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A In genetics, adenine, a member of the adenine-thymine (A-T) base pair in DNA.

a- Prefix indicating the absence or depletion of something; for example, aphagia (not eating) or aphonia (voiceless). The related prefix *an-* is usually used before a vowel, as in anemia (without blood) and anoxia (without oxygen).

AA 1 Alcoholics Anonymous. 2 Amino acid.

AAAS American Association for the Advancement of Science, a professional organization that publishes the weekly journal *Science*.

AAFP 1 American Association of Family Physicians, a professional organization for physicians who treat both children and adults. 2 American Academy of Family Physicians, a professional organization for physicians who treat both children and adults.

AAO 1 American Association of Ophthalmology, a professional organization. 2 American Association of Orthodontists, a professional organization. 3 American Academy of Otolaryngology, a professional organization.

AAOS American Academy of Orthopaedic Surgeons, a professional organization. See also *orthopaedics*.

AAP 1 American Academy of Pediatrics, a professional organization for physicians who treat infants, children, adolescents, and young adults. 2 American Academy of Pedodontics, a professional organization. 3 American Academy of Periodontology, a professional organization. 4 American Association of Pathologists, a professional organization.

ab- Prefix indicating from, away from, or off, as in abduction (movement of a limb away from the midline of the body) and abnormal (away from normal).

abdomen The part of the body that contains all the structures between the chest and the pelvis. The abdomen, or belly, is anatomically separated from the chest by the diaphragm, the powerful muscle

that spans the body cavity, just below the lungs. See also *abdominal cavity*.

abdomen, acute See *acute abdomen*.

abdominal aorta The final section of the aorta, the largest artery in the body, which begins at the diaphragm as a continuation of the thoracic aorta and ends by splitting in two, to form the common iliac arteries. The abdominal aorta supplies oxygenated blood to all the abdominal and pelvic organs, as well as to the legs. See also *aorta*.

abdominal aortic aneurysm See *aneurysm, abdominal aortic*.

abdominal cavity The cavity within the abdomen. This space between the abdominal wall and the spine contains a number of crucial organs, including the lower part of the esophagus, the stomach, small intestine, colon, rectum, liver, gallbladder, pancreas, spleen, kidneys, adrenal glands, ureters, and bladder. See also *abdomen*.

abdominal guarding Tensing of the abdominal wall muscles to guard inflamed organs within the abdomen from the pain of pressure upon them. Abdominal guarding is detected when the abdomen is pressed and is an indication that inflammation of the inner abdominal (peritoneal) surface may be present due, for example, to appendicitis or diverticulitis. The tensed muscles of the abdominal wall automatically go into spasm to keep the tender underlying tissues from being irritated.

abdominal hysterectomy See *hysterectomy, abdominal*.

abdominal muscle One of a large group of muscles in the front of the abdomen that assists in maintaining regular breathing movements, supports the muscles of the spine while lifting, and keeps abdominal organs in place. Abdominal muscles are the target of many exercises, such as sit-ups. Abdominal muscles are informally known as the abs.

abdominal pain Pain in the belly. Abdominal pain can be acute or chronic. It may reflect a major problem with one of the organs in the abdomen, such as appendicitis or a perforated intestine, or it may result from a fairly minor problem, such as excess buildup of intestinal gas.

abducens nerve See *abducent nerve*.

abducent nerve The sixth cranial nerve, which emerges from the skull to operate the lateral rectus muscle. This muscle draws the eye toward the side of the head. Paralysis of the abducent nerve causes inward turning of the eye.

abduction The movement of a limb away from the midline of the body. The opposite of abduction is adduction.

abductor muscle See *muscle, abductor*.

ABG Arterial blood gas, a sampling of the blood levels of oxygen and carbon dioxide within the arteries, as opposed to the levels of oxygen and carbon dioxide in veins. Typically, the acidity (pH) is also simultaneously measured.

abiopathy Loss of function, or degeneration for reasons unknown.

ablate To remove, from a Latin word meaning “to carry away.” See *ablation*.

ablation Removal or excision. Ablation is usually carried out surgically. For example, surgical removal of the thyroid gland (a total thyroidectomy) is ablation of the thyroid.

abnormal Outside the expected norm, or uncharacteristic of a particular patient.

ABO blood group The major human blood group system. The ABO type of a person depends on the presence or absence of two genes, A and B. These genes determine the configuration of the red blood cell surface. A person who has two A genes has red blood cells of type A. A person who has two B genes has red cells of type B. If the person has one A and one B gene, the red cells are type AB. If the person has neither the A nor the B gene, the red cells are type O. It is essential to match the ABO status of both donor and recipient in blood transfusions and organ transplants.

abortifacient A medication or substance that causes pregnancy to end prematurely.

abortion Premature exit of the products of the fetus, fetal membranes, and placenta from the uterus. Abortion can be a natural process, as in a miscarriage; an induced procedure, using medication or other substances that cause the body to expel the fetus; or a surgical procedure that removes the contents of the uterus. See also *dilation and curettage*.

abortion, habitual The miscarriage of three or more consecutive pregnancies with no intervening pregnancies. Habitual abortion is a form of infertility. Also known as recurrent abortion and multiple abortion.

abortion, multiple See *abortion, habitual*.

abortion, recurrent See *abortion, habitual*.

abortion, spontaneous Miscarriage.

abortive Tending to cut short the course of a disease, as in abortive polio (polio cut short).

abortive polio A minor, abbreviated form of infection with the polio virus. Full recovery occurs in 24 to 72 hours, and the condition does not involve the nervous system or permanent disabilities. See also *polio*.

ABP American Board of Pediatrics, a professional organization for physicians who treat infants, children, adolescents, and young adults.

abrasion 1 A wearing away of the upper layer of skin as a result of applied friction force. See also *scrape*. 2 In dentistry, the wearing away of a tooth surface.

abruptio placentae Premature separation (abruption) of the placenta from the wall of the uterus, often in association with high blood pressure or preeclampsia. Abruption is a potentially serious problem both for mother and fetus because the area where it occurs bleeds and the uterus begins to contract. Shock may result. See also *placenta; preeclampsia*.

abs Slang term for the abdominal muscles.

abscess A local accumulation of pus anywhere in the body. See also *boil; pus*.

abscess, perianal An abscess next to the anus that causes tenderness, swelling, and pain on defecation.

abscess, peritonsillar An abscess behind the tonsils that pushes one of the tonsils toward the uvula (the prominent soft tissue dangling from the back of the palate in the back of the mouth). A peritonsillar abscess is generally very painful and associated with difficulty opening the mouth. If a peritonsillar abscess is untreated, the infection can spread deep into the neck, causing airway obstruction and other life-threatening complications.

abscess, skin A confined collection of pus in the skin. The common boil is a type of skin abscess. See also *boil*.

abscission To remove tissue by cutting it away, as in surgery. See also *resection*.

absence of the breast See *amastia*.

absence of the nipple See *athelia*.

absinthe An emerald-green liqueur flavored with extracts of the wormwood plant, licorice, and aromatic flavorings in an alcohol base. Absinthe was manufactured, commercialized, and popularized in France in the late 1700s. It was an extremely addictive drink. Prolonged drinking of absinthe causes convulsions, blindness, hallucinations, and mental deterioration. Absinthe has been banned, but something of its taste is still available in such drinks as Greek ouzo and French pastis. Homemade absinthe may still be illicitly consumed in some areas.

absolute CD4 count The number of “helper” T-lymphocytes in a cubic millimeter of blood. The absolute CD4 count is frequently used to monitor the extent of immune suppression in persons with HIV because with HIV, this number declines as the infection progresses. Also known as T4 count.

absorption Uptake. For example, intestinal absorption is the uptake of food (or other substances) from the digestive tract.

abstinence The voluntary self-denial of food, drink, or sex. Today, abstinence most commonly refers to denial of one’s sexual activity.

abuse, child See *child abuse*.

abuse, elder See *elder abuse*.

a.c. Abbreviation of the Latin phrase *ante cibum*, meaning “before meals.” See also Appendix A, “Prescription Abbreviations.”

AC joint See *acromioclavicular joint*.

acanthosis nigricans A skin condition characterized by dark, thickened, velvety patches, especially in the folds of skin in the armpit, groin, and back of the neck. It can occur with endocrine diseases such as Cushing disease and diabetes mellitus, from tumors of the pituitary gland, underlying malignancies, certain drugs, and as a genetic disorder. It is most common in people who have insulin resistance—those whose body is not responding correctly to the insulin that they make in their pancreas.

acapnia Lower than normal level of carbon dioxide in the blood. The opposite of acapnia is hypercapnia.

accelerated phase of leukemia Chronic myelogenous leukemia that is progressing. In this phase, the number of immature, abnormal white blood cells in the bone marrow and blood is higher than in the chronic phase, but not as high as in the blast phase.

accessory nerve The eleventh cranial nerve, which emerges from the skull and receives an additional (accessory) root from the upper part of the spinal cord. It supplies the sternocleidomastoid and trapezius muscles.

accessory neuropathy A disease of the accessory nerve, paralysis of which prevents rotation of the head away from one or both sides and causes the shoulder to droop. Damage can be confined to the accessory nerve, or it may also involve the ninth and tenth cranial nerves, which exit the skull through the same opening.

accessory placenta See *placenta, accessory*.

acclimatization to altitude The process of adapting to the decrease in oxygen concentration at a specific altitude. A number of changes must take place for the body to operate with decreased oxygen. These changes include increasing the depth of respiration; increasing the pressure in the pulmonary arteries, forcing blood into portions of the lung that are normally not used at sea level; manufacturing additional oxygen-carrying red blood cells; and manufacturing extra 2, 4-DPG, a substance that facilitates the release of oxygen from hemoglobin to the body tissues. Acclimatization generally takes 1 to 3 days and occurs after any significant altitude change above 1,220 meters (approximately 4,000 feet). Acclimatization is the body’s natural means of correcting altitude sickness and the rate of acclimatization depends on the altitude, rate of ascent, and individual susceptibility.

accoucheur A male obstetrician. An accoucheuse is a woman obstetrician, or sometimes a midwife.

ACE Angiotensin converting enzyme. ACE converts an angiotensin to its activated form, angiotensin II, enabling it to function. Angiotensin II constricts blood vessels and elevates blood pressure.

ACE inhibitor A drug that inhibits ACE. Using an ACE inhibitor relaxes the arteries, not only lowering blood pressure but also improving the pumping efficiency of a failing heart and improving cardiac output in patients with heart failure. ACE inhibitors are therefore used for blood pressure control and congestive heart failure. ACE inhibitors include benazepril (brand name: Lotensin), captopril (brand name: Capoten), lisinopril (brand names: Zestril, Prinivil), quinapril (brand name: Accupril), and ramipril (brand name: Altace). Interestingly, ACE inhibitors were originally developed from the venom of a Brazilian viper snake.

acentric chromosome A chromosome that is lacking a centromere (a specialized region of the chromosome to which spindle fibers attach during cell division). As a result, an acentric chromosome is lost when the cell divides. See also *centromere*.

aceruloplasminemia See *ceruloplasmin deficiency*.

acetabulum The cup-shaped socket of the hip joint. The acetabulum is a feature of the pelvis. The head (upper end) of the femur (thighbone) fits into the acetabulum and articulates with it, forming a ball-and-socket joint.

acetaminophen A nonaspirin pain reliever or analgesic. Acetaminophen may be given alone to relieve pain and inflammation or it may be combined with other drugs, as in some migraine medications, which contain acetaminophen, a barbiturate, and caffeine.

acetone A volatile liquid used as an industrial solvent. Acetone is also one of the ketone bodies that is formed when the body uses fat instead of glucose (sugar) for energy. The formation of acetone is usually a sign that cells lack insulin or cannot effectively use the insulin that is available, as occurs in diabetes. Acetone is excreted from the body in the urine.

acetone breath The breath of a person with excessive acetone in their body. Acetone breath smells fruity and is a telltale sign of significant diabetes. See also *diabetes mellitus*.

acetylcholine A neurotransmitter released by nerves that is essential for communication between the nerves and muscles.

acetylsalicylic acid See *aspirin*.

achalasia A disease of the esophagus that mainly affects young adults. Abnormal function of nerves and muscles of the esophagus causes difficulty swallowing and sometimes chest pain. Regurgitation of undigested food can occur, as can coughing or breathing problems related to entry of food material into the lungs. The underlying problems are weakness of the lower portion of the esophagus and failure of the lower esophageal sphincter to open and allow passage of food. Diagnosis is made by an X-ray, endoscopy, or esophageal manometry. Treatment includes medication, dilation (stretching) to widen the lower part of the esophagus, and surgery to open the lower esophagus. A fairly recent approach involves injecting medicines into the lower esophagus to relax the sphincter.

Achilles tendon One of the longest tendons in the body, a tough sinew that attaches the calf muscle to the back of the heel bone (calcaneus). The name comes from Greek mythology: The hero Achilles was invulnerable to injury except for his heel, which proved his downfall when it was pierced by Paris's arrow. It has also proved, literally, to be the downfall of many athletes who have experienced the sudden pain of its rupture.

Achilles tendonitis Inflammation in the tendon of the calf muscle, where it attaches to the heel bone. Achilles tendonitis causes pain and stiffness at the back of the leg, near the heel. Achilles tendonitis can be caused by overuse of the Achilles tendon, overly tight calf muscles or Achilles tendons, excess uphill running, a sudden increase in the intensity of training or the type of shoes worn to run, or wearing high heels at work and then switching to a lower-heeled workout shoe. Achilles tendonitis causes pain, tenderness, and often swelling over the Achilles tendon. There is pain on rising up on the toes and pain with stretching of the tendon. The range of motion of the ankle may be limited. Treatment includes applying ice packs to the Achilles tendon, raising the lower leg, and taking an anti-inflammatory medication. In some severe cases of Achilles tendonitis, a cast may be needed for several weeks. A heel lift insert may also be used in shoes to prevent future overstretching of the Achilles tendon. Exerting rapid stress on the Achilles tendon when it is inflamed can result in rupture of the tendon.

achlorhydria A lack of hydrochloric acid in the digestive juices in the stomach.

achondroplasia A genetic disorder of bone growth and the most common cause of short stature with disproportionately short arms and legs (known as dwarfism). The individual has a large head with a prominent forehead (frontal bossing); underdevelopment (hypoplasia) of the midface, with cheekbones that lack prominence; and a low nasal bridge with narrow nasal passages. The fingers are short, and the ring and middle fingers diverge to give the hand a trident (three-pronged) appearance. The brain is entirely normal in people with achondroplasia, but complications can damage the brain and spinal cord. Achondroplasia is an autosomal dominant trait, affecting boys and girls equally. Most cases are due to new gene mutations that appear for the first time in the affected child. Achondroplasia is caused by mutation in the fibroblast growth factor receptor-3 gene (FGFR3), and prenatal diagnosis is possible. See also *dwarfism*; *dwarfism*, *hyochondroplastic*.

acid, pantothenic Vitamin B5. See also Appendix C, “Vitamins.”

acid indigestion Excessive secretion of hydrochloric acid by the stomach cells. Medically known as hyperchlorhydria. Sometimes used interchangeably with heartburn. See also *heartburn*.

acid phosphatase An enzyme that acts to liberate phosphate under acidic conditions and is made in the liver, spleen, bone marrow, and prostate gland. Abnormally high serum levels of acid phosphatase may indicate infection, injury, or cancer of the prostate.

acidophilus Bacteria found in yogurt with “live cultures” that can help restore supportive bacteria to an intestinal tract whose normal bacterial population (flora) has been disturbed by disease or antibiotics. Eating yogurt with acidophilus may also be useful in preventing overgrowth of yeast (*Candida*) in the intestinal tract, mouth (thrush), and vagina. See also *probiotic*.

acidosis Too much acid in the blood and body. Acidosis is an abnormal condition resulting from the accumulation of acid or the depletion of alkaline reserves. The pH of a body with acidosis is below normal. For a person with diabetes, this can lead to diabetic ketoacidosis. The opposite of acidosis is alkalosis. See also *pH*.

ACL Anterior cruciate ligament.

acne Localized skin inflammation resulting from overactivity of the oil glands at the base of hair follicles or as a response to contact with irritating substances. See also *acne vulgaris*.

acne rosacea See *rosacea*.

acne vulgaris The common form of acne, in teens and young adults, that is due to overactivity of the oil (sebaceous) glands in the skin that become plugged and inflamed. Acne typically develops when the oil glands come to life around puberty and are stimulated by male hormones that are produced in the adrenal glands of both boys and girls. Treatments include keeping the skin clean and avoiding irritating soaps, foods, drinks, and cosmetics. Severe acne and acne in those who are prone to scarring can be treated with topical creams and oral medications. Skin damaged by acne can be improved with treatment by a dermatologist or facial technologist using dermabrasion (sanding), removal of scar tissue via laser, and chemical peels. Also known as pimples.

ACOG American College of Obstetricians and Gynecologists, a professional organization for women’s health care providers that also does advocacy work to improve the care of female patients.

acoustic nerve The eighth cranial nerve which is concerned with hearing, balance, and head position. It branches into two parts—a cochlear part that transmits sound reception for hearing and a vestibular part that senses balance and head position. Also known as the vestibulocochlear nerve.

acquired Not inherited, or present at birth (congenital), but developing after birth. For example, AIDS is an acquired, not an inherited, form of immune deficiency.

acquired immunodeficiency disease See *AIDS*.

acquired mutation A genetic change that occurs in a single cell after the conception of an individual. That change is then passed along to all cells descended from that cell. Acquired mutations are involved in the development of cancer.

acral-lentiginous melanoma See *melanoma, acral-lentiginous*.

acrocentric chromosome A chromosome in which the centromere is located quite near one end of the chromosome. Humans normally have five pairs of acrocentric chromosomes. Down syndrome is caused by an extra acrocentric chromosome (chromosome 21).

acrocephalosyndactyly An inherited disorder characterized by abnormalities of the skull, face, hands, and feet. It begins with premature closure of some sutures of the skull (craniosynostosis) and results in a tall peaked head, shallow eye sockets, and underdeveloped cheekbones. With acrocephalosyndactyly, fingers and toes are fused (syndactyly), and the thumbs and big toes have broad ends. Acrocephalosyndactyly is an autosomal dominant trait that affects boys and girls. A parent can transmit the gene for the disorder, or it can occur due to a new mutation. Surgery is often useful to correct the abnormalities of the skull, face, hands, and feet. See also *Apert syndrome; Crouzon syndrome*.

acrochordon See *skin tag*.

acrocyanosis Blueness of the hands and feet, usually due to inadequate circulation.

acrodermatitis enteropathica A progressive, hereditary disease of children, characterized by the simultaneous occurrence of skin inflammation (dermatitis) and diarrhea. The skin on the cheeks, elbows, and knees is inflamed, as is tissue about the mouth and anus. There is also balding of the scalp, eyebrows, and lashes; delayed wound healing; and recurrent bacterial and fungal infections due to immune deficiency. The key laboratory finding is an abnormally low blood zinc level, reflecting impaired zinc uptake. Treatment with zinc by mouth is curative. Acrodermatitis enteropathica is an autosomal recessive disorder. See also *deficiency*, *zinc*; *zinc*.

acromegaly See *gigantism*, *pituitary*.

acromioclavicular joint A gliding joint located between the acromion (a projection of the scapula that forms the point of the shoulder) and the clavicle (the collar bone). It is served and supported by the capsular, superior, and inferior acromioclavicular ligaments; the articular disk; and the coracoclavicular (trapezoid and conoid) ligaments. Abbreviated AC joint.

acrosyndactyly A condition in which a person has fused or webbed fingers or toes. Acrosyndactyly can be partial or complete, and it can usually be corrected via surgery. It is associated with several birth defect syndromes. See also *Apert syndrome*.

ACS American College of Surgeons, a professional organization that administers standards of practice for surgeons. Those who meet the group's standards can call themselves Fellows of the ACS.

actinic Referring to the ultraviolet (UV) rays from sunlight and UV lamps. Sunburn is an actinic burn. An actinic keratosis is a skin lesion that is the consequence of chronic sun exposure.

actinic keratosis Rough, scaly patches of skin that are considered precancerous and are due to sun exposure. Prevention is to cut sun exposure and wear sunscreen. Treatments include performing cryosurgery (freezing with liquid nitrogen), cutting the keratoses away, burning them, putting 5-fluorouracil on them, and using photodynamic therapy (injecting into the bloodstream a chemical that collects in actinic keratoses and makes them more sensitive to destruction by a specialized form of light). Also known as solar keratosis and senile keratosis.

activated charcoal Charcoal that has been heated to increase its ability to absorb molecules. Activated charcoal is used to help relieve intestinal gas. It is also used to filter and purify liquids, to absorb poisons (as in gas mask filters), and in emergency situations to neutralize swallowed poisons.

active euthanasia The active acceleration of a terminally ill patient's death by use of drugs or other means. Currently, active euthanasia is openly practiced in the Netherlands and in the US state of Oregon. The patient's request to the physician must be voluntary, explicit, and carefully considered, and it must be made repeatedly. Moreover, the patient's suffering must be unbearable and without any prospect of improvement. Suicide for other reasons, whether irrational or rational, is not active euthanasia. The forced killing of an ill or disabled person, as has occurred in eugenics programs, is also not active euthanasia. And although medications administered for pain relief may hasten death, aggressive pain relief is a normal medical decision in terminal care, not in active euthanasia. See also *assisted suicide*; *eugenics*; *euthanasia*.

active immunity Immunity produced by the body in response to stimulation by a disease-causing organism or other agent.

activities of daily living Things that a person normally does during a day, including self-care (eating, bathing, dressing, grooming), work, homemaking, and leisure. The ability or inability to perform these activities can be used as a practical measure of ability or disability, and it may be used by insurers and HMOs as a rationale for approving or denying physical therapy or other treatments. Abbreviated ADL.

acuity, auditory The clearness of hearing, a measure of how well a person hears.

acuity, visual The clearness of vision, a measure of how well one sees.

acuity test, visual The familiar eye chart test, which measures how well a person can see at various distances.

acupressure The application of pressure on specific points on the body to control symptoms such as pain or nausea. Similar in concept to acupuncture, but without needles. See also *acupuncture*.

acupuncture The practice of inserting needles into specific points on the body with a therapeutic aim, such as to reduce pain or to induce anesthesia without the use of drugs. Traditional Chinese acupuncturists say the practice unblocks the flow of a life force called *ch'i*; Western researchers believe acupuncture may affect production of endorphins, the body's natural painkillers. In 1997, the National Institutes of Health (NIH) issued a consensus statement stating that "There is sufficient evidence of acupuncture's value to expand its use into conventional medicine." See also *acupressure*.

acupuncturist A person skilled in the practice of acupuncture, who may or may not be credentialed by an accrediting body.

acute Of short duration, rapid, and abbreviated in onset. A condition is termed acute in comparison to a subacute condition, which lasts longer or changes less rapidly; or a chronic condition, which may last almost indefinitely, with virtually no change. Each disease has a unique time scale: An acute myocardial infarction (heart attack) may last a week, whereas an acute sore throat may last only a day or two. See also *chronic*.

acute abdomen Medical shorthand for the acute onset of abdominal pain. A potential medical emergency, an acute abdomen may reflect a major problem with one of the organs in the abdomen, such as appendicitis (inflamed appendix), cholecystitis (inflamed gallbladder), a perforated ulcer in the intestine, or a ruptured spleen.

acute esophageal stricture See *esophageal stricture, acute*.

acute fatty liver of pregnancy Abbreviated AFLP, liver failure in late pregnancy, usually of unknown cause. Symptoms include nausea and vomiting, abdominal pain, yellowing of the skin and eyes (jaundice), frequent thirst (polydipsia), increased urination (polyuria), headache, and altered mental state. Laboratory features of AFLP include low blood sugar (hypoglycemia), elevated liver enzymes, and low levels of blood platelets. Untreated AFLP can cause complete liver failure, bleeding due to impaired blood clotting, and death of the mother and fetus. AFLP is treated by delivering the baby as soon as possible, often by inducing early labor. It usually subsides after delivery and does not occur in subsequent pregnancies. In some cases AFLP is associated with an abnormality of fatty-acid metabolism: a deficiency of the enzyme long-chain-3-hydroxyacyl-CoA dehydrogenase (LCHAD). The mother and father have half the normal LCHAD activity, and the fetus has no LCHAD activity. This metabolic disease in the baby's liver causes the fatty liver disease in the mother.

acute HIV infection See *HIV infection, acute*.

acute idiopathic polyneuritis See *Guillain-Barre syndrome*.

acute illness A disease with an abrupt onset and, usually, a short course.

acute leukemia Cancer of the blood cells that characteristically comes on suddenly and, if not

treated, progresses quickly. In acute leukemia, the leukemic cells are not able to mature properly.

acute membranous gingivitis A progressive and painful infection of the mouth and throat due to the spread of infection from the gums. Symptoms include ulceration, swelling, and sloughing off of dead tissue from the mouth and throat. Certain germs (including fusiform bacteria and spirochetes) have been thought to be involved, but the actual cause is not yet known. Like most other poorly understood diseases, acute membranous gingivitis goes by many other names, including acute necrotizing ulcerative gingivitis, fusospirillary gingivitis, fusospirochetal gingivitis, necrotizing gingivitis, phagedenic gingivitis, trench mouth, ulcerative gingivitis, ulcerative stomatitis, Vincent angina, Vincent gingivitis, Vincent infection, and Vincent stomatitis.

acute mountain sickness The physical effect of being in a high-altitude environment. Abbreviated AMS, it is common at altitudes above 2,440 meters (approximately 8,000 feet). Three-fourths of people have mild symptoms of AMS at altitudes over 3,048 meters (approximately 10,000 feet). Occurrence depends on the altitude, rate of ascent, and individual susceptibility. Symptoms begin 12 to 24 hours after arrival at a new altitude and include headache, dizziness, fatigue, shortness of breath, loss of appetite, nausea, disturbed sleep, and general malaise. These symptoms tend to worsen at night, when the respiratory drive is decreased. Symptoms should subside within 2 to 4 days, and can be treated by using pain medications such as aspirin. Acetazolamide (brand name: Diamox) can also be used to minimize symptoms and may be taken as a preventive measure. Moderate AMS has the same symptoms as AMS, but the headaches cannot be relieved with medication, and both breathing and coordinated movements become difficult. The only remedies are advanced medications and descent to lower altitudes. Severe AMS causes great shortness of breath at rest, inability to walk, decreased mental status, and fluid buildup in the lungs. Severe AMS requires immediate descent to lower altitudes: 610 to 1,220 meters (approximately 2,000 to 4,000 feet). See also *acclimatization to altitude*.

acute myelogenous leukemia See *leukemia, acute myeloid*.

acute myeloid leukemia See *leukemia, acute myeloid*.

acute myocardial infarction A heart attack that occurs when the heart muscle is suddenly deprived

of circulating blood. Abbreviated AMI. See also *heart attack*.

acute nonlymphocytic leukemia See *leukemia, acute myeloid*.

acute otitis media Painful inflammation of the middle ear, typically with fluid in the middle ear, behind a bulging eardrum or a perforated eardrum, often with drainage of pus. The customary treatment is antibiotics for 7 to 10 days. After antibiotic treatment, some children are left with fluid in the middle ear, which can cause temporary hearing loss. In most children, the fluid eventually disappears spontaneously. If a child has a bulging eardrum and is experiencing severe pain, a myringotomy (surgical incision of the eardrum) to release the pus may be done. Tubes may be placed in the ear to drain fluid. See also *ear infection*.

acute peritonitis See *peritonitis, acute*.

acute respiratory distress syndrome Respiratory failure of sudden onset due to fluid in the lungs (pulmonary edema), following an abrupt increase in the permeability of the normal barrier between the capillaries in the lungs and the air sacs. The muscles used in breathing are forced to work harder, causing labored and inefficient breathing. An abnormally low level of oxygen in the blood (hypoxemia) occurs. The types of acute lung injury that may lead to ARDS include, but are not limited to, aspiration of food or other items into the lungs, inhalation of a toxic substance, widespread infection of the lungs, blood infection (sepsis), and near-drowning. Treatment frequently involves temporary use of a mechanical ventilator to help the patient breathe.

acute thrombocytopenic purpura Sudden onset of low blood platelet levels, with bleeding into the skin and elsewhere. Abbreviated ATP. ATP can have many causes; for example, it can be a potentially serious complication during the acute phase of measles infection.

acute-phase protein A protein whose plasma concentrations increase during certain inflammatory disorders. Perhaps the best-known acute-phase protein is C-reactive protein (CRP).

acyclovir A potent antiviral drug or medication (brand name: Zovirax) that works against several human herpes viruses, Epstein-Barr virus, herpes zoster, varicella (chickenpox), cytomegalovirus, and other viruses. It is part of the AIDS drug AZT. See also *AZT*.

ad- Prefix indicating toward or in the direction of. For example, adduction is the movement of a limb toward the midline of the body, and adrenal literally means "toward the kidney."

ad lib Abbreviation of the Latin phrase *ad libitum*, meaning "as much as one desires" or "at your discretion." See also Appendix A, "Prescription Abbreviations."

ADA 1 American Dental Association, a professional organization for dentists. Its Council on Dental Education and Commission on Dental Accreditation are responsible for accrediting schools of dentistry and allied professions. **2** American Diabetes Association, a nonprofit health organization that sponsors diabetes research, provides information about diabetes and diabetes prevention to patients and others, and advocates for improved treatment of people with diabetes. **3** Adenosine deaminase.

Adam's apple The familiar feature on the front of the neck that is the forward protrusion of the thyroid cartilage, the largest cartilage of the larynx. It tends to enlarge at adolescence, particularly in males. It is usually said to take its name from the extrabiblical story that a piece of the forbidden fruit stuck in Adam's throat.

ADD 1 Attention deficit disorder. **2** Adenosine deaminase deficiency.

addiction An uncontrollable craving, seeking, and use of a substance such as alcohol or another drug. Dependence is such an issue with addiction that stopping is very difficult and causes severe physical and mental reactions.

Addison's anemia See *anemia, pernicious*.

Addison's disease Chronic underfunction of the outer portion of the adrenal gland, most commonly due to autoimmune destruction. Other causes include physical trauma to the adrenal gland, hemorrhage, tuberculosis, and destruction of the pituitary gland cells that secrete adrenocorticotropic hormone (ACTH), which normally controls the adrenal gland. Addison's disease is characterized by bronzing of the skin, anemia, weakness, and low blood pressure.

adducted thumbs Clapsed thumbs, caused by absence of the extensor pollicis longus and/or brevis muscles to the thumb. When associated with mental retardation, it is part of an X-linked syndrome that affects mainly boys. See *MASA syndrome*.

adduction Movement of a limb toward the midline of the body. The opposite of adduction is abduction.

adductor muscle See *muscle, adductor*.

adenine A nucleotide member of the base pair adenine-thymine (A-T) in DNA.

adenitis Inflammation of a gland.

adenocarcinoma A cancer that develops in the lining or inner surface of an organ and usually has glandular (secretory) properties. More than 95 percent of prostate cancers are adenocarcinomas.

adenoid A mass of lymphoid tissue in the upper part of the throat, behind the nose. When the adenoids are enlarged due to frequent infections, breathing through the nose may become difficult. Surgical removal may be done, often accompanied by removal of the tonsils. Also known as pharyngeal tonsil.

adenoidectomy The surgical removal of the adenoids.

adenoiditis Infection of the adenoids.

adenoma A benign tumor that arises in or resembles glandular tissue. If an adenoma becomes cancerous, it is called an adenocarcinoma.

adenomyoma A nodule that forms around endometrial tissue in cases of adenomyosis. See *adenomyosis*.

adenomyosis A common, benign condition of the uterus in which the endometrium (the inner uterus) grows into the adjacent myometrium (the uterine musculature located just outside the endometrium). The myometrium may respond to this intrusion with muscular overgrowth. If an island of endometrial tissue is contained within the myometrium, it forms an adenomyoma. Also known as endometriosis interna, endometriosis uterina, adenomyosis uteri, and adenomyometritis.

adenopathy Large or swollen lymph nodes. Lymph nodes can become enlarged as a result of inflammatory diseases, infection, or cancer. Synonymous with lymphadenopathy.

adenosine deaminase An enzyme that plays a key role in salvaging purine molecules. Abbreviated ADA.

adenosine deaminase deficiency An autosomal recessive genetic condition that results in severe combined immunodeficiency disease. The

first successful gene therapy for this condition in humans was done in 1990, by infusing patients with genetically engineered blood cells.

adenosine triphosphate A nucleotide compound that is of critical importance for the storage of energy within cells and the synthesis of RNA. Abbreviated ATP.

adenovirus One of a group of viruses that can cause infections of the lung, stomach, intestine, and eyes. Symptoms resemble those of the common cold. There are no effective medications for treating adenovirus infection. Adenovirus infection typically does not cause death or permanent problems. More than 40 types of adenoviruses have been recognized, all of which are extremely tiny. Adenoviruses are being used in research as a vehicle for gene therapy and as a vector for vaccines.

ADH Antidiuretic hormone.

ADH secretion, inappropriate A condition that results in the inability to produce dilute urine and imbalance of fluids and electrolytes in the body, particularly lowering blood sodium. Symptoms include nausea, vomiting, muscle cramps, confusion, and convulsions. This syndrome may occur with oat-cell lung cancer, pancreatic cancer, prostate cancer, and Hodgkin's disease, among other disorders. Also known as syndrome of inappropriate ADH secretion or SIADH.

ADHD Attention deficit hyperactivity disorder.

adhesion The union of two opposing tissue surfaces. This term is often used to refer to the sides of a wound, as well as to scar tissue strands that can form at the site of a previous operation, such as within the abdomen after a laparotomy.

adhesive capsulitis A condition in which a person has constant severe limitation of the range of motion of the shoulder due to scarring around the shoulder joint. Adhesive capsulitis is an unwanted consequence of rotator cuff disease that involves damage to the rotator cuff. The affected joint is characteristically painful and tender to palpation. Physical therapy and cortisone injections are often helpful. Surgery is used in advanced cases. Also known as frozen shoulder.

adipose Fatty. Adipose refers to tissue made up of mainly fat cells such as the yellow layer of fat beneath the skin.

adiposis dolorosa See *Dercum disease*.

adjuvant A substance that helps and enhances the effect of a drug, treatment, or biologic system.

adjuvant chemotherapy Chemotherapy given after removal of a cancerous tumor to further help in treatment. Many chemotherapy drugs are most effective after the majority of the tumor has been removed.

ADLs Activities of daily living.

admitting physician The doctor responsible for admitting a patient to a hospital or other inpatient health facility.

adnexa In gynecology, the appendages of the uterus, namely the ovaries, the Fallopian tubes, and the ligaments that hold the uterus in place.

adrenal gland A small gland located on top of the kidney. The adrenal glands produce hormones that help control heart rate, blood pressure, the way the body uses food, the levels of minerals such as sodium and potassium in the blood, and other functions particularly involved in stress reactions.

adrenal medulla See *medulla, adrenal*.

adrenaline A stress hormone produced within the adrenal gland that quickens the heart beat, strengthens the force of the heart's contraction, and opens up the bronchioles in the lungs, among other effects. The secretion of adrenaline is part of the human "fight or flight" response to fear, panic, or perceived threat. Also known as epinephrine.

adult hemoglobin See *hemoglobin A*.

adult-onset diabetes Non-insulin-dependent, or type 2, diabetes, the most common form of diabetes mellitus. Unlike patients with insulin-dependent, or type 1, diabetes, in whom the pancreas makes no insulin, patients with adult-onset diabetes produce some insulin, sometimes even large amounts. However, their bodies do not produce enough insulin or their body cells are resistant to the action of insulin. People with this form of diabetes are frequently overweight and can sometimes control their disease by losing weight through diet and exercise. Otherwise, they may need to combine insulin or another diabetes medication with diet and exercise. See also *diabetes, type 1*.

adult-onset Still's disease Still's disease that begins in adulthood rather than in childhood. See also *Still's disease*.

advance directive A document drawn up by a patient or, in some cases, the patient's representative to set treatment preferences and to designate a surrogate decision maker should the patient become unable to make medical decisions. Advance

directives include the living will, power of attorney, and health care proxy. See also *DNR*.

adverse event In pharmacology, any unexpected or dangerous reaction to a drug or vaccine.

AED See *automated external defibrillator*.

aer-, aero- Prefix indicating air or gas, such as aerogastria (excess stomach gas).

aerobic Oxygen-requiring. Aerobic bacteria need oxygen to grow. Aerobic exercise requires the heart and lungs to work harder to meet the body's increased oxygen demand.

aerobic exercise Brisk exercise that promotes the circulation of oxygen through the blood and is associated with an increased rate of breathing. Examples include running, swimming, and bicycling.

aerophagia Literally, eating air, from the Greek words *aer*, meaning "air," and *phagein*, meaning "to eat." Aerophagia is a common cause of stomach gas. Everyone swallows small amounts of air when eating or drinking. However, activities such as rapid eating or drinking, gum chewing, smoking, and wearing ill-fitting dentures may cause a significant increase in swallowed air.

aerosinusitis Painful sinus troubles due to changing atmospheric pressures. Aerosinusitis is the cause of sinus pain when going up or down in a plane. Also known as barosinusitis and sinus barotrauma.

aerosol A fine spray or mist. Medications in aerosol form can be administered via a nebulizer and inhaled.

aerotitis Middle ear problems due to changing atmospheric pressures, as when a plane descends to land. Symptoms include ear pain, ringing ears, diminished hearing and, sometimes, dizziness. Also known as aerotitis media, barotitis, barotitis media, and otic barotrauma.

Aesculapius The ancient Roman god of medicine, whose staff with a snake curled around it is commonly used as a symbol of medicine. According to mythology, Aesculapius's children included Hygeia, the goddess of health, and Panacea, the goddess of healing.

affective disorder A psychiatric disorder that affects the control of mood. See *bipolar disorder; cyclothymia; depression; seasonal affective disorder*.

afferent Carrying toward. A vein is an afferent vessel because it carries blood from the body toward the heart. The opposite of afferent is efferent.

afferent nerve A nerve that carries impulses toward the central nervous system.

afferent vessel A vessel that carries blood toward the heart. A vein or venule.

AFLP Acute fatty liver of pregnancy.

AFO Ankle-foot orthosis.

AFP Alpha-fetoprotein.

African tapeworm See *Taenia saginata*.

African tick typhus See *typhus, African tick*.

afterbirth The placenta and the fetal membranes that are normally expelled from the uterus after the birth of a baby. See also *placenta*.

aftercare Medical care and instructions for patients after leaving a medical facility.

agammaglobulinemia Total or near-total absence of infection-fighting antibodies belonging to the class called gamma globulins. Agammaglobulinemia can be due to certain genetic diseases or caused by acquired diseases, including AIDS.

agenesis Lack of development. For example, agenesis of a toe means the toe failed to form.

agenesis, sacral See *caudal regression syndrome*.

agenesis of the gallbladder A condition in which the gallbladder fails to develop. It occurs in 1 in about every 1,000 people, usually without additional birth defects.

agent, antihypertensive See *antihypertensive*.

agent, anti-infective See *anti-infective*.

Agent Orange An herbicide and defoliant containing 2,4-D and 2,4,5-T, as well as trace amounts of dioxin. Agent Orange was used as a defoliant in the Vietnam War. There has been concern about Agent Orange potentially causing cancer and birth defects.

age-related macular degeneration See *macular degeneration*.

ageusia An inability to taste sweet, sour, bitter, or salty substances. People who can taste sweet, sour, bitter, or salty substances but have a reduced ability to do so are said to have hypogeusia.

aggressive **1** In cancer medicine, quickly growing or tending to spread rapidly. For example, an aggressive tumor. **2** In psychiatry, having a tendency to aggression or belligerent behavior.

aggressive fibromatosis See *desmoid tumor*.

agnosia An inability to recognize sensory inputs such as light, sound, and touch). Agnosia is typically a result of brain injury. For example, damaging the back part of the brain can cause visual agnosia (inability to properly recognize objects by sight).

agonist A substance that acts like another substance and therefore stimulates an action. Agonist is the opposite of antagonist. Antagonists and agonists are key players in the chemistry of the human body and in pharmacology.

agoraphobia An abnormal and persistent fear of public places or open areas, especially those from which escape could be difficult or in which help might not be immediately accessible. Persons with agoraphobia frequently also have panic disorder. People with mild agoraphobia often live normal lives by avoiding anxiety-provoking situations. In the most severe agoraphobia, the victims may be incapacitated and homebound. Agoraphobia tends to start in the mid to late 20s, and the onset may appear to be triggered by a traumatic event.

agranulocytosis A marked decrease in the number of granulocytes (neutrophils). Agranulocytosis results in frequent chronic bacterial infections of the skin, lungs, throat, and other areas. It can be an inherited genetic condition or acquired as, for example, in leukemia. See also *agranulocytosis, infantile genetic; granulocytopenia; severe congenital neutropenia*.

agranulocytosis, infantile genetic An inherited condition characterized by a lack of granulocytes (neutrophils), a type of white blood cell that is important in fighting infection, and a predisposition to frequent bacterial infections. Also known as Kostmann disease or syndrome and genetic infantile agranulocytosis. See also *agranulocytosis; granulocytopenia; severe congenital neutropenia*.

agreement, arbitration See *arbitration agreement*.

Aicardis syndrome A rare genetic disorder that occurs only in females and is caused by congenital

absence of the corpus callosum, a large bundle of nerves that connects the left and right sides of the brain. Features include epilepsy that emerges in infancy and is difficult to control, vision problems due to maldeveloped retinas, developmental delay, and sometimes physical deformities of the spine, face, and/or heart. See also *epilepsy*; *seizure disorders*.

AID Artificial insemination by donor.

AIDS Acquired immunodeficiency syndrome, a syndrome caused by infection with the human immunodeficiency virus (HIV), with ensuing compromise of the body's immune system. Features include deficiency of certain types of leukocytes, especially T cells; infection with opportunistic infections that take advantage of the impaired immune response, such as tuberculosis, bacterial pneumonia, human herpes virus, or toxoplasmosis; certain types of cancer, particularly Kaposi sarcoma; inability to maintain body weight (wasting); and in advanced cases, AIDS dementia complex. Treatment for AIDS has advanced rapidly. Antiviral, antibacterial, and immune-boosting medications, among other treatments, are part of current treatment protocols.

AIDS dementia complex A brain disorder in people with severe AIDS, causing loss of thinking capacity and affecting the ability to function. AIDS dementia complex is considered an AIDS-defining illness—that is, one of the serious illnesses that occurs in HIV-positive individuals warranting an AIDS diagnosis, according to the definition of AIDS by the Centers for Disease Control and Prevention (CDC).

AIDS-related complex A term used in the early years of the AIDS epidemic to describe people with HIV infection who had only mild symptoms of illness, such as swollen lymph glands. It is rarely used today. Abbreviated ARC.

airway The path that air follows to get into and out of the lungs. The mouth and nose are the normal entry and exit ports for the airway. Entering air then passes through the back of the throat (pharynx) and continues through the voice box (larynx), down the trachea, to finally pass through the bronchi.

airway obstruction Partial or complete blockage of the breathing passages to the lungs. Causes include the presence of foreign matter, allergic reactions, infections, anatomical abnormalities, and trauma. Associated respiratory distress may be sudden, with only a cough for a warning. There is often agitation in the early stages. Other signs include labored, ineffective breathing, until the person is no

longer breathing (apneic). Loss of consciousness occurs if the obstruction is not relieved. Treatment of airway obstruction due to a foreign body includes the Heimlich maneuver for adults, a series of five abdominal thrusts for children over 1 year of age, and a combination of five back blows with the flat of the hand and five abdominal thrusts with two fingers on the upper abdomen for infants.

AKA Above-the-knee amputation, generally performed when the leg is not medically viable or to prevent the spread of disease to the tissues above the knee from below.

akathisia A movement disorder characterized by a feeling of inner restlessness and a compelling need to be in constant motion, as well as by actions such as rocking while standing or sitting, lifting the feet as if marching on the spot, and crossing and uncrossing the legs while sitting. People with akathisia are unable to sit or keep still, complain of restlessness, fidget, rock from foot to foot, and pace.

akinesia The state of being without movement.

akinetic Related to the loss of the normal ability to move the muscles.

akinetic epilepsy See *epilepsy*, *akinetic*.

akinetic mutism See *mutism*, *akinetic*.

alanine aminotransferase An enzyme normally present in liver, skeletal muscle, and heart cells. Abbreviated ALT. ALT is released into blood when the liver, skeletal muscle, or heart is inflamed or injured by diseases, conditions, or medications. Also known as serum glutamic pyruvic transaminase (SGPT).

albinism A pigmentation disorder characterized by partial or total lack of the pigment melanin in the skin, hair, and iris. Albinism is caused by an autosomal recessive gene and can occur in people of any ethnic background. People with albinism have delicate skin that sunburns and develops skin cancer easily, and they may suffer from eye disorders. See also *Hermansky-Pudlak syndrome*; *vitiligo*.

albino A person with albinism. The term was first applied by the Portuguese to people in West Africa, who may have had partial or complete albinism.

albuginea Tough white fibrous tissue. The tunica albuginea of the testis, for example, is the layer of dense whitish inelastic tissue that surrounds the testis.

albumin The main protein in human blood and the key to regulating the osmotic pressure of blood. Chemically, albumin is soluble in water, precipitated by acid, and coagulated by heat.

albuminuria More than the normal amount of albumin in the urine. Albuminuria can be a sign that protein is leaking through the kidney, most often through the glomeruli, or a sign of significant kidney disease. It may also be the harmless result of vigorous exercise. Also known as proteinuria.

alcohol An organic substance formed when a hydroxyl group is substituted for a hydrogen atom in a hydrocarbon. The type of alcohol used in alcoholic beverages, ethanol, derives from fermenting sugar with yeast. After alcohol is ingested, the body converts it to sugar-based fuel. Alcohol acts as a central nervous system depressant, and it may be part of solutions used as preservatives, antiseptics, or medications.

alcohol abuse Use of alcoholic beverages to excess, either on individual occasions (binge drinking) or as a regular practice. For some individuals—children or pregnant women, for example—almost any amount of alcohol use may be legally considered “alcohol abuse.” Heavy alcohol abuse can cause physical damage and death.

alcohol poisoning A condition in which a toxic amount of alcohol has been consumed, usually in a short period of time. The affected individual may become extremely disoriented, unresponsive, or unconscious, with shallow breathing. Because alcohol poisoning can be deadly, emergency treatment is necessary.

alcohol use in pregnancy The consumption of alcohol during pregnancy, which can damage the fetus. See also *fetal alcohol effect*; *fetal alcohol syndrome*.

Alcoholics Anonymous A free self-help organization founded to assist people addicted to alcohol in breaking old behavior patterns and gaining support for consistently living a sober lifestyle.

alcoholism Physical dependence on alcohol to the extent that stopping alcohol use would bring on withdrawal symptoms. In popular and therapeutic parlance, the term may also be used to refer to ingrained drinking habits that cause health or social problems. Treatment requires first ending the physical dependence and then making lifestyle changes that help the individual avoid relapse. In some cases, medication and hospitalization are necessary. Alcohol dependence can have many serious effects

on the brain, liver, and other organs of the body, some of which can lead to death.

aldosterone A hormone produced by the outer portion (cortex) of the adrenal gland. Aldosterone regulates the balance of water and electrolytes in the body, encouraging the kidney to excrete potassium into the urine and retain sodium, thereby retaining water. It is classified as a mineralocorticoid hormone.

aldosteronism See *Conn syndrome*.

alexia Loss of the ability to read or understand the written word, due either to brain damage that disconnects these functions or to temporary dysfunction caused by abnormal electrical or chemical activity in the brain.

alienist French term for a psychologist, a psychiatrist, or another practitioner who cares for the mentally ill.

alimentary Concerning food, nourishment, and the organs of digestion. From the Latin *alimentum*, meaning nourishment.

alkaline phosphatase An enzyme that liberates phosphate under alkaline conditions and is made in liver, bone, and other tissues. Alkaline phosphatase can be measured in a routine blood test. Abnormally high serum levels of alkaline phosphatase may indicate bone disease, liver disease, or bile duct obstruction.

alkalosis Relatively too much base in the blood and body, an abnormal condition resulting from the accumulation of base or the depletion of acid. The pH of an alkalotic body measures above normal. The opposite of alkalosis is acidosis.

alkaptonuria A genetic metabolic disorder due to deficiency of the enzyme homogentisic acid (HGA) dioxygenase. Deficiency of this enzyme leads to the three cardinal features of alkaptonuria (the presence of homogentisic acid in the urine), ochronosis (bluish-black pigmentation in connective tissue), and arthritis. Urine that turns dark is a characteristic feature.

allele An alternative form of a gene.

allergen A substance that can cause an allergic reaction. Common allergens include ragweed pollen, animal dander, and mold.

allergic conjunctivitis Inflammation of the whites of the eyes (conjunctivae), with itching, redness, and tearing, due to allergy.

allergic granulomatosis See *Churg-Strauss syndrome*.

allergic reaction A hypersensitive immune response to a substance. An allergic reaction can occur when the immune system attacks a normally harmless substance. The allergic immune system calls upon a protective antibody called immunoglobulin E (IgE) to fight these invading substances. In the melee, cells called mast cells release a variety of strong chemicals, including histamine, into the tissues and blood. This chemical release is irritating and causes itching and swelling and can also lead to lung airway narrowing and throat tightening, as is found in asthma, as well as to loss of voice. For example, this is how hay fever and allergic pink eye (conjunctivitis) occur. See also *allergic conjunctivitis; allergic rhinitis; anaphylactic shock; asthma*.

allergic rhinitis Medical term for hay fever, an allergic reaction that mimics a chronic cold. Symptoms include nasal congestion, a clear runny nose, sneezing, nose and eye itching, and tearing of the eyes. Postnasal dripping of clear mucus frequently causes a cough, loss of smell is common, and occasionally loss of taste. Nosebleeds may occur. Also known as June cold and summer cold.

allergic rhinitis, perennial Allergic rhinitis that occurs throughout the year.

allergic rhinitis, seasonal Allergic rhinitis that occurs during a specific season.

allergic salute The characteristic gesture of a person with allergic rhinitis: rubbing his or her nose with the index finger.

allergic vasculitis See *Churg-Strauss syndrome*.

allergy Hypersensitivity of the body's immune system in response to exposure to specific substances (antigens), such as pollen, bee stings, poison ivy, drugs, or foods. See also *allergic reaction; anaphylactic shock*.

allergy desensitization Stimulation of the immune system with gradually increasing doses of the substances to which a person is allergic in order to modify or stop the allergic response. This form of treatment is very effective for allergies to pollen, mites, animal dander, and stinging insects, including bees, hornets, yellow jackets, wasps, velvet ants, fire ants, and certain necessary medications.

allergy scratch test See *allergy skin test*.

allergy skin test A test in which a small drop of the suspected allergy-provoking substance (allergen) is placed on the skin and the skin is then gently scratched through the drop with a sterile needle. If the skin reddens and, more importantly, if it swells, the test is read as positive, and allergy to that substance is considered probable.

allergy to cockroaches An allergic reaction to tiny protein particles shed or excreted by cockroaches. Asthma can be due to exposure to cockroach allergens. Removing cockroach allergens from the home is not an easy job, but it can go far in reducing the frequency and severity of asthma and other allergic reactions.

allograft The transplant of an organ or tissue from one individual to another of the same species with a different genotype. For example, a transplant from one person to another, but not an identical twin, is an allograft. Allografts account for many human transplants, including those from cadaveric, living related, and living unrelated donors. Also known as an allogeneic graft or a homograft.

allopath A term sometimes applied to a physician who practices allopathy, or conventional medicine. See also *allopathy*.

allopathic medicine See *allopathy*.

allopathy The system of medical practice that treats disease by the use of remedies to produce effects different from those produced by the disease under treatment. Doctors of medicine (MDs) practice allopathic medicine. The term "allopathy" was coined to designate conventional medicine as opposed to homeopathy, the system of therapy based on the concept that disease can be treated with drugs (in minute doses) thought capable of producing the same symptoms in healthy people as the disease itself. Allopathy is also known as conventional medicine. See also *allopath*.

alopecia Baldness. Temporary alopecia may occur as a result of chemotherapy. Permanent alopecia may result from any of several conditions, including common male-pattern baldness. Radiation therapy administered to the head can also cause permanent alopecia due to irreversible damage to the hair follicles. See also *alopecia areata; alopecia capitis totalis; alopecia universalis; alopecia, traumatic*.

alopecia, traumatic Hair loss caused by injury to the scalp. Common causes include the use of caustic hair straighteners, especially those that include lye as an ingredient; stress traction injury

from tight rollers and braiding; overheating of the hair shafts; and compulsive pulling out of hair (trichotillomania).

alopecia areata Patchy baldness that typically begins with rapid hair loss on discrete areas of the scalp and sometimes progresses to complete baldness and even loss of body hair. The characteristic diagnostic finding is short, broken hairs called “exclamation point” hairs. Alopecia areata affects both males and females and, most often, children and young adults. It seems to be caused by an autoimmune mechanism, wherein the body’s own immune system attacks the hair follicles and disrupts normal hair formation. Alopecia areata is sometimes associated with allergic disorders, thyroid disease, vitiligo, lupus, rheumatoid arthritis, ulcerative colitis, and other conditions, and some forms may be inherited. Hair can sometimes regrow within a year without treatment. The longer the period of time of hair loss, the less chance that the hair will regrow.

alopecia capitis totalis Loss of all scalp hair, with normal hair elsewhere on the body remaining.

alopecia universalis Loss of all hair on the entire body.

alpha cell, pancreatic A type of cell found in areas within the pancreas called the islets of Langerhans. Alpha cells make and release glucagon, which raises the level of glucose (sugar) in the blood.

alpha error The statistical error made in testing a hypothesis when it is concluded that a result is positive, but it really is not. Also known as false positive.

alpha interferon One of the three main classes of interferons, which are specialized proteins (lymphokines) produced by the body in response to microbial infection that interfere with the multiplication of viruses in cells. The other two main classes are called beta interferon and gamma interferon. See also *interferon*; *interferon therapy*.

Alpha Omega Alpha An honor society, the medical school equivalent of Phi Beta Kappa of undergraduate school.

alpha thalassemia See *thalassemia, alpha*.

alpha-1 antitrypsin deficiency An inherited disorder characterized by a lack of the alpha-1 antitrypsin protease inhibitor. Alpha-1 antitrypsin deficiency leads to damage of various organs, especially the lung and liver. Symptoms may become

apparent at a very early age or anytime later, manifesting as shortness of breath due to emphysema or as liver symptoms such as jaundice, fatigue, fluid in the abdomen, mental changes, or gastrointestinal bleeding. Treatment options include, for lung disease, replacement of the missing alpha-1 antitrypsin. Avoidance of smoking and of other lung irritants is an important part of management. Treatment of the liver disease is liver transplant. Also known as protease inhibitor 1 deficiency.

alpha-fetoprotein A plasma protein normally produced by a fetus, principally in the fetus’s liver, the fetal gastrointestinal tract, and the yolk sac, a structure temporarily present during embryonic development. Abbreviated AFP. The level of AFP is typically high in the fetus’s blood. It goes down after birth. By 1 year of age, it is virtually undetectable. During pregnancy, AFP crosses the placenta from the fetal circulation and appears in the mother’s blood. The level of AFP in the mother’s blood provides an opportunity to screen for a number of disorders, including open neural tube defects (such as anencephaly and spina bifida), Down syndrome, and other chromosome abnormalities.

Alport syndrome A hereditary condition characterized by kidney disease, deafness, and sometimes eye defects. Alport syndrome involves inflammation of the kidney (nephritis), often progressing to kidney failure, and sensory nerve hearing loss. Progression to kidney failure is gradual and usually occurs in males before 50 years of age.

ALS Amyotrophic lateral sclerosis, Lou Gehrig’s disease.

ALT Alanine aminotransferase.

alternative medicine Healing arts not taught in traditional Western medical schools that promote options to conventional medicine that is taught in these schools. An example of an alternative therapy is using a special diet to treat cancer instead of undergoing surgery, radiation, or chemotherapy that has been recommended by a Western physician. Complementary medicine is different from alternative medicine. Whereas complementary medicine is used together with conventional medicine, alternative medicine is used in place of conventional medicine. See also *complementary medicine*; *conventional medicine*.

altitude, acclimatization to See *acclimatization to altitude*.

altitude illness See *altitude sickness*.

altitude sickness Sickness caused by being at a high altitude, usually above 2,400 meters (approximately 8,000 feet). The cause of altitude sickness is a matter of oxygen physiology. At sea level the concentration of oxygen is about 21 percent, and the barometric pressure averages 760 mm Hg. As altitude increases, the concentration remains the same, but the number of oxygen molecules per breath is reduced. At 5,400 meters (approximately 12,000 feet) above sea level, the barometric pressure is only 483 mm Hg, so there are roughly 40 percent fewer oxygen molecules per breath. In order to oxygenate the body effectively, the breathing rate must increase. This extra ventilation increases the oxygen content in the blood—but not to sea level concentrations. Because the amount of oxygen required for activity is the same at high altitude as at sea level, the body must adjust to having less oxygen. In addition, high altitude and lower air pressure cause fluid to leak from the capillaries, which can cause fluid buildup in the lungs and the brain. Prevention measures for altitude sickness include avoiding or retreating from high-altitude areas, gradual acclimatization, and medication. The acclimatization process is inhibited by dehydration, overexertion, and intake of alcohol and depressant drugs. Preventive medications include acetazolamide (brand name: Diamox) and dexamethasone (a steroid). See also *acclimatization to altitude*; *acute mountain sickness*.

alveolitis Inflammation of the alveoli, the air sacs in the lungs.

alveolus A tiny air sac in the lungs. Plural alveoli.

Alzheimer's disease A progressive degenerative disease of the brain that leads to dementia. On a cellular level, Alzheimer's disease is characterized by the finding of unusual helical protein filaments in nerve cells of the brain. These twisted filaments are called neurofibrillary tangles. In the brain, Alzheimer's disease involves degeneration of the cortical regions, especially the frontal and temporal lobes. There is currently no cure for Alzheimer's disease, but new medications and therapies appear to slow its progress and improve the patient's ability to function.

AMA American Medical Association, a professional organization for physicians that sets widely accepted standards of practice and ethics and that publishes the weekly journal *JAMA (Journal of the American Medical Association)*.

amastia A rare condition wherein the normal growth of the breast or nipple does not occur. Unilateral amastia (absence of one breast) is often associated with absence of the pectoral muscles.

Bilateral amastia (absence of both breasts) is associated with multiple birth defects involving other parts of the body. See also *amazia*.

amaurosis fugax A symptom that is often described as a shade coming down over the eye. Amaurosis fugax is a partial or complete loss of sight that is temporary. Amaurosis fugax is usually caused by arteriosclerosis in the blood vessels that supply the brain. It can also occur with excessive acceleration, as in flight, and with ophthalmic migraine. See also *arteriosclerosis*.

amaurotic familial idiocy An outdated term for Tay-Sachs disease (TSD). See *Tay-Sachs disease*.

amazia A condition wherein the breast tissue is absent, but the nipple is present. Amazia is typically a result of radiation or surgery.

ambidextrous Able to use both the right and left hands with equal dexterity. Neither right- nor left-handed.

amblyopia, nocturnal Night blindness, also known as day sight. See *nyctanopia*.

ambulance A vehicle equipped with medications and devices intended to stabilize patients while speeding them to a hospital. In its original sense, an ambulance was a mobile field hospital.

ambulatory Able to walk about, not bedridden or immobile.

ambulatory care Medical care provided on an outpatient basis, including diagnosis, observation, treatment, and rehabilitation services.

ameba A single-celled, protozoan organism that constantly changes shape. Amebae can infect the bowels, causing diarrhea. They can also infect the liver, causing abscesses to form.

amebiasis The state of being infected with amebae, especially with the ameba *Entamoeba histolytica*.

amebic colitis Amebic dysentery with ulcers in the colon from infection with the ameba *Entamoeba histolytica*. This single-celled parasite is transmitted to humans via contaminated water and food.

amebic dysentery Inflammation of the intestine due to infection with the ameba *Entamoeba histolytica*. Amebic dysentery can be accompanied by amebic infection of the liver and other organs.

amelanotic Without melanin. A skin lesion that is amelanotic lacks the pigment melanin and, therefore, is essentially colorless.

amelanotic melanoma See *melanoma, amelanotic*.

amelioration Improvement in a patient's condition, or the activity of making an effort to correct, or at least make more acceptable, conditions that are difficult to endure related to patient's conditions.

amenorrhea See *menstruation, cessation of*.

amenorrhea, physiologic The cessation of menstruation for completely normal reasons. The lack of menstruation during pregnancy and lactation are forms of physiologic amenorrhea.

amenorrhea, primary The failure of menstruation to occur at puberty.

amenorrhea, secondary The cessation of menstruation for abnormal reasons. Causes include anorexia nervosa, disease of the female reproductive tract, and overexercise. Secondary amenorrhea can also be caused by certain medications, notably the birth control medication medroxyprogesterone (brand name: Depo-Provera); in this case, amenorrhea is an expected effect.

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AMI Acute myocardial infarction.

amine A chemical compound containing nitrogen. Amines are derived from ammonia.

amino acid One of the 20 building blocks from which proteins are assembled. Isoleucine, leucine, lysine, phenylalanine, threonine, tryptophan, and valine are deemed "essential" amino acids because the human body cannot make them and they must be obtained in the diet. Amino acids are sometimes taken orally in supplement form.

amino acid screen A screening blood or urine test that returns information about the levels of amino acids. An amino acid screen is useful in diagnosing certain conditions, including the inborn errors of amino acid metabolisms such as phenylketonuria (PKU).

aminotransferase An enzyme that catalyzes the transfer of an amino group from a donor molecule to a recipient molecule. The donor molecule is usually an amino acid and the recipient molecule is usually an alpha-2 keto acid. Two of the best-known enzymes in this class are serum glutamic oxaloacetic transaminase (SGOT) and serum glutamic pyruvic transaminase (SGPT), both of which

are normally found primarily in cells in the liver and heart.

amitriptyline A tricyclic antidepressant drug (brand name: Elavil) prescribed to treat depression, chronic pain, migraines, eating disorders, and a wide variety of other conditions. See also *tricyclic antidepressant*.

AML See *leukemia, acute myeloid*.

amnesia An impairment to or lack of memory. Antegrade amnesia refers to a lack of memory of events occurring after a traumatic event, whereas retrograde amnesia refers to lack of memory of events that occurred before the event.

amniocentesis A before-birth diagnostic procedure during which a long needle is used to obtain amniotic fluid from within the uterus. This fluid can be used for genetic and other diagnostic tests. Informally known as amnio.

amnion A thin membrane that surrounds the fetus during pregnancy. The amnion is the inner of the two fetal membranes (the chorion is the outer one), and it contains the amniotic fluid.

amniotic fluid The fluid bathing a fetus within the uterus, which serves as a shock absorber.

amphetamine A drug that has a stimulant effect on the central nervous system that can be both physically and psychologically addictive when overused. Amphetamine has been much abused recreationally. The street term "speed" refers to stimulant drugs such as amphetamine.

amplification An event that produces multiple copies of a gene or of any sequence of DNA. Gene amplification plays a role in cancer. Amplification can occur in vivo (in the living individual) or in vitro (in the laboratory).

ampulla of Vater A small projection into the duodenum through which bile and pancreatic secretions flow to mix with food for digestion.

amputation Removal of part or all of a body part that is enclosed by skin. Amputation can occur at an accident site, the scene of an animal attack, or a battlefield. Amputation is also performed as a surgical procedure. It is typically performed to prevent the spread of gangrene as a complication of frostbite, injury, diabetes, arteriosclerosis, or any other illness that impairs blood circulation. It is also performed to prevent the spread of bone cancer and to curtail loss of blood and infection in a person who has suffered severe, irreparable damage to a limb.

When performing an amputation, surgeons generally cut above the diseased or injured area so that a portion of healthy tissue remains to cushion bone. Sometimes the location of a cut may depend in part on its suitability to be fitted with an artificial limb, or prosthesis.

AMS 1 Atypical measles syndrome. **2** Acute mountain sickness.

amygdala 1 The amygdaloid nucleus in the brain. **2** The tonsils. These structures were so named because they appeared to be shaped like an almond.

amyloidosis A group of diseases that result from the abnormal deposition of a protein, called amyloid, in various tissues of the body. Amyloid protein can be deposited in a localized area, and it may not be harmful or it may affect only a single tissue of the body. This form of amyloidosis is called localized amyloidosis. Amyloidosis that affects tissues throughout the body is referred to as systemic amyloidosis. Systemic amyloidosis can cause serious changes in organs throughout the body. Amyloidosis can occur as its own entity or secondarily, as a result of another illness, including multiple myeloma, chronic infections (such as tuberculosis or osteomyelitis), or chronic inflammatory diseases (such as rheumatoid arthritis and ankylosing spondylitis).

amyotrophic lateral sclerosis A progressive chronic disease of nerves from the spinal cord that are responsible for supplying electrical stimulation to the muscles. Abbreviated ALS. ALS is progressive and usually fatal in less than eight years, from illnesses that strike as the body becomes weaker. ALS occurs most often in adults over 50. The cause of ALS is unknown. It is sometimes called Lou Gehrig's disease, after a great baseball player who was its best-known victim.

ANA Antinuclear antibody, detected when a blood sample is microscopically evaluated using special cellular stain methods. ANAs indicate autoimmunity, or, an overactive misdirected immune system that can be associated with inflammation of various tissues of the body. The ANA test reveals different patterns, depending on how the cell nucleus is stained in the laboratory: homogeneous, or diffuse; speckled; nucleolar; and peripheral, or rim. Although these patterns are not specific for any one illness, certain illnesses can more frequently be associated with some patterns. For example, the nucleolar pattern is commonly found in the disease scleroderma. The speckled pattern is seen in many conditions and in persons who have no autoimmune disorder. ANAs are found in approximately 5

percent of the normal population, usually in low titers (low levels).

anaerobic Not requiring oxygen. Anaerobic bacteria, for example, do not require oxygen to grow.

anal fissure A tear in the anal canal, one of the most common causes of red blood in the stool.

anal itching Irritation of the skin at the exit of the rectum, accompanied by the desire to scratch. The intensity of anal itching is increased by moisture, pressure, and abrasion caused by clothing and sitting. It may be caused by irritating chemicals in food (as in spices, hot sauces, and peppers); irritation due to frequent liquid stools, as in diarrhea; diseases, such as diabetes mellitus or HIV infection, that increase the possibility of yeast infections; and psoriasis. Other causes of anal itching include hemorrhoids, anal fissures, abnormal local growth of anal skin (anal papillae), and skin tags. Treatment is directed first toward relieving the burning and soreness, including cleaning and drying the anus thoroughly, avoiding leaving soap in the anal area, showering gently without directly rubbing or irritating the skin, and using moist pads rather than toilet paper to clean the anus after bowel movements. Local application of cortisone cream may help. Also known as *pruritus ani*.

analgesia The inability to feel pain.

analgesic A drug that relieves pain.

analysis In psychology, a term for conversation-based therapeutic processes used to gain understanding of complex emotional or behavioral issues.

anaphylactic shock A widespread and extremely serious allergic reaction that can result in death. Symptoms include dizziness, loss of consciousness, labored breathing, swelling of the tongue and breathing tubes, blueness of the skin, low blood pressure, and heart failure. Immediate emergency treatment is required, for example, administration of epinephrine in the case of bee or wasp stings. See also *allergic reaction*.

anaphylactoid purpura A form of blood vessel inflammation that affects small capillaries in the skin and the kidneys. It results in skin rash associated with joint inflammation (arthritis) and cramping pain in the abdomen. Anaphylactoid purpura frequently follows a bacterial or viral infection of the throat or breathing passages, and it is an unusual reaction of the body's immune system to this infection. It occurs most commonly in children. Generally a mild illness that resolves spontaneously, anaphylactoid purpura can sometimes cause serious

problems in the kidneys and bowels. Treatment is directed toward the most significant area of involvement. Also known as Henoch-Schonlein purpura (HSP).

anaphylaxis An allergic reaction. In severe cases, anaphylaxis can include potentially deadly anaphylactic shock. See also *allergic reaction*; *anaphylactic shock*.

anastomosis The connection of normally separate parts. An anastomosis may be naturally occurring or it may be created during embryonic development, surgery, or trauma, or by pathological means. An anastomosis may, for example, connect two blood vessels, or it may connect the healthy sections of the colon or rectum after a cancerous or otherwise diseased portion has been surgically removed.

anat. Abbreviation for anatomy.

anatomy The study of human or animal form, by observation or examination of the living being, examination or dissection of dead specimens, microscopic examination, and/or textbooks.

anatomy, gross In medicine, the study of human structures that can be seen with the naked eye. Known among medical students studying human anatomy simply as “gross.”

anatomy, microscopic The study of normal structure of an organism under the microscope. Known among medical students simply as “micro.” Also known as histology.

anatripsis The use of friction as a treatment modality for a medical condition. Anatripsis may or may not also involve the application of a medicament.

Anderson-Fabry disease See *Fabry disease*.

androgen A group of hormones, including androsterone, that promotes the development and maintenance of male sex characteristics. Androgen production is stimulated by the hormone testosterone. See also *testosterone*.

android pelvis See *male pelvis*.

androstenedione A steroid produced in the adrenal gland that is a precursor to testosterone and other male hormones (androgens). Known popularly as andro, it has been used as a supplement to increase muscle strength. Taking andro raises testosterone levels above normal. Side effects include acne, male baldness, and a decrease in “good” cholesterol (which may predispose to heart disease and stroke).

androsterone A male sex hormone that is found in the blood and urine of men and women. It is seven times weaker than testosterone.

anemia The condition of having a lower-than-normal number of red blood cells or quantity of hemoglobin. Anemia diminishes the capacity of the blood to carry oxygen. Patients with anemia may feel tired, fatigue easily, appear pale, develop palpitations, and become short of breath. Children with chronic anemia are prone to infections and learning problems. The main causes of anemia are bleeding, hemolysis (excessive destruction of red blood cells), underproduction of red blood cells (as in bone marrow diseases), and underproduction of normal hemoglobin (as in sickle cell anemia and in iron deficiency anemia). Women are more likely than men to have anemia because of menstrual blood loss. In children, anemia is most commonly due to insufficient iron in the diet. Anemia is also often due to gastrointestinal bleeding caused by medications, including such common drugs as aspirin and ibuprofen.

anemia, Addisonian See *anemia, pernicious*.

anemia, aplastic Anemia due to failure of the bone marrow to produce red and white blood cells as well as platelets. Aplastic anemia frequently occurs without a known cause. Known causes include exposure to chemicals (for example, benzene, toluene in glues, insecticides, solvents), drugs (for example, chemotherapy drugs, gold, seizure medications, antibiotics), viruses (for instance, HIV, Epstein-Barr), radiation, immune conditions (for example, systemic lupus erythematosus, rheumatoid arthritis), pregnancy, paroxysmal nocturnal hemoglobinuria, and inherited disorders (for example, Fanconi anemia).

anemia, Cooley See *thalassemia*.

anemia, Fanconi See *Fanconi anemia*.

anemia, iron deficiency Anemia due to inadequate iron. Iron is necessary to make hemoglobin, the molecule in red blood cells that is responsible for the transport of oxygen. In iron deficiency anemia, the red cells are small and pale. Characteristic features of iron deficiency anemia in children include failure to thrive and increased infections. Iron deficiency anemia can be treated with iron supplements and iron-containing foods. Food sources of iron include meat, poultry, eggs, vegetables, and certain cereals. Iron supplements may also be taken, although they should never be given to children without a physician's recommendation.

anemia, Mediterranean See *thalassemia*.

anemia, pernicious Low red blood cell count caused by inadequate vitamin B12. Abbreviated PA. Patients with PA do not produce intrinsic factor (IF), a substance that allows the body to absorb vitamin B12 from foods. The resulting inadequacy of vitamin B12 hampers the production of red blood cells. PA can be treated by injection of vitamin B12; oral administration will not work because people with PA cannot absorb orally administered vitamin B12. Also known as Addison's anemia.

anemia, refractory Anemia that is unresponsive to treatment.

anemia, sickle cell A genetic blood disorder caused by the presence of an abnormal, sickle-shaped form of hemoglobin. These hemoglobin molecules tend to aggregate after unloading oxygen, forming long, rod-like structures that force the red cells to assume a sickle shape. Unlike normal red cells, which are usually smooth and malleable, the sickle red cells cannot squeeze through small blood vessels. When the sickle cells block small blood vessels, the organs are deprived of blood and oxygen. This leads to periodic episodes of pain and damages the vital organs. Sickle red cells die after only about 10 to 20 days, instead of the usual 120 days or so. Because they cannot be replaced fast enough, the blood is chronically short of red cells, causing anemia. The gene for sickle cell anemia must be inherited from both parents for the illness to occur in children. A child with only one copy of the gene may have sickle-cell traits but no symptoms of illness. See also *sickle cell trait*.

anencephaly Absence of the cranial vault and of most or all of the cerebral hemispheres of the brain, a lethal malformation. Anencephaly is due to imperfect development of the neural tube, the structure that gives rise to the central nervous system, during very early pregnancy. The upper end of the neural tube fails to close. The risk of all neural tube defects, including anencephaly, is decreased if the mother's diet during pregnancy contains ample folic acid. See also *neural tube defect*.

anesthesia Loss of feeling or awareness, as when an anesthetic is administered before surgery.

anesthesiologist A physician or, less often, a dentist who is specialized in the practice of anesthesiology.

anesthesiology The branch of medicine specializing in the use of drugs or other agents that cause insensibility to pain.

anesthetic A substance that causes lack of feeling or awareness, dulling pain to permit surgery and other painful procedures.

anesthetic, epidural An anesthetic injected into the epidural space surrounding the fluid-filled sac (the dura) around the spinal cord. It partially numbs the abdomen and legs and is most commonly used during childbirth.

anesthetic, general An anesthetic that puts a person to sleep rendering them unconscious.

anesthetic, local An anesthetic that causes loss of feeling in a limited part of the body.

anesthetist A nurse or technician trained to administer anesthetics.

aneuploidy A condition in which a person has one or a few chromosomes above or below the normal chromosome number. For example, three copies of chromosome 21, which is characteristic of Down syndrome, is a form of aneuploidy.

aneurysm A localized widening (dilatation) of an artery, a vein, or the heart. At the point of an aneurysm, there is typically a bulge. The wall of the blood vessel or organ is weakened and may rupture.

aneurysm, abdominal aortic A balloon-like swelling in the wall of the aorta within the abdomen. This swelling weakens the aorta's wall and, because of the great volume of blood flowing under high pressure in the aorta, it can rupture. An abdominal aortic aneurysm is monitored by ultrasound. Surgery is often recommended if the aneurysm is more than 5.5 centimeters (2.2 inches) in diameter or if a smaller aneurysm is enlarging with unusual rapidity.

aneurysm, aortic An aneurysm of the largest artery in the body, the aorta, involving that vessel in its course above the diaphragm (thoracic aortic aneurysm) or, more commonly, below the diaphragm (abdominal aortic aneurysm). Because of the volume of blood flowing under relatively high pressure within the aorta, a ruptured aneurysm of the aorta is a catastrophe. See also *aneurysm, abdominal aortic; aneurysm, thoracic*.

aneurysm, arterial An aneurysm involving an artery.

aneurysm, arteriosclerotic An aneurysm that occurs because a vessel wall is weakened by arteriosclerosis. Also known as atherosclerotic aneurysm. See also *arteriosclerosis*.

aneurysm, berry A small aneurysm that looks like a berry and classically occurs at the point at which a cerebral artery departs from the circular artery (the circle of Willis) at the base of the brain. Berry aneurysms frequently rupture and bleed.

aneurysm, brain An aneurysm of a blood vessel in the brain, usually due to a defect in the vessel at birth or from high blood pressure. Rupture of the aneurysm causes a sudden severe headache, often with nausea, vomiting, decreased consciousness, and can be life threatening.

aneurysm, cardiac An outpouching of an abnormally thin portion of the heart wall. Cardiac aneurysms tend to involve the left ventricle because the blood there is under the greatest pressure.

aneurysm, dissecting An aneurysm in which the wall of an artery rips (dissects) longitudinally. This occurs because bleeding into the weakened wall splits the wall. Dissecting aneurysms tend to affect the thoracic aorta. They are a particular danger in Marfan syndrome.

aneurysm, fusiform An aneurysm that is shaped like a spindle and widens an artery or a vein.

aneurysm, miliary A tiny, millet-seed-sized aneurysm that tends to affect minute arteries in the brain and, in the eye, the retina.

aneurysm, saccular An aneurysm that resembles a small sack. A berry aneurysm is typically saccular.

aneurysm, thoracic An aneurysm of the largest artery in the body, the aorta, involving that vessel in its course within the thorax (chest). Because of the volume of blood flowing under relatively high pressure within the aorta, a ruptured aneurysm of the aorta is a catastrophe. See also *aneurysm, abdominal aortic*; *aneurysm, aortic*.

aneurysm, venous A localized widening of a vein.

aneurysmal bone cyst See *bone cyst, aneurysmal*.

anger An emotional state that may range in intensity from mild irritation to intense fury and rage. Anger has physical effects, including raising the heart rate and blood pressure, as well as the levels of adrenaline.

angiitis Inflammation of the walls of small blood vessels. Also known as vasculitis.

angiitis, allergic granulomatous See *Churg-Strauss syndrome*.

angina Chest pain due to an inadequate supply of oxygen to the heart muscle. The pain is typically severe and crushing, and it is characterized by a feeling of pressure and suffocation just behind the breastbone. Angina can accompany or be a precursor of a heart attack.

angina, Prinzmetal Chest pain due to a coronary artery spasm, a sudden constriction of one of the vessels that supply the heart muscle with blood that is rich in oxygen. This spasm deprives the heart muscle of blood and oxygen. Treatments include beta-blocker medications and nitroglycerin to open up the coronary arteries. Also known as variant angina. See also *coronary artery spasm*.

angina, variant See *angina, Prinzmetal*.

angina, Vincent See *acute membranous gingivitis*.

angina pectoris See *angina*.

angioedema A skin condition that resembles hives but affects a deeper skin layer causing localized swellings of soft tissues, such as the tongue or lips. Angioedema can be a sign of an allergic reaction. See also *angioedema, hereditary*.

angioedema, hereditary A genetic form of angioedema. Persons with it are born lacking the enzyme C1 esterase inhibitor, a protein that normally inhibits the activation of a cascade of proteins. Without this inhibitor protein, angioedema occurs, resulting in recurrent attacks of swollen tissues, pain in the abdomen, and swelling of the voice box (larynx), which can compromise breathing. The diagnosis of hereditary angioedema is confirmed by finding subnormal blood levels of C1 esterase inhibitor. Treatment and prevention options include antihistamines and male steroids (androgens). Also known as hereditary angioneurotic edema. See also *angioedema*.

angiogenesis The process of developing new blood vessels. Angiogenesis is critically important during the normal development of the embryo and fetus. It also appears to be important during tumor formation.

angiogram An X-ray image of blood vessels. The vessels can be seen because a contrast dye within them blocks the X-rays from developing an imaging film.

angioid streaks Tiny breaks in the elastin-filled tissue in the retina in the back of the eye. Angioid streaks are seen in patients with pseudoxanthoma elasticum, a rare disorder of degeneration of the elastic fibers with tiny areas of calcification in the

skin, retinae, and blood vessels, and they are visible during an examination using an ophthalmoscope. Angioid streaks can cause blindness.

angiokeratoma corporis diffusum universale
See *Fabry disease*.

angioneurotic edema, hereditary See *angioedema, hereditary*.

angiopathy Disease of the arteries, veins, and capillaries. There are two types of angiopathy: microangiopathy and macroangiopathy. In microangiopathy, the walls of small blood vessels become so thick and weak that they bleed, leak protein, and slow the flow of blood. For example, diabetics may develop microangiopathy with thickening of capillaries in many areas, including the eye. In macroangiopathy, fat and blood clots build up in the large blood vessels, stick to the vessel walls, and block the flow of blood. Macroangiopathy in the heart is coronary artery disease; in the brain, it is cerebrovascular disease. Peripheral vascular disease is macroangiopathy that affects, for example, vessels in the legs.

angioplasty A procedure in which a balloon-tipped catheter is used to enlarge a narrowing in a coronary artery caused by arteriosclerosis. Also known as percutaneous transluminal coronary angioplasty (PTCA). See also *arteriosclerosis*.

angiosarcoma A form of tissue cancer (sarcoma) that arises in the lining of blood vessels. Angiosarcomas tend to be aggressive, recur locally, and spread widely. Predisposing factors include lymphedema (as from a radical mastectomy), radiotherapy, foreign materials (such as steel and plastic) in the body, and environmental agents (such as arsenic solutions used to spray grapevines and vinyl chloride in the plastic industry).

angiostatin A fragment of a protein, plasminogen, that is involved in blood clotting. Angiostatin is normally secreted by tumors, and it appears to halt the process of developing new blood vessels, which is necessary to tumor development.

angiotensin A family of peptides that constrict blood vessels. Narrowing the diameter of the blood vessels causes blood pressure to rise.

angiotensin converting enzyme See *ACE*.

angle-closure glaucoma Increased pressure in the front chamber of the eye due to blockage of its normal circulation of fluid. When the iris retracts and thickens (when the pupil of the eye is wide open), it blocks the drainage pathway for fluid in

the eye. This causes the pressure in the eye to soar, which can damage the optic nerve and lead to blindness. The elevated pressure is ideally to be detected before the appearance of other symptoms of angle-closure glaucoma, so the pressure is routinely checked during eye exams. Symptoms of acute angle-closure glaucoma include severe eye and facial pain, nausea and vomiting, blurred vision, and a halo effect around lights. Acute angle-closure glaucoma is an emergency because optic nerve damage and vision loss can occur within hours of its onset. Angle-closure glaucoma tends to affect people born with a narrow angle between the cornea and iris. See also *glaucoma*.

anhidrosis Lack of sweating. Anhidrosis creates a dangerous inability to tolerate heat.

anisocoria A condition in which the left and right pupils of the eyes are not of equal size. The size of the pupil determines how much light is let into the eye. With anisocoria, the larger pupil lets more light enter the eye. There are many causes of anisocoria, including eye injury or infection and swelling within the brain.

anisocytosis Excessive inequality in the size of the red blood cells. Anisocytosis is apparent on a blood smear examined under a microscope.

ankle A complex structure made up of two joints: the true ankle joint and the subtalar joint. The ankle's movement is constrained and controlled by ligaments, including the anterior tibiofibular ligament, which connects the tibia to the fibula; the lateral collateral ligaments, which attach the fibula to the calcaneus to give the outside of the ankle stability; and the deltoid ligaments on the inside of the ankle, which connect the tibia to the talus and calcaneus to provide medial stability to the ankle. See also *ankle joint*.

ankle joint A joint that is composed of three bones: the tibia, the fibula, and the talus. The ankle joint is responsible for the up-and-down motion of the foot. The subtalar joint is under the ankle joint, and it consists of the talus on top and calcaneus on the bottom. The subtalar joint is responsible for the side-to-side motion of the foot.

ankle-foot orthosis A brace, usually made of plastic, that is worn on the lower leg and foot to support the ankle, hold the foot and ankle in the correct position and correct foot drop. Abbreviated AFO. Also known as foot drop brace.

ankyloglossia A minor birth defect in which the flap of membrane attached to the underside of the tongue (frenulum) is too short. This shortened

frenulum limits the mobility of the tongue. Ankyloglossia is also called tongue tie, from the folk belief that the anomaly causes feeding and speech problems. A child cannot feed or speak properly because the tongue is “tied.” This antiquated belief is untrue.

ankylosing Having a tendency to stiffen and fuse together.

ankylosing spondylitis A form of chronic inflammation of the spine and the sacroiliac joints. Chronic inflammation in these areas causes pain and stiffness in and around the spine. Over time, chronic spinal inflammation (spondylitis) can lead to a complete cementing together (fusion) of the vertebrae, a process called ankylosis. Ankylosing spondylitis can sometimes be seen in patients with psoriasis and inflammatory bowel disease (ulcerative and Crohn’s colitis).

ankyrin deficiency A genetic disorder of the red blood cell membrane. Ankyrin deficiency is the cause of hereditary spherocytosis. See also *spherocytosis, hereditary*.

anlage **1** In biology, whatever precedes something else. **2** In embryology, a precursor or forerunner, of a more mature structure or organ. **3** In psychoanalysis, a predisposition to a given trait or personality characteristic.

ANLL Acute nonlymphocytic leukemia.

annexin One of a family of proteins that bind calcium and phospholipids.

annexin V A substance that normally forms a shield around certain phospholipid molecules in the blood, blocking their entry into coagulation (clotting) reactions. Annexin V is thought to be a cause of antiphospholipid syndrome.

anomaly Any deviation from normal, out of the ordinary. In medicine, an anomaly is usually something that is abnormal at birth.

anomaly, congenital A birth defect. A minor congenital anomaly is an unusual anatomic feature such as a short second toe that is of no serious medical or cosmetic consequence. By contrast, a major congenital anomaly is a defect such as a cleft palate that is of serious medical or cosmetic consequence.

anorexia A decreased appetite or an aversion to food, resulting in disturbed eating habits and weight loss. Anorexia may be caused by some medications and medical conditions, particularly in elderly or hospitalized patients. See also *anorexia nervosa*.

anorexia nervosa An eating disorder characterized by extreme attempts to control the diet and/or an aversion to food. It affects young women most often, but it may also be seen in men, children, and older adults. Symptoms can include extreme weight loss, weakness, and dulling of hair and skin. In some cases, anorexia nervosa may be a form of obsessive-compulsive disorder. Treatment includes medication, therapy, dietary counseling and, in extreme cases, hospitalization. Untreated anorexia can cause organ failure and death. See also *body dysmorphic disorder; bulimia nervosa; obsessive-compulsive disorder*.

anorexic **1** Pertaining to, or having the appearance of, anorexia. **2** Lack of appetite. **3** A drug or other agent that causes anorexia and so diminishes the appetite. See also *anorexia*.

anorexigenic Causing anorexia (loss of appetite) as, for example, an anorexigenic drug. See also *anorexia*.

anorgasmia Failure to achieve orgasm (climax) during sexual intercourse. Anorgasmia has many causes, including stress, anxiety, depression, fatigue, worry, guilt, fear of painful intercourse, fear of pregnancy, the undesirability of a partner, the undesirability of a setting, and the use of alcohol or prescription or illicit drugs.

anosmia The failure of the development of or the loss of the sense of smell.

anotia The absence from birth of the external, visible part of the ear (the auricle).

anoxia The absence, or near absence, of oxygen. Anoxia can injure tissues of the body.

ant, fire See *fire ant*.

ant, velvet See *velvet ant*.

ant sting See *fire ant*.

antagonist A substance that acts against and blocks an action. Antagonist is the opposite of agonist. Antagonists and agonists are key players in the chemistry of the human body and in pharmacology.

antenatal diagnosis See *prenatal diagnosis*.

anterior The front. For example, the breastbone is part of the anterior surface of the chest. Opposite of posterior. See also Appendix B, “Anatomic Orientation Terms.”

anterior cruciate ligament A ligament in the knee that crosses from the underside of the femur to

the top of the tibia. Abbreviated ACL. Injuries to the ACL can occur in a number of situations, including sports, and can be quite serious, sometimes requiring surgery. See also *knee*.

anterior pituitary See *pituitary, anterior*.

anteroposterior From front to back. Abbreviated AP. When a chest X-ray is taken with the patient's back against the film plate and the X-ray machine in front of the patient, it is referred to as an AP view. The opposite of AP is posteroanterior (PA). See also Appendix B, "Anatomic Orientation Terms."

anthracosis See *black lung disease*.

anthrax A highly infectious disease that normally affects animals, especially ruminants (such as cattle, sheep, and horses), but that can be transmitted to humans by contact with infected animals or their products or by biologic warfare. The agent of anthrax is the bacterium *Bacillus anthracis*. Its spores can resist destruction and remain viable for years. Anthrax is treated with antibiotics such as penicillin, tetracycline, erythromycin, and ciprofloxin (brand name: Cipro). Three forms of disease are caused by anthrax: cutaneous anthrax, inhalation anthrax, and gastrointestinal anthrax. See also *anthrax, cutaneous*; *anthrax, gastrointestinal*; *anthrax, inhalation*.

anthrax, cutaneous Anthrax infection of the skin. The most common form of anthrax, cutaneous anthrax starts as a red-brown raised spot that enlarges and has redness, blistering, and hardening in the area of the spot. The center of the spot then shows an ulcer crater with blood-tinged drainage and the formation of a black crust (an eschar). The glands in the area become swollen (enlarged lymph nodes), and the patient may have muscle aching and pain, headache, fever, nausea, and vomiting.

anthrax, gastrointestinal Anthrax infection of the gastrointestinal tract, now very rare but deadly. Gastrointestinal anthrax is caused by eating meat that is contaminated with the bacterium *Bacillus anthracis*.

anthrax, inhalation Anthrax infection of the lungs, also known as pulmonary anthrax, that is due to the inhalation of anthrax spores. The inhaled spores multiply rapidly in the lymph nodes in the chest. A person infected with inhalation anthrax experiences local bleeding and tissue death (necrosis) in these lymph nodes, and the disease spreads to the adjacent lung tissue. The first symptoms are subtle, gradual, and somewhat flu-like, including rising

fever. In a few days, severe respiratory distress occurs, followed by shock and coma. Prompt recognition and treatment are critical. Even with treatment, the patient may die. Once called woolsorters' disease.

anthrax immunization A series of six injections over a 6-month period, followed by annual booster shots, given to military personnel and others (including veterinarians who work with large animals) who are at high risk of anthrax exposure.

anthrax toxin The toxic substance secreted by the bacterium *Bacillus anthracis*, the cause of the disease anthrax.

anti-angiogenesis drug A drug, such as angiostatin or endostatin, that halts the development of new blood vessels (angiogenesis).

antibiotic A substance produced by one microorganism that selectively inhibits the growth of another. Synthetic antibiotics, usually chemically related to naturally occurring antibiotics, are made to accomplish comparable tasks. Antibiotics are used to treat bacterial infections. See also *cephalosporin antibiotics*; *penicillin*.

antibiotic resistance The ability of bacteria and other microorganisms to resist the effects of an antibiotic to which they were once sensitive. Antibiotic resistance is a major concern of overuse of antibiotics. Also known as drug resistance.

antibody A specialized immune protein (an immunoglobulin) produced because of the introduction of an antigen into the body. An antibody possesses the remarkable ability to combine with the antigen that triggered its production. The production of antibodies is a major function of the immune system and is carried out by a type of white blood cell called a B cell, or a B lymphocyte. Antibodies can be triggered by, and directed toward, foreign proteins, microorganisms, or toxins. Antibodies that are directed against one's own tissues are referred to as autoantibodies. See also *immune system*.

antibody, antinuclear See *antinuclear antibody*.

anticholinergic Opposing the actions of the neurotransmitter acetylcholine. Anticholinergic drugs inhibit the transmission of parasympathetic nerve impulses, thereby reducing spasms of smooth muscles (for example, muscles in the bladder). Side effects of anticholinergic medications include dry mouth and related dental problems, blurred vision, tendency toward overheating (hyperpyrexia), and in some cases, dementia-like symptoms.

anticipation The progressively earlier appearance and increased severity of a disease from generation to generation. The phenomenon of anticipation was once thought to be an artifact, but a biological basis for it has been discovered in a number of genetic disorders, such as myotonic dystrophy and Huntington disease.

anti-citrulline antibody See *citrulline antibody*.

anticoagulant An agent that is used to prevent the formation of blood clots. Anticoagulants have various uses. Some are used for the prevention or treatment of disorders characterized by abnormal blood clots and emboli. Anticoagulant drugs include intravenous heparin, which acts by inactivating thrombin and several other clotting factors that are required for a clot to form, and oral anticoagulants such as warfarin and dicumarol, which act by inhibiting the liver's production of vitamin K-dependent factors that are crucial to clotting. Anticoagulant solutions are also used for the preservation of stored whole blood and blood fractions and to keep laboratory blood specimens from clotting.

antidepressant A medication that prevents or reduces the symptoms of clinical depression. Some antidepressants may also be prescribed for their other medical effects, including increasing blood flow within the brain and treating chronic pain. See also *MAO inhibitor*; *SSRI*; *tricyclic antidepressant*.

antidiuretic hormone A peptide hormone made in the hypothalamus and released at the base of the brain by the nearby pituitary gland. Abbreviated ADH. ADH prevents the production of dilute urine and is therefore antidiuretic. It can also stimulate contraction of arteries and capillaries, and it may have effects on mental function. Also known as vasopressin. See also *ADH secretion*, *inappropriate*; *pituitary*; *posterior*.

antiDNase B A blood test for antibodies to the streptococcus B bacteria.

antidote A drug that counteracts a poison.

antifungal A medication that limits or prevents the growth of yeasts and other fungal organisms.

antigen A substance that the immune system perceives as being foreign or dangerous. The body combats an antigen with the production of an antibody.

antigen, prostate specific See *prostate specific antigen test*.

antigen-antibody complex The complex formed by the binding of an antibody to an antigen. Antigen-antibody complexes initiate immune responses. Also known as an immune complex.

antihistamine A drug that opposes the action of histamine released during an allergic reaction by blocking the action of the histamine on the tissue. Antihistamines frequently cause dry mouth and sleepiness. Some antihistamines are nonsedating. Antihistamine side effects that may occur include urine retention in males and increased heart rate.

antihypertensive A medication or another substance that reduces high blood pressure (hypertension). See also *high blood pressure*.

anti-infective An agent that is capable of acting against infection, either by inhibiting the spread of an infectious agent or by killing the infectious agent outright.

antineoplastic **1** Acting to prevent, inhibit, or halt the development of a neoplasm (a malignant tumor, or cancer). **2** An agent with antineoplastic properties. Cancer chemotherapy is antineoplastic.

antinuclear antibody An antibody that is directed against the structures within the nucleus of a cell and that is characteristic of autoimmunity. Abbreviated ANA. ANAs are found in the blood of patients whose immune systems attack their own body tissues (autoimmunity), such as patients with systemic lupus erythematosus, rheumatoid arthritis, juvenile diabetes mellitus, and Hashimoto disease. ANAs can also be found in patients with chronic infections and cancer, and many medications—including procainamide (brand name: Procan SR), hydralazine, and phenytoin (brand name: Dilantin)—can stimulate their production. See also *ANA*; *autoimmune disorder*.

antioxidant A substance that reduces damage due to oxygen, such as that caused by free radicals. Well-known antioxidants include enzymes and other substances, such as vitamin C, vitamin E, and beta carotene, which are capable of counteracting the damaging effects of oxidation. Antioxidants are also commonly added to food products such as vegetable oils and prepared foods to prevent or delay their deterioration from the action of air. Antioxidants may possibly reduce the risks of cancer. Antioxidants clearly slow the progression of age-related macular degeneration.

antiphospholipid syndrome An immune disorder characterized by the presence of abnormal antibodies in the blood that are directed against the chemical structure of fats that contain phosphorus

(phospholipids). Abbreviated APS. APS is associated with abnormal blood clotting, migraine headaches, recurrent pregnancy loss, and low blood platelet counts (thrombocytopenia). APS can occur by itself (primary APS) or be caused by an underlying condition (secondary APS), such as systemic lupus erythematosus. Examples of antiphospholipid antibodies are cardiolipin antibody and lupus anticoagulant. See also *annexin V*.

antiplatelet agent A medication that interferes with the tendency of platelets in the blood to clump and clot. Aspirin is an antiplatelet agent.

antiseptic Discouraging the growth of microorganisms. Commonly refers to antiseptic preparations used during medical procedures or used to maintain sanitary conditions in nursing homes, barbershops, tattoo parlors, and other facilities where unchecked microorganism growth could result in disease. See also *aseptic*.

antispasmodic A medication that relieves, prevents, or lowers the incidence of muscle spasms, especially those of smooth muscle such as in the bowel wall.

antitoxin **1** An antibody that is naturally produced to counteract a toxin, such as a toxin from a bacterial infection or snake bite. **2** An antibody from the serum of an animal stimulated with specific antibodies that is administered to humans or other animals to provide passive immunity to a disease. Such antitoxins are of short-term value only and are used for treatment rather than prevention.

antiviral agent A medication or another agent that kills viruses or inhibits their capability to reproduce.

antro-duodenal motility study A study used to detect and record the contractions of the muscles of the stomach and duodenum in order to diagnose motility disorders of the stomach and small intestine. A tube is passed through the nose, throat, esophagus, and stomach, until the tip lies in the small intestine. The tube senses when the muscles of the stomach and small intestine contract and squeeze it. The contractions are recorded by a computer and analyzed.

antrum A general term for a nearly closed cavity or chamber. For example, the antrum of the stomach (gastric antrum) is a portion before the outlet, which is lined by mucosa and does not produce acid. The paranasal sinuses can be referred to as the frontal antrum, ethmoid antrum, and maxillary antrum.

anus The opening of the rectum to the outside of the body.

anus, imperforate A birth defect in which the rectum is a blind alley and there is no anus. Imperforate anus occurs in about 1 in 5,000 births, and it can be corrected by surgery.

anxiety A feeling of apprehension and fear, characterized by physical symptoms such as palpitations, sweating, and feelings of stress.

anxiety disorder A chronic condition characterized by an excessive and persistent sense of apprehension, with physical symptoms such as sweating, palpitations, and feelings of stress. Treatments include the comfort offered by understanding the condition, avoiding or desensitizing exacerbating situations, and medications.

aorta The largest artery in the body, the major conduit from the heart to the body. The aorta arises from the left ventricle of the heart, ascends a little, arches, and then descends through the chest and the abdomen, ending by dividing into two arteries, the common iliac arteries, that supply blood to the lower extremities. Anatomically, the aorta is traditionally divided into the ascending aorta, the aortic arch, and the descending aorta. The descending aorta is, in turn, subdivided into the thoracic aorta, which goes from the heart to above the diaphragm, and the abdominal aorta, which is below the diaphragm. The aorta has branches to the head and neck, the arms, the major organs in the chest and abdomen, and the legs. It supplies them all with oxygenated blood. See also *abdominal aorta*; *ascending aorta*; *descending aorta*; *thoracic aorta*.

aorta, coarctation of the A constriction of the aorta. At the point of coarctation, the sides of the aorta appear to be pressed together. Blood pressure is increased above the constriction, and the flow of blood is impeded below the level of the constriction. Symptoms may not be evident at birth but can develop as soon as the first week after birth, with congestive heart failure or high blood pressure that call for early surgery. The outlook after surgery is usually favorable. Some cases of coarctation of the aorta have been treated with balloon angioplasty.

aortic aneurysm See *aneurysm, aortic*.

aortic arch The second section of the aorta following the ascending aorta. As it continues from the heart, it gives off the brachiocephalic trunk, and the left common carotid and subclavian arteries. The brachiocephalic trunk splits to form the right subclavian and the right common carotid arteries,

which supply blood to the right arm and the right side of the neck and head. The left common carotid artery and left subclavian artery, the second and third branches off the aortic arch, perform parallel functions on the left side.

aortic insufficiency Backflow of blood from the aorta into the left ventricle across a weakened aortic valve. Also known as aortic regurgitation.

aortic regurgitation See *aortic insufficiency*.

aortic stenosis Narrowing (stenosis) of the aortic valve, the valve between the left ventricle of the heart and the aorta. This narrowing impedes the delivery of blood to the body through the aorta and makes the heart work harder. The need for surgery depends on the degree of stenosis. A procedure called balloon valvuloplasty has been used in some cases of aortic stenosis.

aortic valve One of the four valves of the heart. The aortic valve is positioned at the beginning of the aorta. It normally permits blood from the left ventricle to flow into the aorta, and prevents blood in the aorta from returning to the heart. See also *heart valve*.

aortic valve, bicuspid An abnormal aortic valve with only two cusps. See also *aortic stenosis*.

aortitis Inflammation of the aorta. The causes of aortitis include syphilis and rheumatic fever.

AP 1 Angina pectoris. 2 Arterial pressure. 3 In endocrinology, anterior pituitary gland. 4 In anatomy, anteroposterior.

aperient Laxative.

Apert syndrome The best-known type of acrocephalosyndactyly, a group of disorders characterized by malformations of the skull, face, hands, and feet. Apert syndrome is inherited as an autosomal dominant trait. See also *acrocephalosyndactyly*; *fibroblast growth factor receptor*.

apex The Latin word for summit, the apex is the tip of a pyramidal or rounded structure, such as the lung or the heart. The apex of the lung is indeed its tip—its rounded most superior portion. The apex of the heart is likewise its tip, but it is formed by the left ventricle, so it is essentially the most inferior portion of the heart.

Apgar score An objective score of the condition of a baby after birth. This score is determined by scoring the heart rate, respiratory effort, muscle tone, skin color, and response to a catheter in the

nostril. Each of these objective signs receives 0, 1, or 2 points. An Apgar score of 10 means an infant is in the best possible condition. The Apgar score is done routinely 60 seconds after the birth of the infant. A child with a score of 0 to 3 needs immediate resuscitation. The Apgar score is often repeated 5 minutes after birth, and in the event of a difficult resuscitation, the Apgar score may be done again at 10, 15, and 20 minutes.

aphagia Inability to eat.

aphasia Literally, no speech. Aphasia may also be used to describe defects in spoken expression or comprehension of speech.

apheresis The process of removing a specific component from blood temporarily. Also known as hemapheresis and pheresis. Forms of apheresis include plasmapheresis, harvesting plasma or liquid part of the blood; leukapheresis, harvesting leukocytes or white blood cells; granulocytapheresis, harvesting granulocytes; lymphocytapheresis, harvesting lymphocytes; lymphoplasmapheresis, harvesting lymphocytes and plasma; and plateletpheresis, harvesting platelets.

aphonia Inability to speak.

apical The adjective for apex, the tip of a pyramidal or rounded structure, such as the lung or the heart. For example, an apical lung tumor is a tumor located at the top of the lung.

aplasia Failure to develop. See also *atrophy*.

aplasia of the breast See *amastia*.

aplastic anemia See *anemia, aplastic*.

apnea The absence of breathing (respiration).

apnea, sleep See *sleep apnea*.

apophysitis calcaneus Inflammation of the growth plate of the calcaneus, the bone at the back of the heel, where the Achilles tendon attaches. Apophysitis calcaneus occurs mainly in older children and adolescents, especially active boys. It can be very painful, although it may be dismissed as “growing pains.” Treatment includes activity limitation, medication, shoe inserts, heel lifts, and sometimes casting if it becomes especially severe. Fortunately, it usually disappears as the child gets older. Also known as Sever condition. See also *Achilles tendon*.

apoptosis A form of cell death in which a programmed sequence of events leads to the elimination

of cells without releasing harmful substances into the surrounding area. Apoptosis plays a crucial role in developing and maintaining the health of the body by eliminating old cells, unnecessary cells, and unhealthy cells. The human body replaces perhaps one million cells per second. Too little or too much apoptosis can play a role in many diseases. When apoptosis does not work correctly, cells that should be eliminated may persist and become immortal, for example, in cancer and leukemia. When apoptosis works overly well, it kills too many cells and inflicts grave tissue damage. This is the case in strokes and neurodegenerative disorders such as Alzheimer's, Huntington's, and Parkinson's diseases. Also known as programmed cell death and cell suicide.

appendectomy Surgical removal of the appendix. An appendectomy is performed because of probable appendicitis. See also *appendicitis*.

appendicitis Inflammation of the appendix, usually associated with infection of the appendix. Appendicitis often causes fever, loss of appetite, and pain. Appendicitis may be suspected because of the medical history and physical examination. The pain of appendicitis can be located in various areas of the belly. If the appendix ruptures and infection spreads throughout the abdomen, the pain becomes widespread as the entire lining of the abdomen becomes inflamed. Ultrasonography and computerized tomography may be helpful in diagnosis.

appendix A small outpouching from the beginning of the large intestine.

appendix epididymis A small cystic projection from the surface of the epididymis (a structure within the scrotum that is attached to the backside of the testis), which represents a remnant of the embryologic mesonephros.

appendix epiploica A finger-like projection of fat attached to the colon.

appendix testis A small solid projection of tissue on the outer surface of the testis, which is a remnant of the embryologic mullerian duct.

apposition **1** The act of adding or accretion. Growth by apposition is characteristic of many tissues in the body by which nutritive matter from the blood is transformed on the surface of an organ into a solid unorganized substance. **2** The act of putting things in juxtaposition or side by side. To lose a pair of apposed teeth is to lose teeth that are next to each other. Also known as juxtaposition.

apraxia The inability to execute a voluntary motor movement despite being able to demonstrate normal muscle function. Apraxia is not related to a lack of understanding or to any kind of physical paralysis; rather, it is caused by a problem in the cortex of the brain.

apraxia of speech A severe speech disorder characterized by an inability to speak or a severe struggle to speak clearly. Apraxia of speech occurs when the oral-motor muscles do not or cannot obey commands from the brain or when the brain cannot reliably send those commands. Apraxia of speech is caused by damage to the Broca area in the brain. See also *dyspraxia of speech*.

APS Antiphospholipid syndrome.

aphthous ulcer See *canker sore*.

aqueduct A channel for the passage of fluid.

aqueduct of Sylvius A canal between the third and fourth ventricles in the brain within the system of four communicating cavities that are continuous with the central canal of the spinal cord. The ventricles are filled with cerebrospinal fluid, which is carried by the aqueduct of Sylvius.

aqueduct of the midbrain See *aqueduct of Sylvius*.

arachnodactyly A condition in which a person has long, spider-like fingers and toes. Arachnodactyly is a frequent finding in those with Marfan syndrome. See also *Marfan syndrome*.

arachnophobia An abnormal and persistent fear of spiders. Sufferers from arachnophobia experience undue anxiety, even though they realize that the risk of encountering a spider and being harmed by it is small or nonexistent. They may avoid going barefoot and may be especially alert when taking showers or getting into and out of bed.

arbitration agreement An arrangement in which the patient waives the right to sue the physician and, instead, agrees to submit any dispute to arbitration. Arbitration agreements are legal and binding. The arguments in their favor are that, for patients, the case can be settled faster, and more money can go to the patient (rather than to a lawyer). Physicians can often get a discount on their malpractice insurance if the majority of their patients sign such agreements.

arbovirus A type of virus transmitted to humans by mosquitoes and ticks. Arbovirus can cause inflammation of the brain (encephalitis). The types

of arboviral encephalitis that occur in the US include LaCrosse, eastern equine, western equine, and St. Louis encephalitis, all of which are transmitted by mosquitoes. Another arbovirus, Powassan, transmitted by ticks, is a cause of encephalitis in the northern US. Many other types of arboviral encephalitis occur throughout the world. Most are problems only for travelers to countries where the viruses are endemic. One, the West Nile virus, has made a major entry into the US. It causes West Nile encephalitis, also known as West Nile fever. See also *hemorrhagic fever, viral*.

ARC AIDS-related complex.

arch, aortic See *aortic arch*.

archaea A unique group of microorganisms that are called bacteria (Archaeobacteria) but are genetically and metabolically different from all other known bacteria. They appear to be living fossils, the survivors of an ancient group of organisms that bridged the gap in evolution between bacteria and multicellular organisms (eukaryotes).

arcus senilis A cloudy opaque arc or circle around the edge of the eye, often seen in the eyes of the elderly.

ARDS Acute respiratory distress syndrome.

areola **1** The small, darkened area around the nipple of the breast. **2** The colored part of the iris around the pupil of the eye. **3** Any small space in a tissue.

arginine An essential amino acid and a key component of protein. Lack of arginine in the diet impairs growth, and in adult males it decreases the sperm count. Arginine is available in turkey, chicken, and other meats, and as L-arginine in supplements. Babies born without the enzyme phosphate synthetase have arginine deficiency syndrome; adding arginine to their diets permits normal growth and development.

argyria Silver poisoning, resulting in ashen, gray, discolored skin, and damage to other tissues of the body. Caused by long-term use of silver salts or other preparations containing silver.

arm In popular usage, the appendage that extends from the shoulder to the hand. However, the medical definition refers to the upper extremity extending from the shoulder only to the portion of the elbow, excluding the forearm, which extends from the elbow to the wrist. The arm contains one bone: the humerus.

arm, wrist, and hand bones See *bones of the arm, wrist, and hand*.

armed tapeworm See *Taenia solium*.

Arnold Chiari malformation See *Chiari malformation*.

aromatherapy A form of alternative medicine in which essential oils or other scents are inhaled to achieve therapeutic benefit. The mechanism of action in aromatherapy is unknown, but recent studies have shown that aromatherapy may be beneficial for some health problems.

arrector pili A microscopic band of muscle tissue that connects a hair follicle to the dermis. When stimulated, the arrector pili contracts and causes the hair to become more perpendicular to the skin surface, thereby erecting the hair (causing the hair to stand on end). The arrector pili muscle plays a key role in forming goose bumps. See also *goose bumps*.

arrhythmia An abnormal heart rhythm. With an arrhythmia, the heartbeats may be irregular or too slow (bradycardia), too rapid (tachycardia), or too early. When a single heartbeat occurs earlier than normal, it is called a premature contraction. See also *bradycardia; tachycardia*.

arrhythmia, atrial An abnormal heart rhythm due to electrical disturbances in the upper chambers of the heart (atria) or the atrioventricular (AV) node "relay station," leading to fast heart beats. Examples of atrial arrhythmias include atrial fibrillation, atrial flutter, and paroxysmal atrial tachycardia.

arrhythmia, ventricular An abnormally rapid heart rhythm that originates in the lower chambers of the heart (ventricles). Ventricular arrhythmias include ventricular tachycardia and ventricular fibrillation. Both are life-threatening arrhythmias, and they are most commonly associated with heart attacks or scarring of the heart muscle from previous heart attacks.

arterial anastomosis A joining of two arteries. See also *anastomosis*.

arterial aneurysm See *aneurysm, arterial*.

arterial blood gas See *ABG*.

arterial pressure The pressure of the blood within an artery. Also known as arterial tension and intra-arterial pressure.

arterial tension See *arterial pressure*.

arteriogram An X-ray in which an injection of dye shows blood vessels.

arteriole A small branch of an artery that leads to a capillary. The oxygenated hemoglobin (oxyhemoglobin) makes the blood in arterioles (and arteries) look bright red.

arteriosclerosis Hardening and thickening of the walls of the arteries. Arteriosclerosis leads to heart attacks and strokes, as well as to peripheral vascular disease. Arteriosclerosis can be categorized as atherosclerosis, medial calcification, hypertensive, or arteriolar sclerosis. See also *atherosclerosis*; *heart attack*; *stroke*; *peripheral vascular disease*.

arteriosclerotic aneurysm See *aneurysm*, *arteriosclerotic*.

arteriovenous malformation See *malformation*, *arteriovenous*.

arteritis, cranial A serious disease characterized by inflammation of the walls of arteries, particularly those that supply blood to the head. Symptoms include headache, pain in the jaw when repetitively chewing, and tenderness of the scalp, usually over the inflamed arteries of the sides of the head (temporal area). Less specific symptoms include fatigue, low-grade fever, and weight loss. The muscle aching of polymyalgia rheumatica is seen in one-fourth of patients with cranial arteritis. When the arteries affected by cranial arteritis become inflamed, they can narrow to the degree that the blood flow through them is limited. This can cause serious deficiency of oxygen supply to the tissues that are normally supplied by these arteries. Deficient oxygenation of the eyes or brain can lead to impaired or double vision, blindness, or stroke. Patients with cranial arteritis are usually over 50 years of age. The disease is detected by a biopsy of an artery and treated with high dose cortisone-related medications. Also known as temporal arteritis and giant cell arteritis. See also *polymyalgia rheumatica*.

arteritis, giant cell See *arteritis, cranial*.

arteritis, temporal See *arteritis, cranial*.

artery A blood vessel that carries blood, rich in oxygen, away from the heart to the body. The oxygenated hemoglobin (oxyhemoglobin) in arterial blood makes it look bright red. See also *aorta*; *carotid artery*; *ophthalmic artery*; *radial artery*; *splenic artery*; *vertebral artery*.

artery, coronary See *coronary artery*.

artery spasm, coronary See *coronary artery spasm*.

arthralgia Pain in a joint.

arthritis Inflammation of a joint. When joints are inflamed, they can develop stiffness, warmth, swelling, redness, and pain. There are more than 100 types of arthritis. See also *ankylosing spondylitis*; *arthritis, degenerative*; *arthritis, gouty*; *arthritis, Lyme*; *psoriatic arthritis*; *arthritis, Reiter*; *arthritis, rheumatoid*; *arthritis, spondylitis*; *gout*; *lupus*; *pseudogout*.

arthritis, degenerative A type of arthritis caused by inflammation, breakdown, and eventual loss of the cartilage of the joints. Degenerative arthritis is the most common form of arthritis, usually affecting the hands, feet, spine, and large weight-bearing joints, such as the hips and knees. Also known as osteoarthritis and degenerative joint disease.

arthritis, gouty See *gouty arthritis*.

arthritis, Lyme Joint inflammation associated with Lyme disease, a bacterial disease spread by ticks. See also *Lyme disease*.

arthritis, psoriatic See *psoriatic arthritis*.

arthritis, Reiter The joint component of a syndrome of inflammation of the joints (arthritis), eyes (conjunctivitis), and the genitourinary and/or gastrointestinal systems. See also *Reiter syndrome*.

arthritis, rheumatoid An autoimmune disease characterized by chronic inflammation of joints. Rheumatoid disease can also involve inflammation of tissues in other areas of the body, such as the lungs, heart, and eyes. Because it can affect multiple organs of the body, rheumatoid arthritis is referred to as a systemic illness. Although rheumatoid arthritis is a chronic illness, patients may experience long periods without symptoms. Also known as rheumatoid disease.

arthritis, septic Joint inflammation caused by infection from blood poisoning (sepsis) or from infection within the affected joint itself, or as a side effect of infection in other body tissues. Treatment includes antibiotic medications and surgical drainage. Also known as pyarthrosis and suppurative arthritis.

arthritis, spondylitis A form of arthritis that causes chronic inflammation of the spine.

arthritis, systemic-onset chronic rheumatoid
See *arthritis, systemic-onset juvenile rheumatoid*.

arthritis, systemic-onset juvenile rheumatoid
A form of joint disease in children whose systemic signs and symptoms include high intermittent fever, a salmon-colored skin rash, swollen lymph glands, enlargement of the liver and spleen, inflammation of the lungs (pleuritis), and inflammation around the heart (pericarditis). The arthritis itself may not be immediately apparent, but in time it surfaces and may persist after the systemic symptoms are long gone. Also known as systemic-onset chronic arthritis or Still's disease.

arthritis in children Arthritis in children, usually in the form of juvenile/pediatric arthritis or rheumatoid arthritis. See also *arthritis, systemic-onset juvenile rheumatoid*.

arthritis mutilans An extremely severe form of chronic rheumatoid or psoriatic arthritis characterized by resorption of bones and the consequent collapse of soft tissue. When this affects the hands, it can cause a phenomenon sometimes referred to as "telescoping fingers."

arthrocentesis A procedure in which a sterile needle and syringe are used to drain fluid from the joint. This is usually done as an office procedure or at the bedside in the hospital. For certain conditions, medication is put into the joint after fluid removal. The needle is then removed, and a bandage or dressing is applied over the entry point. Joint fluid can be examined to determine the cause of the joint swelling, such as infection, gout, or rheumatoid disease. Arthrocentesis can be helpful in relieving joint swelling and pain. Also known as joint aspiration.

arthrogryposis Joint contractures that develop before birth and are evident at birth. With arthrogryposis there is a lack of the normal range of motion in one or more joints. In normal embryonic development, joints can be seen moving by 8 weeks of gestation. This motion of joints is essential to the proper development of the joints and structures around them. Limitation of joint motion before birth leads to joint contractures and arthrogryposis. Prenatal limitation of joint mobility can result from neurologic deficits, muscle defects, connective tissue defects, and fetal crowding (in which there is not enough room for the fetus to move around freely in the womb).

arthropathy Joint disease.

arthroscope A thin, flexible fiberoptic scope that is introduced into a joint space through a small incision in order to carry out diagnostic and treatment procedures within the joint. An arthroscope is fitted with a miniature camera, a light source, and precision tools at the end of flexible tubes. See also *arthroscopy*.

arthroscopic Related to arthroscopy.

arthroscopy A surgical technique in which a tube-like instrument is inserted into a joint to inspect, diagnose, and repair tissues. It is most commonly performed in patients with diseases of the knees or shoulders.

arthrosis See *joint*.

articulation **1** In medicine, the joint where bones come together. See also *joint*. **2** In dentistry, the occlusal surfaces of the teeth, where the teeth come together. **3** In speech, the production of intelligible words and sentences by joining together the lips, tongue, palate, and other structures.

articulation disorder A speech disorder involving difficulties in articulating specific types of sounds. Articulation disorders often involve substitution of one sound for another, slurring of speech, or indistinct speech. Treatment is speech therapy.

artificial heart A human-made heart. An artificial heart is a mechanical pump that is used to replace a damaged heart temporarily or permanently.

artificial insemination A procedure in which a fine catheter (tube) is inserted through the cervix into the uterus to directly deposit a sperm sample. The purpose of this relatively simple procedure is to achieve fertilization and pregnancy. Also known as intrauterine insemination (IUI).

artificial insemination by donor A procedure in which a fine catheter (tube) is inserted through the cervix into the uterus to directly deposit a sperm sample from a donor other than the woman's mate. The purpose of this procedure is to achieve fertilization and pregnancy. Abbreviated AID. Also known as heterologous insemination.

artificial insemination by partner A procedure in which a fine catheter (tube) is inserted through the cervix into the uterus to deposit a sperm sample from the woman's mate directly into the uterus. The purpose of this procedure is to achieve fertilization and pregnancy. Abbreviated AIH. Also known as homologous insemination.

artificial pacemaker A device that uses electrical impulses to regulate the heart rhythm or reproduce it. An internal pacemaker is one in which the electrodes to the heart, the electronic circuitry, and the power supply are all implanted internally, within the body. Although there are different types of pacemakers, all are designed to treat a heart rate that is too slow (bradycardia). Pacemakers may function continuously and stimulate the heart at a fixed rate, or they may function at an increased rate during exercise. A pacemaker can also be programmed to detect an overly long pause between heartbeats and then stimulate the heart.

artificial pancreas A machine that constantly measures glucose (sugar) in the blood and, in response to an elevated level of glucose, releases an appropriate amount of insulin. In this respect, an artificial pancreas functions like a natural pancreas.

asbestos A natural material made up of tiny fibers that is used as thermal insulation. Inhalation of asbestos fibers can lead to asbestosis and mesothelioma.

asbestosis Scarring of the lungs caused by inhalation of asbestos fibers. When asbestos fibers lodge in the lungs, they promote the development of cancer, such as mesothelioma of the pleura (the lining of the lung) and bronchogenic carcinoma (cancer of the lung). See also *mesothelioma*.

ascaris Intestinal roundworms. Infection with *ascaris* is referred to as ascariasis.

ascending aorta The first section of the aorta, which starts from the left ventricle of the heart and extends to the aortic arch. The right and left coronary arteries that supply blood to the heart muscle arise from the ascending aorta.

ascites An abnormal accumulation of fluid within the abdomen. There are many causes of ascites, including cirrhosis of the liver, cancer within the abdomen, congestive heart failure, and tuberculosis.

ascorbic acid Vitamin C, an essential nutrient found mainly in fruits and vegetables. The body requires ascorbic acid in order to form and maintain bones, blood vessels, and skin. Ascorbic acid also promotes the healing of cuts, abrasions and wounds; helps fight infections; inhibits conversion of irritants in smog, tobacco smoke, and certain foods into cancer-causing substances; appears to lessen the risk of developing high blood pressure and heart disease; helps regulate cholesterol levels; prevents the development of scurvy; appears to lower the risk of developing cataracts; and aids in

iron absorption. Ascorbic acid can cause adverse reactions when taken with some drugs.

ASCUS An acronym for Atypical Squamous Cells of Undetermined Significance. This term is used in the Bethesda System for reporting Pap smear findings, and indicates that some flat (squamous) cells look unusual and may or may not be pre-malignant or malignant.

ASD Atrial septal defect.

aseptic Free from infection, sterile. See also *antiseptic*.

aseptic necrosis See *avascular necrosis*.

ASO Antistreptolysin-O, a blood test that looks for antibodies to the streptococcus A bacteria. Also abbreviated ASLO.

aspartate aminotransferase An enzyme that is normally present in liver and heart cells that is released into the blood when the liver or heart is damaged. Abbreviated AST. Some medications can also raise blood AST levels. Also known as serum glutamic oxaloacetic transaminase (SGOT).

Asperger syndrome A disorder related to autism characterized by obsessive interests and behavior, but without speech delay or mental retardation. Other features of Asperger syndrome include physical clumsiness, and/or moderate to severe social deficits. Asperger syndrome is the mildest of and at the highest functioning end of the spectrum of pervasive developmental disorders (the autism spectrum). Persons with Asperger syndrome have deviations or abnormalities in three broad aspects of development: social relatedness and social skills, the use of language for communicative purposes, and certain behavioral and stylistic characteristics that involve repetitive or perseverative features and a limited but intense range of interests. See also *autism*.

aspergillosis Infection with the fungus *Aspergillus*, seen especially in people with compromised immune systems in whom there may be invasive lung infection and sometimes spread to other tissues, including the brain, the skin, and bones. Aspergillosis also causes allergic sinusitis and allergic bronchopulmonary disease.

Aspergillus A family of fungal organisms and molds, some of which can cause disease.

asphyxia Impaired breathing.

aspirate To suck in. For example, a person may aspirate by accidentally drawing material from the stomach into the lungs, and a physician can aspirate fluid from a joint. See also *arthrocentesis*; *aspiration*.

aspiration **1** Removal of a sample of fluid and cells through a needle. **2** The accidental sucking of food, fluid, vomit, or other foreign material into the lungs.

aspiration, joint See *arthrocentesis*.

aspiration pneumonia Inflammation of the lungs due to aspiration.

aspirin Once the Bayer trademark for acetylsalicylic acid, now the common name for this anti-inflammatory pain reliever.

assay **1** An analysis done to determine the presence and amount of a substance. An assay may be done, for example, to determine the level of thyroid hormones in the blood. **2** An analysis done to determine the biologic or pharmacologic potency of a drug. For example, an assay may be done of a vaccine to determine its potency. **3** As a verb, to try or attempt. For example, "She assayed this operation for the first time and was understandably nervous." **4** The act of analyzing a mixture for one or more of its components. **5** The act of judging the value or worth of something.

assistant, physician See *physician assistant*.

assisted living A type of long-term care facility for elderly or disabled people who are able to get around on their own but who may need help with some activities of daily living or simply prefer the convenience of having their meals in a central cafeteria and having nursing staff on call.

assisted suicide Deliberate hastening of death performed by a terminally ill patient, with assistance from a physician, a family member, or another individual. See also *active euthanasia*.

assistive device A device that is designed, made, or adapted to help a person perform a particular task. For example, canes, crutches, walkers, wheelchairs, and shower chairs are all assistive devices. See also *assistive technology*.

assistive technology An assistive device or, more commonly, some kind of electronic or computerized device that helps a disabled person to function more easily in the world. Examples of assistive technology include devices that allow people to control a computer with the mouth, keyboards that can "speak"

for mute individuals, and closed-captioning systems that help the hearing impaired enjoy television shows and videos. See also *augmentative communication device*.

association **1** In the study of birth defects (dysmorphology), the nonrandom occurrence in two or more individuals of a pattern of multiple anomalies not known to be a malformation syndrome (such as Down syndrome), a malformation sequence of events, or a field defect, in which all the defects are concentrated in one particular area of the body. An example of an association in dysmorphology is the VATER association. **2** In genetics, the occurrence together of two or more characteristics more often than would be expected by chance alone. Association is to be distinguished from linkage. An example of association involves a feature on the surface of white blood cells, the human leukocyte antigen (HLA) type. HLA type B-27 is associated with an increased risk for a number of diseases, including ankylosing spondylitis.

association, VACTERL See *VACTERL association*.

Association of American Medical Colleges A nonprofit association of accredited medical schools in the US and Canada that is responsible for the Medical College Admission Test (MCAT), an entrance examination for medical schools.

AST Aspartate aminotransferase.

asthenia Weakness. Lack of strength.

asthenic **1** Having a slender, light body. Ectomorphic. **2** Weak. Lacking in strength.

asthma A common lung disorder in which inflammation causes the bronchi to swell and narrow the airways, creating breathing difficulties that may range from mild to life-threatening. Symptoms include shortness of breath, cough, wheezing, and chest tightness. The diagnosis of asthma is based on evidence of wheezing and is confirmed with breathing tests. Many allergens and irritants can precipitate attacks of asthma. Avoidance of precipitating factors can be helpful. Treatment may include lifestyle changes, activity reduction, allergy shots, and medications to prevent or reverse the bronchospasm.

asthma, exercise-induced Asthma triggered by vigorous physical activity. It primarily affects children and young adults because of their high levels of physical activity, but it can occur at any age. Exercise-induced asthma is initiated by the fall in airway temperature during rapid breathing followed

by rapid reheating with lowered ventilation. The more heat that is transferred, the cooler the airways become, and the more rapidly the airways rewarm, the more the bronchi are narrowed. Acute attacks can be minimized by warming up before strenuous activity. An inhalator may also be used before exertion. Also known as exercise-induced bronchospasm and thermally induced asthma.

asthma, thermally induced See *asthma, exercise-induced*.

astigmatism A common form of visual impairment in which part of an image is blurred due to an irregularity in the dome-shaped curvature of the front surface of the eye, the cornea. With astigmatism, light rays entering the eye are not uniformly focused on the retina. The result is blurred vision at all distances. Significant astigmatism can cause headaches, eye strain, and seriously blurred vision. Astigmatism is often not detected during routine eye screening in schools. It may coexist with other refractive errors such as nearsightedness and farsightedness. Astigmatism is corrected with slightly cylindrical lenses that have greater light-bending power in one direction than the other. Use of these lenses elongates objects in one direction and shortens them in the other, much like looking into a distorting wavy mirror.

astrocytoma A tumor that begins in the brain or spinal cord in small, star-shaped cells called astrocytes. The location of the tumor depends on the age of the person. In adults, astrocytomas most often arise in the cerebrum, whereas in children, they may arise in the brain stem, cerebrum, and cerebellum.

asymptomatic Without symptoms. For example, an asymptomatic infection is an infection with no symptoms.

asystole A dire form of cardiac arrest in which the heart stops beating and there is no electrical activity in the heart. As a result, the heart is at a total standstill.

ataxia Poor coordination and unsteadiness due to the brain's failure to regulate the body's posture and regulate the strength and direction of limb movements. Ataxia is usually due to disease in the cerebellum of the brain, which lies beneath the back part of the cerebrum.

ataxia-telangiectasia A progressive disease characterized by degeneration of the nervous system manifested by poor coordination and balance (cerebellar ataxia), red eyes due to widening of small blood vessels in the conjunctiva (ocular telangiectasia), and

recurrent sinus and lung infections. Abbreviated AT. Patients with AT have a striking predisposition to leukemia and lymphoma and are extremely sensitive to radiation. Other features include difficulty swallowing and slowed growth. AT is inherited as an autosomal recessive trait.

ATCC American Type Culture Collection.

atelectasis Failure of full expansion of the lung at birth, or lung collapse thereafter. Also known as collapsed lung.

atelectasis, primary Failure of full expansion of the lung at birth.

atelectasis, secondary Partial or complete collapse of a previously expanded lung. Secondary atelectasis may occur when full chest expansion is difficult, such as after chest surgery.

athelia Absence of the nipple. Athelia tends to occur on one side (unilaterally) in children with the Poland syndrome and on both sides (bilaterally) with certain types of ectodermal dysplasia. Athelia also occurs in association with progeria (premature aging). See also *amastia*; *amazia*; *Poland syndrome*; *progeria*.

atherectomy A procedure to remove plaque (atheroma) from the inside of a blood vessel. Atherectomy is done most often in major arteries, such as the coronary, carotid, and vertebral arteries, that have experienced the occlusive effects of atherosclerosis. Atherectomy may be accomplished by various means, including angioplasty, laser surgery, conventional surgical incision, or use of a small drill-tipped catheter. In the US, atherectomy is nicknamed the "Rotorooter" procedure, after a company that cleans out drainage pipes.

atheroma A fatty deposit in the inner lining (intima) of an artery, resulting from atherosclerosis. Also called an atherosclerotic plaque, an arterial plaque, or a plaque.

atherosclerosis The presence of fatty lipid deposits in the lining (intima) of an artery. Atherosclerosis is a form of arteriosclerosis. See also *arteriosclerosis*.

atherosclerotic Pertaining to atherosclerosis. Atherosclerotic heart disease is the leading cause of death in the US. See *atherosclerosis*.

athetosis Involuntary writhing movements, particularly of the arms and hands. Athetosis is associated with several neurological disorders, such as cerebral palsy and Rett syndrome.

athlete's foot A skin infection caused by a fungus called *Trichophyton* that thrives within the upper layer of the skin when it is moist, warm, and irritated. The fungus can be found on floors and in socks and clothing, and it can be spread from person to person through contact with these objects. However, without proper growing conditions, athlete's foot fungus will not infect the skin. It can be treated with topical antifungal preparations. Also known as *tinea pedis*, athlete's foot is a form of ringworm.

atlantoaxial joint The joint between the first (atlas) and second (axis) vertebrae of the neck beneath the skull. The axis features a bony prominence called the odontoid process, about which the atlas rotates. The atlantoaxial joint is a pivot type of joint. It allows the head to turn from side to side. The atlantoaxial joint is supported and strengthened by the capsular, anterior, and posterior atlantoaxial and by the transverse ligaments. Also known as atlaoxoid joint.

atlas The first vertebra in the neck. It supports the head at the base of the skull. Also known as first cervical vertebra.

atonic Without normal muscle tone or strength. An atonic seizure is one in which the person suddenly loses muscle tone and strength; the person cannot sit or stand upright and, unless supported, falls down.

atopic dermatitis A skin disease characterized by areas of severe itching, redness, scaling, and loss of the surface of the skin. Atopic dermatitis is the most common of the many types of eczema. Atopic dermatitis is frequently associated with other allergic disorders, especially asthma and hay fever. A defect of the immune system within the skin has been detected in patients who have atopic dermatitis, but the reason for the defect is unknown.

ATP 1 Acute thrombocytopenic purpura. 2 Adenosine triphosphate.

atresia Absence of a normal opening, or failure of a structure to be tubular. Atresia can affect many structures in the body. For example, esophageal atresia is a birth defect in which part of the esophagus is not hollow, and with anal atresia, there is no hole at the bottom end of the intestine.

atria The plural of atrium.

atrial arrhythmia See *arrhythmia*, *atrial*.

atrial fibrillation See *fibrillation*, *atrial*.

atrial septal defect A hole in the wall (septum) between the upper chambers of the heart (atria). Abbreviated ASD. ASD is a major class of heart malformation. Usually, when clots in veins break off (embolize), they travel first to the right side of the heart and then to the lungs, where they lodge. When there is an ASD, however, a clot can cross from the right to the left side of the heart, and then pass into the arteries as a paradoxical embolism. Once a clot is in the arterial circulation, it can travel to the brain, block a vessel there, and cause a stroke. ASDs are surgically closed.

atrial septum The wall between the right and left atria of the heart.

atrioventricular Pertaining to the upper chambers of the heart (atria) and the lower chambers of the heart (ventricles).

atrioventricular node The electrical relay station between the upper and lower chambers of the heart. Abbreviated AV node. Electrical signals from the atria must pass through the AV node to reach the ventricles. The AV node, which controls the heart rate, is one of the major elements in the cardiac conduction system. The AV node serves as an electrical relay station, slowing the electrical current sent by the sinoatrial (SA) node before the signal is permitted to pass down through to the ventricles. This delay ensures that the atria have an opportunity to fully contract before the ventricles are stimulated. After passing the AV node, the electrical current travels to the ventricles, along special fibers embedded in the walls of the lower part of the heart.

atrium An entry chamber. On both sides of the heart, the atrium is the chamber that leads to the ventricle.

atrophic vaginitis Thinning of the lining (endothelium) of the vagina due to decreased production of estrogen. Atrophic vaginitis may occur with menopause.

atrophy A wasting away or diminution. Muscle atrophy is a decrease in muscle mass, often due to extended immobility.

atropine A drug, made from the belladonna plant, that is administered via injection, eye drops, or in oral form to relax muscles by inhibiting nerve responses.

atropine psychosis A syndrome characterized by dry mouth, blurred vision, forgetfulness, and difficulty with urination that can be caused by the anticholinergic effects of some drugs, particularly antipsychotic medications. Treatment requires

reducing or stopping the medication. See also *anticholinergic*.

attack, vasovagal See *vasovagal reaction*.

attention The act of attending to discrete stimuli in the environment. Learning is most efficient when a person is paying attention. Poor attention can be a key sign of behavior disorders in children, stress, or depression. See also attention deficit hyperactivity disorder.

attention deficit disorder See *attention deficit hyperactivity disorder*.

attention deficit hyperactivity disorder A disorder in which a person is unable to control behavior due to difficulty in processing neural stimuli, accompanied by an extremely high level of motor activity. Abbreviated ADHD. ADHD can affect children and adults, but it is easiest to perceive during schooling. A child with ADHD may be extremely distractible, unable to remain still, and very talkative. ADHD is diagnosed by using a combination of parent and/or patient interview, observation of the patient, and sometimes use of standardized screening instruments. Treatments include making adjustments to the environment to accommodate the disorder, behavior modification, and the use of medications. Stimulants are the most common drugs used, although certain other medications can be effective.

attenuate To weaken, or to make or become thin.

attenuated virus A weakened, less vigorous virus. An attenuated virus may be used to make a vaccine that is capable of stimulating an immune response and creating immunity, but not of causing illness.

atypical Unusual, or not fitting a single diagnostic category.

atypical measles syndrome The modified expression of measles, as may occur in persons who were incompletely immunized against measles or who have compromised immune systems. Abbreviated AMS. AMS begins suddenly with high fever, headache, cough, and abdominal pain. A rash may appear 1 to 2 days later, often beginning on the limbs. Swelling (edema) of the hands and feet may occur. Pneumonia is common. See also *measles*.

audiogram A test of hearing at a range of sound frequencies.

audiology The study of hearing.

audiometry The measurement of hearing.

auditory acuity The clarity or clearness of hearing, a measure of how well a person hears. Auditory acuity is measured in order to determine a person's need for a hearing aid.

auditory tube See *Eustachian tube*.

augmentative communication device A physical, mechanical, or electronic device that helps a person with a speech impairment to communicate. Augmentative communication devices range from books of pictures or words that the patient can show to express thoughts, to computers that are capable of synthesizing complex speech.

aura A sensation perceived by a patient that precedes a condition affecting the brain. An aura often occurs before a migraine or seizure. It may consist of flashing lights, a gleam of light, blurred vision, an odor, the feeling of a breeze, numbness, weakness, or difficulty in speaking.

aural vertigo, recurrent See *Ménière's disease*.

auricle **1** The principal projecting part of the ear, also known as pinna. **2** A structure that is ear-shaped, like the atrium of the heart, which is also referred to as the auricle of the heart.

auricular Of or pertaining to the outer ear, or to something else that is ear-shaped, such as the atrium of the heart.

auricular fibrillation See *fibrillation, atrial*.

auscultate To listen, for diagnostic purposes, to the sounds made by the internal organs of the body. For example, nurses and physicians auscultate the lungs and heart of a patient by using a stethoscope placed on the patient's chest or back.

autism A spectrum of neuropsychiatric disorders characterized by deficits in social interaction and communication and by unusual and repetitive behavior. Some, but not all, people with autism are nonverbal. Autism is normally diagnosed before age 6, and it may be diagnosed in infancy in some cases. The cause of autism is currently unknown, although it is believed to involve an inherited or acquired genetic defect involving multiple chromosomes, possibly including chromosomes 6, 15, 17, and/or the X chromosome. Autism is not caused by emotional trauma, as was once theorized. Autistic or autistic-like behavior may be caused by other

neurological conditions—particularly the seizure disorder Landau-Kleffner syndrome—certain forms of encephalitis, and several genetic disorders, including Angelman syndrome and Rett syndrome. Also known as Kanner syndrome or infantile autism. See also *Asperger syndrome*; *elective mutism*; *fragile X syndrome*; *Landau-Kleffner syndrome*; *Prader-Willi syndrome*; *Rett syndrome*.

autistic disorder Autism, particularly the most serious form of autism.

autoantibody An antibody that is directed against the patient's own body. Autoantibodies play a causative role in a number of diseases, such as rheumatoid arthritis, systemic lupus erythematosus, and Hashimoto disease. See also *autoimmune disorder*.

autoclave A chamber for sterilizing with steam under pressure. The original autoclave was essentially a pressure cooker in which steam tightened the lid.

autogenous Self-produced.

autograft Tissue transplanted from one part of the body to another in the same individual. Also known as an autotransplant.

autoimmune disorder A condition characterized by autoimmunity in which a misdirected immune system acts against the tissues of one's own body. Autoimmune disorders typically feature inflammation of various tissues of the body and are associated with antinuclear antibodies (ANAs) in the blood. Examples of autoimmune disorders include systemic lupus erythematosus, Sjogren's syndrome, rheumatoid arthritis, polymyositis, scleroderma, Hashimoto disease, juvenile (type 1) diabetes mellitus, Addison disease, vitiligo, pernicious anemia, glomerulonephritis, and pulmonary fibrosis. Autoimmune disorders are more frequent in women than in men. It is thought that the estrogen of females may influence the immune system to predispose some women to autoimmune disorders. Furthermore, the presence of one autoimmune disorder increases the chance for developing another simultaneous autoimmune disorder. See also *antinuclear antibody*.

autoimmune hemolytic anemia A condition in which the immune system destroys red blood cells, resulting in fewer of these oxygen-transporting cells. See also *hemolytic anemia*.

autoimmune thyroiditis See *Hashimoto disease*.

autoimmunity The state of being attacked by one's own immune system. Patients whose misdirected immune systems attack their own body tissues are said to have autoimmunity. See also *antinuclear antibody*; *autoimmune disorder*.

autologous In blood transfusion and transplantation, a situation in which the donor and recipient are the same person. Patients scheduled for non-emergency surgery may be autologous donors by donating blood for themselves that will be stored until the surgery. An autologous graft is a graft (such as a graft of skin) that is provided for oneself.

automated external defibrillator A device that automatically analyzes the heart rhythm and that—if it detects a problem that may respond to an electrical shock—delivers a shock to restore a normal heart rhythm. Thanks to their small size and ease of use, AEDs have been installed in many settings (such as schools and airports), and serve a role in expanding the number of opportunities for life-saving defibrillation. Abbreviated AED.

automatism A behavior that is performed without conscious knowledge and that does not appear to be under conscious control. This curious type of behavior occurs in a number of neurological and psychiatric disorders. The neurologic disorders associated with automatism include narcolepsy and some forms of epilepsy. The psychiatric conditions associated with automatism include schizophrenia and fugue states. Automatism involves doing something “automatically” and not remembering afterward how one did it or even that one did it. Also known as automatic behavior. See also *epilepsy*; *seizure disorders*.

autonomic nervous system A part of the nervous system that regulates key involuntary functions of the body, including the activity of the heart muscle; the smooth muscles, including the muscles of the intestinal tract; and the glands. The autonomic nervous system has two divisions: the sympathetic nervous system, which accelerates the heart rate, constricts blood vessels, and raises blood pressure, and the parasympathetic nervous system, which slows the heart rate, increases intestinal and gland activity, and relaxes sphincter muscles.

autopsy A postmortem examination. Also known as necropsy.

autosomal Pertaining to a chromosome that is not a sex chromosome. People normally have 22 pairs of autosomes (44 autosomes) in each cell, together with 2 sex chromosomes, X and Y in a male and X and X in a female.

autosomal dominant trait A genetic trait that appears in patients who have received one copy of a specific autosomal (nonsex) gene for that particular trait. For example, achondroplasia, Marfan syndrome, and Huntington disease are autosomal dominant traits.

autosomal recessive trait A genetic trait that appears only in patients who have received two copies of a specific autosomal (nonsex) gene for that particular trait, one from each parent. For example, sickle cell anemia and cystic fibrosis are autosomal recessive traits.

autosome Any chromosome other than the X and Y sex chromosomes. People normally have 22 pairs of autosomes (44 autosomes) in each cell.

aux Prefix indicating growth or increase.

AV 1 Atrioventricular. Relating to the atrium (atria) and ventricle(s) of the heart. **2** Arteriovenous. Relating to an artery(ies) and a vein(s).

AV node Atrioventricular node.

avascular necrosis A condition in which poor blood supply to an area of bone leads to bone death. Abbreviated AVN. Also known as aseptic necrosis and osteonecrosis.

avian influenza A highly contagious viral disease with up to 100 percent mortality in domestic fowl. Caused by influenza A virus subtypes H5 and H7. All types of birds are susceptible to the virus, but outbreaks occur most often in chickens and turkeys. The infection may be brought by migratory wild birds which can carry the virus, but show no signs of disease. Humans are only rarely affected. Also known as fowl plague, avian flu, and bird flu.

AVM Arteriovenous malformation. See *malformation, arteriovenous*.

avulsion Tearing away. A nerve can be avulsed by an injury, as can part of a bone.

axilla Armpit.

axillary Pertaining to the armpit, the cavity beneath the junction of the arm and the body.

axillary dissection Removal of a portion of the lymph nodes under the arm.

axis The second cervical vertebra. The first cervical vertebra (atlas) rotates around the odontoid process of the axis. See also *atlas; atlantoaxial joint*.

axon A long fiber of a nerve cell (neuron) that acts somewhat like a fiber-optic cable to carry outgoing messages. The neuron sends electrical impulses from its cell body through the axon to target cells. Each nerve cell has one axon. An axon can be over a foot in length. See also *dendrite; neuron*.

Ayurveda India's traditional, natural system of medicine that has been practiced for more than 5,000 years. Ayurveda provides an integrated approach to preventing and treating illness through lifestyle interventions and natural therapies. Ayurvedic theory states that all disease begins with an imbalance or stress in the individual's consciousness. Lifestyle intervention is a major ayurvedic preventive and therapeutic approach.

azotemia A higher-than-normal blood level of urea or other nitrogen-containing compounds. The hallmark test for azotemia is the serum blood urea nitrogen (BUN) level. Azotemia is usually caused by the inability of the kidneys to excrete these compounds.

AZT Azidothymidine, now renamed zidovudine, but still best known by the abbreviation AZT. This antiviral drug is prescribed, usually in combination with protease inhibitors and other drugs, to treat HIV infection in patients with AIDS.