithal o.** An ovum in which the yolk is fairly abundant and tends to concentrate in one hemisphere.

**Owren's disease** (ō'rēnz) [Paul A. Owren, Norwegian hematologist, 1905–1990] Parahemophilia.

**ox-** Combining form indicating *oxygen*.

**oxa-** Combining form indicating the presence of oxygen in place of carbon.

**oxal-, oxalo-** Combining forms indicating derivation from oxalic acid.

**oxalate** (ōk'sā-lāt) [Gr. *oxalis*, sorrel] A salt of oxalic acid.

**oxalemia** (ōk'sā-lē'mē-ā) [ʹ + *haima*, blood] Excess oxalates in the blood.

**oxalism** (ōks'āl-īzm) [Gr. *oxalis*, sorrel, + *-ismos*, condition] Poisoning from oxalic acid or an oxalate.

**oxaloacetic acid** (ōks'ā-lō-ā-sē'tik) A product of carbohydrate metabolism  $\text{HOOC}\cdot\text{CH}_2\cdot\text{CO}\cdot\text{COOH}$  resulting from oxidation of malic acid during the Krebs cycle. May be derived from other sources.

**oxaluria** (ōk-sā-lū'rē-ā) [ʹ + *ouron*,



urine] Excess excretion of oxalates in the urine, esp. calcium oxalate.

**oxazolidinone** (òk-sà'zò-lí-dí-nòn) Any of a class of antibiotics effective against gram-positive organisms that inhibit the manufacture of bacterial proteins. An example is linezolid.

**oxidant** (òk'sí-dánt) In oxidation-reduction reactions, the acceptor of an electron.

**oxidase** (òk'sí-dás) [Gr. *oxys*, sharp] A class of enzymes present in plant and animal cells that catalyzes an oxidation reaction; a respiratory enzyme.

**cytochrome o.** An enzyme present in most cells that oxidizes reduced cytochrome to cytochrome.

**oxidation** (òk'sí-dá'shün) [Gr. *oxys*, sharp] **1.** The process of a substance combining with oxygen. **2.** The loss of electrons in an atom with an accompanying increase in positive valence. SEE: *reduction* (2).

**oxidation-reduction reaction** A chemical interaction in which one substance is oxidized and loses electrons, and thus is increased in positive valence, while another substance gains an equal number of electrons by being reduced and thus is decreased in positive valence. This is called a redox system or reaction.

**oxide** (òk'síd) Any chemical compound in which oxygen is the negative radical.

**oxidize** (òk'sí-díz) **1.** To combine with oxygen. **2.** To increase the positive valence or to decrease the negative valence by bringing about a loss of electrons. SYN: *oxygenize*. SEE: *oxidation-reduction reaction*.

**oxidoreductase** (òk'sí-dò-rè-dük'tás) An enzyme that catalyzes oxidation-reduction reactions.

**oxim, oxime** (òk'sím) Any compound produced by the action of hydroxylamine on an aldehyde or ketone. When an aldehyde is involved, the general formula  $RCH = NOH$  is produced. When a ketone is acted upon,  $R_2CH = NOH$  is produced.

**oximeter** (òk-sím'è-tèr) [Gr. *oxys*, sharp, + *metron*, measure] An electronic device for determining the percentage of hemoglobin in arterial blood saturated with oxygen. The oximeter is usually attached to the tip of a finger (preferably the index, middle, or ring finger) but may sometimes be placed on a toe (if there is adequate circulation to the foot) or the bridge of the nose, the forehead, or an ear lobe.



The oximeter should not be so tight that it prevents circulation to the finger, toe, or ear lobe.

**ear o.** A clip-on device that determines the oxygen saturation of the blood flowing through the pinna.

**finger o.** A pulse oximeter that attaches to the finger.



**pulse o.** An oximeter that selectively measures oxygen saturation of "pulsed" (arterial) blood.

**oximetry** (òk-sím'è-trè) The use of an oximeter to determine the oxygen saturation of blood.

**oxindole** (òk'sín-dòl) Natural derivatives of tryptophan that are present in high concentrations in the brains of patients with hepatic encephalopathy. Chemicals from this class have sedative and antioxidant effects. Some evidence suggests oxindoles may be useful in the treatment of Alzheimer's dementia.

**oxy-** [Gr. *oxys*] **1.** Combining form indicating *sharp, keen, acute, acid, pungent*. **2.** Combining form indicating the presence of oxygen in a compound. **3.** Combining form indicating the presence of a hydroxyl group.

**oxybenzene** (òk'sè-bèn'zèn) Phenol.

**oxycellulose** (òks"è-sèl'lù-lòs) Cellulose that has undergone oxidation.

**oxychloride** (òk'sè-kló'rid) [Gr. *oxys*, sharp, + *chloros*, green] A compound consisting of an element or radical combined with oxygen and chlorine or the hydroxyl radical and chlorine.

**oxychromatic** (òk'sè-krò-mät'ík) [*"* + *chroma*, color] Staining readily with acid dyes.

**oxychromatin** (òk'sè-krò'mä-tín) The part of chromatin that stains readily with acid dyes.

**oxycodone** (òk'sè-kò'dòn) An opioid agonist administered orally or rectally to manage moderate to severe pain. Its therapeutic class is opioid analgesic.

**Oxycontin** Oxycodone in a long-acting form.

**oxycoxia** (òk'sè-è-koy'ä) [*"* + *akoe*, hearing] Abnormal sensitivity to noises.

**OxyFAST** Oxycodone in a long-acting form.

**oxygen** (òk'sí-jèn) [Gr. *oxys*, sharp, + *gennan*, to produce] **1.** A medicinal gas used in the management of anemia, bleeding, ischemia, shock, pulmonary edema, pneumonia, respiratory distress, ventilatory failure, obstructive lung diseases, pulmonary embolism, myocardial infarction, mountain sickness, smoke inhalation, carbon monoxide or cyanide poisoning, gangrene, and other illnesses where its presence in the body is temporarily or chronically insufficient. SEE: *oxygen therapy*. **2.** SYMB: O. A nonmetallic element occurring freely in the atmosphere (approx. 21% at sea level) as a colorless, odorless, tasteless gas; atomic weight 15.9994, atomic number 8. It is a constituent of animal, vegetable, and mineral substances, and is essential to respiration for most living organisms. At sea level,

it represents 10% to 16% of venous blood and 17% to 21% of arterial blood.

Oxygen is absorbed by most living organisms. During photosynthesis it is produced by green plants from carbon dioxide and water. When oxygen is used in cell respiration, the end products are water and carbon dioxide, the latter of which is returned to the atmosphere.

Oxygen combines readily with other elements to form oxides. When it combines with another substance, the process is called oxidation. When combination takes place rapidly enough to produce light and heat, the process is called combustion.

**ADMINISTRATION:** Oxygen is administered by mask, nasal tube, tent, or in an airtight chamber in which pressure may be increased. No matter how much oxygen is given, it is important to have it adequately humidified. It is desirable to administer oxygen at whatever rate is necessary to increase the oxygen content of inspired air to 50%. SEE: *hypoxia*.

**hyperbaric o.** The administration of oxygen under greater than normal atmospheric pressure (usually two to three times absolute atmospheric pressure). It has been used to treat air embolism, decompression sickness, severe carbon monoxide poisoning, some anaerobic infections, and to facilitate healing of indolent wounds. SEE: *hyperbaric oxygenation*.

**singlet o.** A highly active form of oxygen produced during reactions of hydrogen peroxide with superoxide and hypochlorite ions. It is believed that this free radical is bactericidal.

**transtracheal o.** Oxygen that is delivered to the lungs via a cannula placed directly into the trachea. SEE: *transtracheal oxygenation*.

**oxygenase** (ök'si-jěn-äs") [Gr. *oxys*, sharp, + *gennan*, to produce, + *-ase*, enzyme] An enzyme that enables an organism to use atmospheric oxygen in respiration.

**oxygenate** (ök'si-jěn-ät) To combine or supply with oxygen.

**oxygenation** (ök'si-jěn-äs-shün ) Saturation or combination with oxygen, as the aeration of the blood in the lungs.

**apneic o.** The supplying of oxygen to the upper airway of patients who are not breathing.

**hyperbaric o.** Administration of oxygen under increased pressure while the patient is in an airtight chamber. Pressure chambers in which the oxygen is hyperbaric have been used to treat carbon monoxide poisoning, anaerobic infections such as gas gangrene, necrotizing fasciitis, crush injuries with acute ischemia of tissues, compromised skin grafts and flaps, mixed soft tissue reactions, burns, smoke inhalation, car-

bon monoxide poisoning, soft tissue radiation necrosis, chronic refractory osteomyelitis, decompression sickness (bends), and gas embolism.



Hyperbaric oxygenation should not be used in untreated pneumothorax or premature infants.

**tissue o.** The oxygen level in tissues. Measurement of the oxygen concentration in body fluids is not as important as knowing the oxygen level in the tissues themselves. Determining the gastrointestinal interstitial pH provides an indication of the adequacy of tissue oxygenation. Decreased oxygen supply leads to anaerobic metabolism in cells, which produces a fall in pH. Thus the tissue pH serves as a marker for the adequacy of oxygen supply in the tissues.



**transtracheal o.** The application of oxygen via a catheter system inserted into the trachea.

**oxygenation index** ABBR: OI. A measure of the efficiency of oxygen exchange by the lungs. The index is used in critical care medicine to assess the severity of acute lung injury and to gauge the effectiveness of ventilator management strategies. Mathematically it is represented as the product of the fractional concentration of inspired oxygen and the mean airway pressure, divided by the arterial oxygen concentration.

**oxygenator** (ök'si-jěn-nä'tor) A device for mechanically oxygenating anything, but esp. blood, e.g., during thoracic surgery or open-heart surgery.

**bubble o.** A device for bubbling oxygen through the blood during extracorporeal circulation.

**intravenous membrane o.** An artificial lung that has been used experimentally to assist in the exchange of oxygen and carbon dioxide, esp. in patients with COPD, respiratory failure, or chest trauma.

**rotating disk o.** A device for oxygenating blood during extracorporeal circulation. A thin film of blood attaches to a disk as it dips into the blood flow. The portion of the disk not in the blood is rotating in an atmosphere of oxygen.

**screen o.** A device for oxygenating blood during extracorporeal circulation. The blood passes over a series of screens that are in an oxygen atmosphere. Oxygen is exchanged in the thin film of blood on the screens.

**oxygen capacity** The maximum amount of oxygen expressed in volume percent (cc per 100 ml) that a given amount of blood will absorb. For normal blood it is about 20 cc.


**oxygen concentrator** A device used for home oxygen therapy that removes most of the nitrogen from room air and


delivers the oxygen at a low flow rate.  
 SYN: *oxygen enricher*.

**oxygen content** The amount of oxygen in volume percent that is present in the blood at any one moment.

**oxygen content of blood, total** The sum of the oxygen bound to hemoglobin plus the oxygen dissolved in the blood.

**oxygen debt** After strenuous (i.e., anaerobic) physical activity, the oxygen required in the recovery period, in addition to that required while resting, to oxidize the excess lactic acid produced and to replenish the depleted stores of adenosine triphosphate and phosphocreatinase.

 **oxygen delivery** The amount of oxygen carried to the tissues, i.e., the cardiac output multiplied by the oxygen content of arterial blood.

 **oxygen delivery system** An apparatus that provides a concentration of inhaled oxygen greater than that of room air. A *fixed-performance* oxygen delivery system provides a consistent oxygen concentration. A *variable-performance* oxygen delivery system provides an oxygen concentration that may vary with changes in the patient's breathing pattern.


**oxygen-derived free radical** SEE: *oxygen radical*; *superoxide*.

**oxygen enricher** Oxygen concentrator.

**oxygen extraction** The difference between the partial pressure of oxygen leaving a tissue and the partial pressure of oxygen entering the tissue.

**oxygenic** (òk"si-jèn"ík) [ + *gennan*, to produce] Concerning, resembling, containing, or consisting of oxygen.

**oxygenize** (òk"si-jè-níz) Oxidize.

 **oxygen radical** Hydrogen peroxide ( $H_2O_2$ ) or the superoxide radical ( $O_2^-$ ) produced by the incomplete reduction of oxygen. Oxygen free radicals are released during the "respiratory burst" phase of phagocytosis by neutrophils and macrophages during the inflammatory process. They cause direct cell damage, increase vascular permeability through damage to the capillary endothelium, and promote chemotaxis. Oxygen free radicals are normally contained by antioxidant protective measures; however, with severe inflammation they cause significant damage. They are believed to be responsible for much of the cellular damage involved in adult respiratory distress syndrome (ARDS), in which massive neutrophil aggregation and phagocytosis occur. SEE: *oxygen, singlet*.

**oxygen saturation** ABBR:  $SaO_2$ . Percent of arterial hemoglobin saturated with oxygen.  $SaO_2$  can be monitored noninvasively with a pulse oximeter. It is normally higher than 96%.

**oxygen therapy** The administration of oxygen at higher levels than are normally found in the atmosphere to patients needing enhanced tissue oxygen

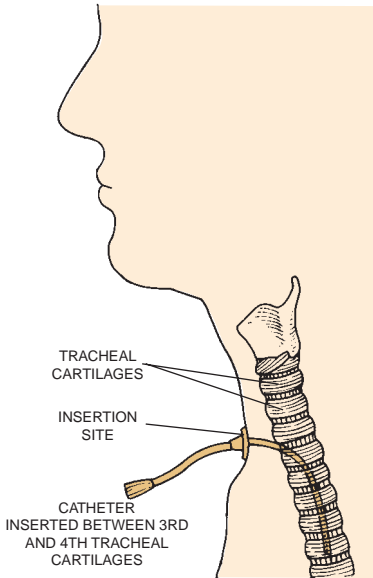
uptake. Oxygen can be administered via nasal prongs, Venturi masks, nonrebreathing devices, positive pressure masks, endotracheal tubes, Ambu bags, mist tents, or in airtight or hyperbaric chambers, depending on the needs of the patient. Each of these modes of therapy has its own benefits and limitations. Nasal cannulae facilitate speaking and eating, but can only deliver oxygen concentrations up to 40%. Venturi masks can deliver somewhat more oxygen (approximately 50%) and they can deliver oxygen concentrations more precisely than nasal devices, but they interfere with some communication and oral intake. The highest levels of noninvasive oxygen therapy are delivered by nonrebreather masks (about 90%). One hundred percent oxygen can be given through endotracheal tubes, but patients often are uncomfortable or hemodynamically unstable with these devices and may need sedation or paralytic or pressor drugs to support them. Positive-pressure masks can be used to administer oxygen therapy, but they are not tolerated by some patients because of claustrophobia and poor adaptation to the fit of the mask. Supplemental oxygen is also available for home use through an oxygen concentrator that uses a method called a "molecular sieve" to remove nitrogen from room air. SEE: *hyperbaric oxygen*; *oximeter*.



Inhalation of high concentrations of oxygen, esp. at pressures of more than one atmosphere, may produce deleterious effects such as irritation of the respiratory tract, reduced vital capacity, and sometimes neurological symptoms. Serious eye defects may result if premature infants are exposed to a high concentration of oxygen as part of their therapy. Because oxygen provides a perfect environment for combustion, it should not be used in the presence of oil, lighted cigarettes or open flames, or where there is the possibility of electrical or spark hazards.

**transtracheal o.t.** The delivery of oxygen via a small plastic cannula inserted directly into the trachea through a small surgical opening in the cricothyroid membrane of the neck. SEE: *illus.*

**oxygen toxicity** Tissue damage caused by the presence of partially reduced forms of oxygen (so-called "oxygen radicals" or "reactive oxygen species"). Persons at risk include those individuals who are exposed to high concentrations of oxygen, esp. when it is delivered under pressure (e.g., patients receiving mechanical ventilation or hyperbaric oxygen treatment, or scuba divers). Damage to the fragile lipid membranes of the cells that line the lungs may re-



TRANSTRACHEAL OXYGEN THERAPY

sult in progressive respiratory failure, which in turn leads to decreased oxygen tension in the blood.

Prolonged exposure to a high oxygen concentration can cause injuries to tissues other than those in the alveoli of the lungs. In infants, for example, oxygen toxicity contributes to blindness as well as lung disease; in scuba divers, oxygen toxicity may produce neurological injury.

**oxygeusia** (ök'sē-gū'sē-ä) [Gr. *oxys*, sharp, + *geusis*, taste] Abnormally keen sense of taste.

**oxyhematin** (ök'sē-hēm'ä-tin) An iron compound that constitutes the coloring matter in oxyhemoglobin. When oxidized, it yields hematinic acid; when reduced, hematoporphyrin.

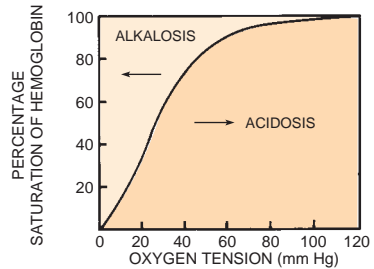
**oxyhematoporphyrin** (ök'sē-hēm'ä-tō-por'firin) A derivative of hematoporphyrin sometimes present in urine.

**oxyhemoglobin** (ök'sē-hēm'glō'bīn) [" + *haima*, blood, + L. *globus*, a sphere] That hemoglobin that is reversibly bound to oxygen. Hemoglobin is oxygenated as blood passes through capillaries in the lungs. It is circulated to body tissues by the muscular contraction of the heart. In the tissues oxygen unbinds from hemoglobin and is used for cellular respiration.

**fractional o.** SYMB:  $FO_2Hb$ . The ratio of the substance fraction of oxyhemoglobin to the substance fraction of all forms of hemoglobin. This quantity takes into account the effects of abnormal hemoglobins such as carboxyhe-

moglobin, methemoglobin, or sulfhemoglobin. Thus, in the presence of abnormal hemoglobins, the fractional oxyhemoglobin may be decreased while the oxygen saturation is normal.

**oxyhemoglobin dissociation curve** The mathematical relationship between the partial pressure of oxygen and the percentage of saturation of hemoglobin with oxygen (i.e., the proportion of oxyhemoglobin to reduced hemoglobin). Factors that favor a shift of the curve to the right, accelerating the decomposition of hemoglobin, are a rise in temperature and an increase of H ions that results from liberation of  $CO_2$  and formation of lactic acid. SEE: *illus.*



#### OXYHEMOGLOBIN DISSOCIATION CURVE

**oxymino beta lactam antibiotic** (ök'sē-īm'i-nō) A third-generation cephalosporin.

**oxiodide** (ök'sē-ī'ō-dīd) [" + *ioides*, violet colored] A compound of iodine and oxygen with an element or radical.

**oxymyoglobin** (ök'sē-mī'ō-glō'bīn) The compound formed when myoglobin is exposed to oxygen.

**oxyntic** (ök-sin'tik) [Gr. *oxynein*, to make acid] Producing or secreting acid.

**oxyntomodulin** (ök-sin'tō-mōj'ū-līn) A 37-amino acid peptide secreted by the small intestine. It inhibits gastric acid secretion and reduces food intake.

**oxyosmia** (ök'sē-ōz'mē-ä) [" + *osme*, odor] Unusual acuity of the sense of smell.

**oxyosphresia** (ök'sē-ōs-frē'zē-ä) [" + *osphresis*, smell] Abnormal acuity of the sense of smell.

**oxyphil(e)** (ök'sē-fil,-fil) [" + *philein*, to love] 1. Staining readily with acid dyes. 2. A cell that stains readily with acid dyes.

**oxyphonia** (ök'sē-fō'nē-ä) An abnormally sharp or shrill pitch to the voice.

**oxypurine** (ök'sē-pū'rēn) [" + L. *purus*, pure, + *urina*, urine] An oxidation product of purine; includes hypoxanthine, xanthine, and uric acid. SEE: *aminopurine*; *methyl purine*.

**oxyrhine** (ök'sē-rīn) [" + *rhis*, nose] 1. Having a sharp-pointed nose. 2. Possessing an acute sense of smell.

**oxytalan** (öks-īt'ä-län) A type of connec-

tive tissue fiber present in periodontal tissues.

**oxytocic** (òk"se-tò'sìk) **1.** Agent that stimulates uterine contractions. **2.** Accelerating childbirth.

**oxytocin** (òk"se-tò'sìn) **1.** A 9-amino acid peptide hormone secreted by the magnocellular cells of the hypothalamus and stored in the pituitary gland. It stimulates the uterus to contract. During labor it helps expel the fetus. After delivery of the placenta, it helps the uterus to contract.

Its other function in breastfeeding is to stimulate milk letdown.

**2.** A synthetic version of the same peptide. It is used in obstetrics to induce labor, contract the uterus, and control postpartum hemorrhage.

**oxytocin challenge test** ABBR: OCT. The intravenous infusion of ten very small doses of oxytocin in order to determine whether contraction of the uterus in response to the oxytocin will cause signs of fetal distress. The results of the test provide a basis of making a decision concerning continuation of high-risk pregnancies. Uterine contractions can also be induced by manual stimulation of the nipple. This process stimulates the hypothalamus, which causes the posterior lobe of the pituitary to release oxytocin. SYN: *contraction stress test*.

*Criteria for Interpretation: Negative result:* The monitor records a minimum of three uterine contractions and an absence of late decelerations within 10 min. The fetal heart rate exhibits average baseline variability and acceleration associated with movement. *Positive result:* The monitor records late decelerations with more than 50% of uterine contractions. *Suspicious result:* The monitor records late decelerations associated with fewer than 50% contractions. *Hyperstimulation:* The monitor records uterine hypertonus and uterine contractions occurring more often than every 2 min or lasting longer than 90 sec.

**PATIENT CARE:** The test is explained, and the patient is supported through the procedure. Oxytocin solution is piggybacked into the tubing of the main intravenous line and delivered via infusion pump or controller to ensure accurate dosing. Uterine contractions and fetal heart rate are monitored until three uterine contractions occur in

a 30-min period. The fetal heart rate pattern is then interpreted for the absence or presence of late decelerations.

If the result is negative, the infusion of oxytocin is then discontinued, the intravenous line is removed, and the patient is assisted with discharge preparations.

**oxyuriasis** (òk"se-ù-rì'ás-ìs) [Gr. *oxys*, sharp, + *oura*, tail, + *iasis*, infection] Infestation with *Enterobius vermicularis* (pinworm). SYN: *enterobiasis*.

**oxyuricide** (òk"se-ù-rì-sìd) [" + " + L. *caedere*, to kill] An agent that is destructive to pinworms.

**Oxyuris vermicularis** (òk"se-ùr'is vèr-mìk"ù-làr'is, -là'rìs) [" + *oura*, tail] *Enterobius vermicularis*.

**oyster** [AS. *oistre*] A shellfish that, when eaten raw or only partially cooked, may be a source of hepatitis A virus and bacterial pathogens. SEE: *diarrhea, travelers'*.

**oyster mushroom** An edible fungus, *Pleurotus ostreatus*, used in the diet as an antioxidant and cholesterol-lowering agent.

**oz ounce.**

**ozena** (ò-zè'nă) [Gr. *oze*, stench] A disease of the nose characterized by atrophy of the turbinates and mucous membrane accompanied by considerable crusting, discharge, and an offensive odor. It is present in various forms of rhinitis.

**ozone** (ò'zôn) [Gr. *ozein*, to smell] A form of oxygen present in the stratosphere in which three atoms of the element combine to form the molecule O<sub>3</sub>. Depletion of the ozone in the stratosphere permits increased exposure to ultraviolet light. This favors the development of skin cancers and cataracts and may impair cellular immunity.

Persons exposed to arc welding, flour bleaching, fumes from copying equipment, or photochemical air pollutants may be in contact with toxic levels of ozone. The signs and symptoms include asthma, mucous membrane irritation, pulmonary hemorrhage and edema, and transient reduced pulmonary function when exposed to summer haze. SEE: *greenhouse effect*.

**ozonization** (ò'zò-nì-ză'shùn) The act of converting to, or impregnating with, ozone.

**ozonize** (ò'zò-nìz) [Gr. *ozein*, to smell] **1.** To convert oxygen to ozone. **2.** To impregnate the air of a substance with ozone.