

Glossary

PRONUNCIATION KEY

The pronunciation key that is used throughout this book takes advantage of the fact that in scientific terms, long vowels usually occur at the end of syllables, whereas short vowels usually occur at the beginning or in the middle of syllables. Therefore:

1. When vowels are *unmarked*, they have a long sound when they occur at the end of a syllable, and a short sound when they are at the beginning or in the middle of a syllable. For example, in the word *kidney* (kid'ne), you automatically know that the middle 'i' is short and the terminal 'e' sound is long. In the word *renal* (re'nal), the 'e' is long, and the 'a' is short.
2. When a vowel sound violates the above rule, it is marked with a short or long symbol. Only those short vowels that come at the end of a syllable are marked with the short symbol, called a breve (˘); and only those long vowels that occur at the start or middle of a syllable are marked with a long symbol (–). For example, in the word *pelvirectal* (pel˘vĩ-rek'tal), all four vowels are short, but only the 'i' is marked as short, because it is the only vowel that falls at the end of a syllable. In *methane* (meth'ān), the long 'a' is marked as such because it does not fall at the end of a syllable.
3. Short 'a' is *never* marked with a breve. Instead, short 'a' at the end of a syllable is indicated by 'ah.' For example, in the word *papilla* (pah-pil'ah), each 'a' is short and pronounced as 'ah.'
4. In words that have more than one syllable, the syllable with the strongest accent is followed by a prime (') mark, and syllables with the second strongest accent, where present, are indicated with a double prime ("). The unaccented syllables are followed by dashes. An example of these principles is the word *anesthetic* (an˘es-thet'ik), in which *thet'* is emphasized most strongly, *an˘* has a secondary emphasis, and the other two syllables are not spoken with any emphasis.

Abdomen (ab-do'men) Region of the body between the diaphragm and the pelvis.

Abduct (ab-duct') To move away from the midline of the body.

Absorption Process by which the products of digestion pass through the lining of the alimentary canal into the blood or lymph.

Accessory digestive organs Organs that contribute to the digestive process but are not part of the alimentary canal, including the tongue, teeth, salivary glands, pancreas, liver, and gallbladder.

Acetabulum (as˘təb'u-lum) Cuplike cavity on lateral surface of hip bone that receives the femur.

Actin (ak'tin) A contractile protein in cells, especially abundant in muscle cells.

Action potential A large, transient depolarization event, including polarity reversal, that is conducted along the plasma membrane of a nerve axon or muscle cell without diminishing in intensity; also called a *nerve impulse*.

Acute Producing severe symptoms in the short term; rapidly developing.

Adduct (ah-duct') To move toward the midline of the body.

Adenohypophysis (ad˘nə-hi-pof'ĩ-sis) One of the main divisions of the pituitary gland, the other being the neurohypophysis; the glandular part of the pituitary.

Adenoids (ad˘noids) The pharyngeal tonsil on the roof of the pharynx.

Adenosine triphosphate (ATP) (ah-den'o-sēn) Molecule in cells that stores and releases chemical energy for use in body cells.

Adipose (ad'ĩ-pōs) Fatty.

Adrenal gland (ah-dre'nal) Hormone-secreting gland located superior to the kidney; consists of medulla and cortex areas; also called *suprarenal gland*.

Adrenaline (ah-dren'ah-lin) *See* Epinephrine.

Adrenocorticotrophic hormone (ACTH) (ah-dre˘no-kor˘tĩ-ko-trop'ik) Hormone from the anterior pituitary that influences the activity of the adrenal cortex.

Adventitia (ad˘ven-tish'e-ah) Outermost layer or covering of an organ; consists of connective tissue.

Aerobic (a'er-ōb-ik) Requiring oxygen.

Afferent (af'er-ent) Carrying to or toward; especially a nerve fiber that carries impulses toward the central nervous system; afferent neurons are sensory neurons.

Agonist (ag'o-nist) Muscle that bears primary responsibility for causing a certain movement; also called a *prime mover*.

AIDS (acquired immune deficiency syndrome) Disease caused by the human immunodeficiency virus (HIV): symptoms include severe weight loss, swollen lymph nodes, and many opportunistic infections that lead to death.

Aldosterone (al-dos'ter-ōn) Hormone secreted by the adrenal cortex that stimulates resorption of sodium ions and water from the kidney.

Alimentary canal (al˘ĩ-men'tar-e) The digestive tube, extending from the mouth to the anus; its basic regions are the oral cavity, pharynx, esophagus, stomach, and small and large intestines.

Allantois (ah-lan'to-is) A tubular extension of the embryonic hindgut and cloaca; becomes the urachus, a fibrous cord attached to the adult bladder.

Alveolus (al-ve'o-lus) (1) One of the microscopic air sacs of the lungs; (2) a spherical sac formed by the secretory cells in a gland; also called an *acinus*; (3) the socket of a tooth.

Amino acid (ah-me'no) Organic compound containing nitrogen, carbon, hydrogen, and oxygen; building block of proteins.

Amnion (am'ne-on) Membrane that forms a fluid-filled sac around the embryo and fetus.

Amphiarthrosis (am˘fe-ar-thro'sis) A slightly movable joint.

Anaerobic (an˘a-er-o'bik) Not requiring oxygen.

- Anastomosis** (ah-nas"to-mo'sis) A union or joining of blood vessels or other tubular structures.
- Androgen** (an'dro-jen) A male sex hormone, the main example of which is testosterone.
- Anemia** (ah-ne'me-ah) Reduced oxygen-carrying capacity of the blood; results from too few erythrocytes or from abnormal hemoglobin.
- Aneurysm** (an'u-rizm) Blood-filled dilation of a blood vessel, caused by a weakening of the vessel wall.
- Angina pectoris** (an-ji'nah) Severe, suffocating chest pain caused by temporary lack of oxygen supply to heart muscle.
- Antagonist** (an-tag'o-nist) Muscle that reverses, or opposes, the action of another muscle.
- Anterior** The front of an organism, organ, or body part; the ventral direction.
- Anterior lobe of pituitary** See Adenohypophysis.
- Antibody** A protein molecule that is secreted by a plasma cell (a cell derived from an activated B lymphocyte) and that binds to an antigen in immune responses.
- Antidiuretic hormone (ADH)** (an'ti-di"u-ret'ik) Hormone produced by the hypothalamus and released by the posterior part of the pituitary gland (pars nervosa); stimulates the kidney to resorb more water.
- Antigen** (an'ti-jen) A molecule that is recognized as foreign by the immune system, activates the immune system, and reacts with immune cells or antibodies.
- Anus** (a'nus) The opening at the distal end of the alimentary canal.
- Aorta** (a-or'tah) Major systemic artery; arises from the left ventricle of the heart.
- Apocrine gland** (ap'o-krin) A type of sweat gland in the armpit and anal-genital regions; produces a secretion containing water, salts, proteins, and lipids.
- Aponeurosis** (ap'o-nu-ro'sis) Fibrous sheet connecting a muscle to the body part it moves.
- Appendicular skeleton** (ap'en-dik'u-lar) Bones of the limbs and limb girdles that are attached to the axial skeleton.
- Apoptosis** (ap'o-to'sis) Programmed cell death. Controlled cellular suicide that eliminates cells that are stressed, unneeded, excessive, or aged.
- Aqueous humor** (a'kwe-us) Watery fluid in the anterior segment of the eye.
- Arachnoid mater** (ah-rak'noid ma'ter) The weblike middle layer of the three meninges.
- Areola** (ah-re'o-lah) Circular, pigmented area of skin surrounding the nipple.
- Arrector pili** (ah-rek'tor) Tiny band of smooth muscle attached to each hair follicle; its contraction causes the hair to stand upright.
- Arteriole** (ar-te're-ol) A minute artery.
- Arteriosclerosis** (ar-te're-o-sklë-ro'sis) Hardening of the arteries; any of a number of degenerative changes in the walls of arteries leading to a decrease in their elasticity. (See Atherosclerosis.)
- Artery** Vessel that carries blood away from the heart.
- Arthritis** (ar-thri'tis) Inflammation of joints.
- Articular capsule** (ar-tik'u-lar) The capsule of a synovial joint; consists of an outer layer of fibrous connective tissue and an inner synovial membrane.
- Articulation** Joint; point where two elements of the skeleton meet.
- Atherosclerosis** (ath'er-o"skle-ro'sis) Changes in the walls of large arteries involving the deposit of lipid plaques; the most common variety of arteriosclerosis.
- Atlas** First cervical vertebra.
- Atria** (a'tre-ah) Paired, superiorly located heart chambers that receive blood returning to the heart (singular: atrium).
- Atrioventricular bundle (AV bundle)** (a'tre-o-ven-trik'u-lar) Bundle of cardiac muscle cells that conducts impulses from the AV node to the walls of the right and left ventricles; located in the septum (wall) between the two ventricles of the heart; also called *bundle of His*.
- Atrioventricular node (AV node)** Specialized mass of conducting cells located in the interatrial septum of the heart.
- Atrophy** (at'ro-fe) Reduction in size or wasting away of an organ or tissue.
- Auditory ossicles** (os'ŷ-k'lz) The three tiny bones in the middle ear: malleus (hammer), incus (anvil), and stapes (stirrup).
- Autonomic nervous system (ANS)** (aw"to-nom'ik) General visceral motor division of the peripheral nervous system; innervates smooth and cardiac muscle, and glands.
- Avascular** (a-vas'ku-lar) Having no blood supply; containing no blood vessels.
- Axial skeleton** Portion of the skeleton that forms the central (longitudinal) axis of the body; includes the bones of the skull, the vertebral column, and the bony thorax.
- Axilla** (ak-sil'ah) Armpit.
- Axis** (1) Second cervical vertebra; (2) imaginary line about which a joint or structure rotates.
- Axon** Neuron process that carries impulses away from the cell body.
- B cells** Lymphocytes that oversee humoral immunity; they divide to generate plasma cells, which secrete antibodies; also called *B lymphocytes*.
- Basal ganglia** Areas of gray matter located deep within the white matter of the cerebral hemispheres; regulate certain aspects of movement.
- Basal lamina** A thin sheet of protein that underlies an epithelium.
- Basement membrane** A layer between an epithelium and the underlying connective tissue; consists of both a basal lamina and a network of reticular fibers.
- Basophil** (ba'so-fil) (1) Type of white blood cell whose cytoplasmic granules stain purple with the basic dyes in blood stains; mediates late stages of inflammation. (2) A gland cell in the anterior pituitary containing cytoplasmic granules that stain with basic dyes.
- Benign** (be-nin) Not malignant; not life-threatening.
- Biceps** (bi'seps) Two-headed, especially applied to certain muscles.
- Bile** Greenish fluid secreted by the liver, stored in the gallbladder, and released into the small intestine; helps start the breakdown of fats.
- Biopsy** (bi'op-se) Removing a piece of living tissue to examine it under a microscope. Usually done to diagnose a suspected disease condition.
- Bipolar neuron** Neuron with just two processes, which extend from opposite sides of the cell body.
- Blastocyst** (blas'to-sist) Stage of early embryonic development; a hollow ball of cells; the product of cleavage.
- Blood-brain barrier** The feature that inhibits passage of harmful materials from the blood into brain tissues; reflects relative impermeability of brain capillaries.
- Blood pressure** Force exerted by blood against a unit area of the blood vessel walls; differences in blood pressure between different areas of the circulation provide the driving force for blood circulation.
- Blood stem cell** The cell type, present throughout life, from which all blood cells (erythrocytes, leukocytes, platelets) arise. Present in the bone marrow. It gives rise not only to blood cells, but also to mast cells, osteoclasts, and dendritic cells of the immune system. Also called *pluripotential hematopoietic stem cell*.
- Bolus** (bo'lus) A rounded mass of food prepared by the mouth for swallowing.
- Bone remodeling** Process involving bone formation and bone destruction in response to mechanical and hormonal factors.
- Brain stem** Collectively, the midbrain, pons, and medulla of the brain.
- Bronchus** Any of the air tubes of the respiratory tree between the trachea and bronchioles; bronchi enter and branch within the lungs.
- Bursa** A fibrous sac lined with synovial membrane and containing synovial fluid; occurs between bones and tendons (or other structures), where it acts to decrease friction during movement.

- Calcaneal (Achilles) tendon** Tendon that attaches the calf muscles to the heel bone.
- Calcitonin** (kal"si-to'nin) Hormone released by the thyroid gland that promotes a decrease in calcium levels in the blood.
- Calyx** (ka'liks) A cuplike tributary of the pelvis of the kidney.
- Cancer** A malignant, invasive cellular tumor that has the capability of spreading throughout the body or body parts.
- Capillary** The smallest of blood vessels and the site of exchanges of molecules between the blood and the tissue fluid.
- Carcinogen** (kar-sin'o-jen) Cancer-causing agent.
- Cardiac muscle** Muscle tissue of the heart wall.
- Cardiac sphincter** The circular layer of smooth muscle at the junction of the esophagus and stomach; contracts to prevent reflux of stomach contents into the esophagus.
- Cartilage** (kar'ti-lij) White, semiopaque, resilient connective tissue; gristle.
- Caudal** (kaw'dal) Literally, toward the tail; in humans, toward the inferior portion of the trunk.
- Cecum** (se'kum) The blind-ended pouch at the beginning of the large intestine.
- Cell membrane** *See* Plasma membrane.
- Central nervous system (CNS)** Brain and spinal cord.
- Centriole** (sen'tre-ol) Barrel-shaped organelle formed of microtubules and located near the nucleus of the cell; active in cell division.
- Cerebellum** (ser"ě-bel'um) Brain region that is attached to the pons and smooths and coordinates body movements.
- Cerebral aqueduct** (sě-re'bral ak'wě-dukt") The narrow cavity of the midbrain that connects the third and fourth ventricles.
- Cerebral arterial circle** A union of arteries at the base of the brain; also called *circle of Willis*.
- Cerebral cortex** The external, gray matter region of the cerebral hemispheres.
- Cerebrospinal fluid (CSF)** (ser"ě-bro-spi'nal) Clear fluid that fills the cavities of the central nervous system and surrounds the CNS externally; it floats and cushions the brain and spinal cord.
- Cerebrum** (ser'ě-brum) The cerebral hemispheres (some authorities also include the diencephalon).
- Cervix** (ser'viks) The inferior, necklike part of the uterus (*cervix* = neck).
- Chemoreceptor** (ke"mo-re-sep'tor) Receptor sensitive to chemicals in solution.
- Cholesterol** (ko-les'ter-ol) A steroid lipid found in animal fats as well as in the plasma membranes of cells.
- Chondroblast** (kon'dro-blast) Actively mitotic form of a cartilage cell.
- Chondrocyte** (kon'dro-sīt) Mature form of a cartilage cell.
- Chorion** (ko're-on) The outermost fetal membrane; helps form the placenta; technically, it consists of the trophoblast and the extraembryonic mesoderm.
- Choroid plexus** (ko'roid) A capillary-rich membrane on the roof of the brain that forms the cerebrospinal fluid; technically, it consists of pia mater and ependymal cells.
- Chromatin** (kro'mah-tin) Strands in the cell nucleus that consist of deoxyribonucleic acid (DNA) and histone proteins.
- Chromosome** (kro'mo-sōm) Barlike body of tightly coiled chromatin, visible during cell division; typical human cells have 46 chromosomes.
- Chronic** (kron'ik) Long-term; prolonged; not acute.
- Chyme** (kīm) Semifluid, creamy mass consisting of partially digested food and stomach juices.
- Cilium** (sil'e-um) Motile, hairlike projection from the apical surface of certain epithelial cells.
- Circumduction** (ser"kum-duk'shun) Movement of a body part so that it outlines a cone in space.
- Cirrhosis** (si-ro'sis) A chronic disease, particularly of the liver, characterized by an overgrowth of connective tissue, or fibrosis.
- Cleavage** An early embryonic stage consisting of rapid cell divisions without intervening growth periods; begins with a fertilized ovum and produces a blastocyst.
- Cochlea** (kok'le-ah) Snail-shaped chamber of the bony labyrinth in the internal ear; houses the receptor for hearing (spiral organ of Corti).
- Cognition** (kog-nish'un) All aspects of thinking, perceiving, and intentionally remembering and recalling information; the mental processes involved in obtaining knowledge.
- Collagen fibers** The strongest and most abundant fibrous component of connective tissues; composed of fibrils arranged in bundles. Has high tensile strength.
- Collateral ganglia** Ganglia of the sympathetic nervous system that are not part of the sympathetic trunk. Located anterior to the vertebral column (thus also called *prevertebral ganglia*) in the abdomen and pelvis; includes the celiac, superior mesenteric, inferior mesenteric, and inferior hypogastric ganglia. Contain ganglionic neurons that innervate the abdominopelvic organs.
- Commissure** A bundle of axons that crosses from one side of the central nervous system to the other.
- Condyle** (kon'dīl) A rounded projection at the end of a bone that articulates with another bone.
- Cone cell** One of the two types of photoreceptor cells in the retina of the eye; provides for color vision and sharp vision.
- Congenital** (kon-jen'i-tal) Existing at birth.
- Conjunctiva** (kon"junk-ti'vah) Thin, protective mucous membrane that covers the white of the eye and the internal surface of eyelids.
- Connective tissue** A primary tissue; form and function vary widely, but all connective tissues contain a large amount of extracellular matrix; functions include support, holding tissue fluid, and protection from disease.
- Constriction** Narrowing of a blood or lymphatic vessel, or of an opening like the pupil. Often caused by the squeezing action of circular musculature. *See* Dilation.
- Contraction** The generation of a pulling force while shortening; this ability is highly developed in muscle cells.
- Contralateral** (kon"trah-lat'er-al) Concerning the opposite half of the body; when nerve fibers project contralaterally, they cross over to the opposite side of the body (right to left, or vice versa).
- Cornea** (kor'ne-ah) Transparent anterior portion of the eyeball.
- Corona radiata** (kō-ro'nah ra-de-ah'tah) (1) Crownlike arrangement of granulosa cells around an oocyte in an ovarian follicle after the appearance of an antrum; (2) crownlike arrangement of nerve fibers in the white matter of the cerebrum, radiating to and from every part of the cerebral cortex.
- Coronal plane** (kō-ro'nal) *See* Frontal plane.
- Cortex** (kor'teks) Outer region of an organ.
- Corticosteroids** (kor"ti-ko-ste'roids) Steroid hormones secreted by the adrenal cortex. Examples are cortisol, aldosterone, and some sex hormones.
- Cortisol** (kor'ti-sol) A glucocorticoid hormone produced by the adrenal cortex.
- Cranial nerves** The 12 pairs of nerves that attach to the brain.
- Cutaneous** (ku-ta'ne-us) Pertaining to the skin.
- Cytokinesis** (si"to-ki-ne'sis) Division of the cytoplasm that occurs after the cell nucleus has divided.
- Cytoplasm** (si'to-plazm) The part of a cell between the plasma membrane and the nucleus; contains many organelles.
- Cytotoxic (CD8⁺) T lymphocyte** T lymphocyte that directly kills eukaryotic foreign cells, cancer cells, or virus-infected body cells; also called *killer T cell*.
- Decussation** A crossing of structures in the form of an X. Often applied to axons that cross the body midline from the left to the right side (or vice versa) of the central nervous system.
- Deep** Toward the inside; inner; internal.
- Defecation** (def'ě-ka-shun) Elimination of the contents (feces) of the bowel.
- Dendrite** (den'drīt) Neuron process that transmits signals toward the cell body and serves as receptive region of the neuron; most dendrites branch extensively.

Deoxyribonucleic acid (DNA) (de-ok"ŝi-ri"bo-nu-kle'ik) A nucleic acid found in all living cells; carries the organism's hereditary information.

Dermis The leathery layer of skin, deep to the epidermis; composed largely of dense irregular connective tissue.

Desmosome (des'mo-sōm) A cell junction composed of two disc-shaped plaques connected across the intercellular space; the most important junction for holding epithelial cells together.

Diabetes insipidus (di"ah-be'tēz) Disease characterized by passage of a large quantity of dilute urine plus intense thirst and dehydration; caused by inadequate release of antidiuretic hormone.

Diabetes mellitus Disease caused by deficient release of, or deficient use of, insulin; characterized by an inability of the body cells to use sugars at a normal rate and by high blood sugar levels.

Diapedesis (di'ah-pē-de'sis) Active movement of white blood cells through the walls of capillaries and venules into the surrounding tissue.

Diaphragm (di'ah-fram) (1) Any partition or wall separating one area from another; (2) the muscular sheet that separates the thoracic cavity from the abdominopelvic cavity.

Diaphysis (di-af'ī-sis) Elongated shaft of a long bone.

Diarthrosis (di"ar-thro'sis) Freely movable joint; all synovial joints are diarthroses.

Diastole (di-as'to-le) Period during which the ventricles or atria of the heart relax.

Diencephalon (di'en-sef'ah-lon) The part of the forebrain between the cerebral hemispheres and the midbrain; includes the thalamus, hypothalamus, and third ventricle.

Diffusion (dī-fu'zhun) The spreading of particles in a gas or solution from regions of high particle concentration to regions of low concentration, with movement toward a uniform distribution of the particles.

Digestion Chemical and mechanical process of breaking down foodstuffs into molecules that can be absorbed.

Dilation Expansion or widening of a vessel, organ, or opening. (*See* Constriction.)

Distal (dis'tal) Away from the attached end of a structure, especially a limb.

Diverticulum (di'ver-tik'u-lum) A pouch or a sac in the walls of a hollow organ or structure.

Dorsal (dor'sal) Pertaining to the back; posterior.

Duct Canal or passageway, usually tubular.

Ductus (vas) deferens (def'er-ens) Extends from the epididymis to the urethra; propels sperm into the urethra via peristalsis during ejaculation.

Duodenum (du"o-de-num) First part of the small intestine.

Dura mater (du'rah ma'ter) Most external and toughest of the three membranes (meninges) covering the brain and spinal cord.

Ectoderm (ek'to-derm) Embryonic germ layer that forms both the outer layer of the skin (epidermis) and nervous tissues.

Edema (ē-de'mah) Abnormal accumulation of tissue fluid in the loose connective tissue; causes the affected body region to swell.

Effector (ef-fek'tor) Muscle or gland capable of being activated by motor nerve endings.

Efferent (ef'er-ent) Carrying away or away from, especially a nerve fiber that carries impulses away from the central nervous system; efferent neurons are motor neurons.

Elastin (e-las'tin) Main protein in elastic fibers of connective tissues; stretchable and resilient.

Embolus (embolism) (em'bo-lus) Any abnormal mass carried freely in the bloodstream; maybe a blood clot, bubbles of air, mass of fat, or clumps of cells.

Embryo (em'bre-o) The developing human from week 2 through week 8 after fertilization.

Endocarditis (en"do-kar-di'tis) Inflammation of the inner lining of the heart.

Endocardium (en"do-kar'de-um) The layer that lines the inner surface of the heart wall; consists of endothelium and areolar connective tissue.

Endocrine glands (en'do-krin) Ductless glands that secrete hormones into the blood.

Endocrine system Body system consisting of glands that secrete hormones.

Endocytosis (en"do-si-to'sis) Processes by which large molecules and particles enter cells; types are phagocytosis, pinocytosis, and receptor-mediated endocytosis.

Endoderm (en'do-derm) An embryonic germ layer that forms the lining and glands of the digestive and respiratory tubes.

Endometrium (en"do-me'tre-um) Mucous membrane lining the uterus.

Endomysium (en"do-mis'e-um) Thin connective tissue surrounding each muscle cell.

Endoplasmic reticulum (ER) (en"do-plaz'mik rē-tik'u-lum) A system of membranous envelopes and tubes in the cytoplasm of a cell; there are smooth and rough varieties.

Endosteum (en-dos'te-um) Layer of cells lining the internal surfaces of bone, specifically, lining the central canals of osteons and the medullary cavity, and covering the trabeculae of spongy bone.

Endothelium (en"do-the'le-um) The simple squamous epithelium that lines the walls of the heart, blood vessels, and lymphatic vessels.

Enzyme (en'zīm) A protein that acts as a biological catalyst to speed up chemical reactions.

Eosinophil (e'o-sin'o-fil) Granular white blood cell whose granules readily take up a pink dye called eosin; helps end allergy reaction and fights parasites.

Epidermis (ep'ī-der'mis) Superficial layer of the skin, composed of a keratinized stratified squamous epithelium.

Epididymis (ep'ī-did'ī-mis) Comma-shaped structure in the scrotum adjacent to the testis; contains a duct in which the sperm mature.

Epiglottis (ep'ī-glōt'is) A leaf-shaped piece of elastic cartilage that extends from the posterior surface of the tongue to the larynx; covers the opening of the larynx during swallowing.

Epimysium (ep'ī-mis'e-um) Sheath of fibrous connective tissue surrounding a muscle.

Epinephrine (ep'ī-nef'rīn) Chief hormone produced by the adrenal medulla; also called *adrenaline*.

Epiphyseal plate (ep'ī-fiz'e-al) Plate of hyaline cartilage at the junction of the diaphysis (shaft) and epiphysis (end) of most bones in the growing skeleton; provides growth in the length of the bone.

Epiphysis (e-pif'ī-sis) The end of a long bone, attached to the shaft.

Epithelium (ep'ī-the'le-um) A primary tissue that covers body surfaces and lines body cavities; its cells are arranged in sheets; also forms glands.

Equilibrium The sense of balance; measures both the position and the movement of the head.

Erythrocyte (ē-rith'ro-sīt) Red blood cell; when mature, an erythrocyte is literally a sac of hemoglobin (oxygen-carrying protein) covered by a plasma membrane.

Estrogens (es'tro-jens) Female sex hormones.

Exocrine glands (ek'so-krin) Glands that secrete onto body surfaces or into body cavities; except for the one-celled goblet cells, all exocrine glands have ducts.

Exocytosis (ek"so-si-to'sis) Mechanism by which substances are moved from the cell interior to the extracellular space; the main mechanism of secretion.

Expiration Act of expelling air from the lungs; exhalation.

Exteroceptor (ek"ster-o-sep'tor) Sensory end organ that responds to stimuli from the external world.

Extracellular Outside a cell.

Extracellular matrix (ma'triks) The material that lies between the cells in connective tissues; consists of fibers, ground substance, and tissue fluid.

- Extrinsic** (ek-strin'sik) Originating outside an organ or part.
- Facet** (fas'et) A smooth, nearly flat surface on a bone for articulation.
- Fallopian tube** (fah-lo'pe-an) *See* Uterine tube.
- Fascia** (fash'e-ah) Layers of fibrous connective tissue that cover and separate muscles and other structures. Superficial fascia is the fatty hypodermis of the skin.
- Fascicle** (fas'i-k'l) Bundle of nerve or muscle fibers bound together by connective tissue.
- Fenestrated** (fen'es-tra-ted) Pierced with one or more small openings or pores.
- Fertilization** Fusion of the sperm and egg nuclei.
- Fetus** (fe'tus) Developmental stage lasting from week 9 of development to birth.
- Fibroblast** (fi'bro-blast) Young, actively mitotic cell that secretes the fibers and ground substance of connective tissue proper.
- Fibrocyte** (fi'bro-sit) Mature fibroblast; maintains the matrix of connective tissue proper.
- Filtration** Passage of a solution or suspension through a membrane or filter, with the purpose of holding back the larger particles.
- Fissure** (fish'er) (1) A groove or cleft; (2) the deepest depressions or inward folds on the brain.
- Fixator** (fik-sa'tor) Muscle that immobilizes one or more bones, allowing other muscles to act from a stable base.
- Flagellum** (flah-jel'um) Long, whiplike extension of the plasma membrane of some bacteria and sperm cells; propels the cell.
- Follicle** (fol'i-k'l) (1) Spherical structure in the ovary consisting of a developing egg cell surrounded by one or more layers of follicle cells; (2) colloid-containing structure in the thyroid gland.
- Follicle-stimulating hormone (FSH)** Hormone secreted by the anterior pituitary that stimulates the maturation of ovarian follicles in females and the production of sperm in males.
- Foramen** (fo-ra'men) Hole or opening in a bone or between body cavities.
- Forebrain** Rostral portion of the brain, consisting of the telencephalon and diencephalon.
- Formed elements** Blood cells (red and white cells and platelets).
- Fossa** (fos'ah) A depression, often a joint surface.
- Fovea** (fo've-ah) A pit.
- Frontal (coronal) plane** Vertical plane that divides the body into anterior and posterior parts.
- Fundus** (fun'dus) The base of an organ; that part farthest from the opening of an organ.
- Funiculus** (fu-nik'u-lus) (1) A cordlike structure; (2) a division of the white matter in the spinal cord.
- Gallbladder** Sac inferior to the right part of the liver; it stores and concentrates bile.
- Gamete** (gam'et) Sex cell; sperm or oocyte.
- Gametogenesis** (gam'et-to-jen'et-sis) Formation of gametes.
- Ganglion** (gang'gle-on; plural, *ganglia*) Collection of neuron cell bodies outside the central nervous system.
- Gap junction** A passageway between two adjacent cells; formed by transmembrane proteins called connexons.
- Gene** One of the biological units of heredity located in chromatin; transmits hereditary information; roughly speaking, one gene codes for the manufacture of one protein.
- General** Pertaining to sensory inputs or motor outputs that are *widely distributed* through the body rather than localized; opposite of *special*.
- Germ layers** Three cellular layers (ectoderm, mesoderm, and endoderm) that represent the early specialization of cells in the embryonic body and from which all body tissues arise.
- Gestation** (jes-ta'shun) The period of pregnancy; averages 280 days in humans.
- Gland** A structure whose cells are specialized for secretion.
- Glial cells** (gle'al) *See* Neuroglia.
- Glomerular capsule** (glo-mer'u-lar) Double-walled cup forming the initial portion of the nephron in the kidney; also called *Bowman's capsule*.
- Glomerulus** (glo-mer'u-lus) (1) A ball of capillaries forming part of the nephron in the kidney; forms a filtrate that will be modified into urine. (2) A cluster of complex synapses within the olfactory bulb between the axonal branches of the olfactory nerve and a dendritic process of a mitral cell.
- Glottis** (glot'is) The opening between the two vocal cords in the larynx.
- Glucagon** (gloo'kah-gon) Hormone secreted by alpha cells of the pancreatic islets; raises the glucose level of blood.
- Glucocorticoids** (gloo'ko-kor'ti-koids) Hormones secreted by the cortex of the adrenal gland; they increase the concentration of glucose in the blood and aid the body in resisting long-term stress.
- Glucose** (gloo'kös) The principal blood sugar; the main sugar used by cells for energy.
- Glycogen** (gli'ko-jen) A long chain of glucose molecules; the main form in which sugar is stored in animal cells; glycogen takes the form of dense granules in the cytoplasm.
- Goblet cells** Individual mucus-secreting cells of the respiratory and digestive tracts.
- Gonad** (go'nad) Primary reproductive organ: the testis of the male or the ovary of the female.
- Gonadotropins** (go-nad'o-tröp'ins) Gonad-stimulating hormones secreted by the anterior pituitary: follicle-stimulating hormone and luteinizing hormone.
- Gray matter** Gray area of the central nervous system; contains neuron cell bodies and unmyelinated processes of neurons.
- Ground substance** The nonfiber part of the extracellular matrix of connective tissue. In many connective tissues it is a gel-like substance with large molecules that attract water and hold tissue fluid; in bone it is hard.
- Growth hormone** Hormone that stimulates growth of the body; secreted by the anterior pituitary; also called somatotropin and somatotrophic hormone (SH).
- Gustation** (gus-ta'shun) Taste.
- Gyrus** (ji-rus) A ridge on the surface of the cerebral cortex.
- Hair follicle** Tubelike invagination of the epidermis of the skin from which a hair grows.
- Haustra** (hos'trah) Pouches (sacculations) of the colon.
- Heart block** Impaired transmission of impulses from atria to ventricles.
- Heart murmur** Abnormal heart sound (usually resulting from valve problems).
- Helper (CD4⁺) T cell** A type of T lymphocyte that participates in the activation of other lymphocytes by secreting chemicals that stimulate newly activated lymphocytes to multiply.
- Hematocrit** (he-mat'o-krit) The percentage of total blood volume occupied by erythrocytes.
- Hematoma** (he'mah-to'mah) A mass of blood that has bled from blood vessels into the tissues.
- Hematopoiesis** (hem'ah-to-poi-e'sis) Blood cell formation; hemopoiesis.
- Hemoglobin** (he'mo-glo'bin) Oxygen-transporting protein in erythrocytes.
- Hemopoiesis** *See* Hematopoiesis.
- Hemorrhage** (hem'ö-rij) Bleeding.
- Hepatic portal system** (hē-pat'ik) The part of the circulation in which veins receive nutrients from capillaries in the stomach and intestines and carry these nutrients to capillaries in the liver; the liver cells then process the nutrients.
- Hepatitis** (hep'ah-ti'tis) Inflammation of the liver.
- Hernia** (her'ne-ah) Abnormal protrusion of an organ or body part through the containing wall of its cavity.
- Hilum** (hi'lum) A slit on the surface of an organ through which the vessels and nerves enter and leave; the spleen, lungs, kidneys, lymph nodes, and ovaries have prominent hilums.

Histamine (his'tah-mēn) Chemical substance that increases vascular permeability in the initial stages of inflammation.

Histology (his-tol'o-je) Branch of anatomy dealing with the microscopic structure of tissues, cells, and organs.

Holocrine gland (hol'o-krin) A gland in which entire cells break up to form the secretion product; sebaceous (oil) glands of the skin are the only example.

Hormones Messenger molecules that are released by endocrine glands and travel in the blood to regulate specific body functions.

Hypertension (hi'per-ten'shun) High blood pressure.

Hypertrophy (hi-per'tro-fe) Enlargement of an organ or tissue due to an increase in the size of its cells.

Hypodermis (hi'po-der'mis) The fatty layer deep to the skin; consists of adipose and areolar connective tissue; also called the *subcutaneous layer* and *superficial fascia*.

Hypophysis (hi-pof'ī-sis) The pituitary gland.

Hypothalamus (hi'po-thal'ah-mus) Inferior region of the diencephalon; visceral control center of the brain.

Ileum (il'e-um) Coiled terminal part of the small intestine, located between the jejunum and the cecum of the large intestine.

Immune system Organ system consisting of lymphocytes (T and B cells), lymphoid tissues, and lymphoid organs (lymph nodes, spleen, thymus, tonsils, and aggregated lymphoid nodules in the small intestine and appendix); responsible for antigen-specific defenses mounted by activated lymphocytes.

Immunity (ī-mu'nī-te) Ability of the body to develop resistance to specific foreign agents (both living and nonliving) that can cause disease.

Immunocompetence Ability of the body's immune system to recognize specific antigens.

Induction (in-dŭk'shun) The influence exerted by a group of cells on the differentiation of adjacent cells or on the development of an embryonic structure.

Inferior (caudal) Below; toward the feet.

Inflammation (in'flah-ma'shun) A physiological response of the body to tissue injury; includes dilation of blood vessels and an increase in capillary permeability; indicated by redness, heat, swelling, and pain in the affected area.

Inguinal (ing'gwī-nal) Pertaining to the groin region.

Inner cell mass Accumulation of cells in the blastocyst from which the body of the embryo derives.

Innervation (in'er-va'shun) Supply of nerves to a body part.

Insertion Movable part or attachment of a muscle, as opposed to the muscle's origin.

Inspiration Drawing of air into the lungs; inhalation.

Insulin (in'su-lin) Hormone secreted by beta cells in pancreatic islets; it decreases blood glucose levels.

Integumentary system (in-teg'u-men'tar-e) The skin and its appendages (hairs, nails, and skin glands).

Intercalated discs (in-ter'kah-la'ted) Complex junctions that interconnect cardiac muscle cells in the wall of the heart.

Intercellular Between body cells.

Internal Deep to.

Internal capsule Band of white matter in the brain, between the basal ganglia and the thalamus.

Internal respiration Exchange of gases between blood and tissue fluid and between tissue fluid and cells.

Interneuron (in'ter-nu'ron) (1) Nerve cell that lies between a sensory neuron and a motor neuron in a reflex arc; (2) any nerve cell that is confined entirely within the central nervous system.

Interoceptor (in'ter-o-sep'tor) Nerve ending situated in a visceral organ; responds to changes and stimuli within the body's internal environment; also called *visceroceptor*.

Interstitial fluid (in'ter-stish'al) *See* Tissue fluid.

Intervertebral discs (in'ter-ver'tē-bral) The discs between the vertebrae of the spinal column; each consists of fibrous rings surrounding a springy core.

Intervertebral foramina (fo-ra'min-ah) Openings between the dorsal projections of adjacent vertebrae through which the spinal nerves pass.

Intracellular Within a cell.

Intraperitoneal Within the peritoneal cavity.

Invaginate To form an inpocketing or to grow inward. For example, an epithelium pushes inward, pocketlike, into the underlying connective tissue to form a gland during development.

Ion (i'on) Atom or molecule with a positive or negative electrical charge.

Ipsilateral (ip'sī-lat'er-al) Situated on the same side of the body; opposite of *contralateral*.

Ischemia (is-ke'me-ah) Local decrease in blood supply.

Jejunum (jē-joo'num) The coiled part of the small intestine that is located between the duodenum and ileum.

Joint Junction of two or more elements of the skeleton; an articulation.

Keratin (ker'ah-tin) Tension-resisting protein found in the epidermis, hair, and nails; keratin makes these structures tough and able to resist friction.

Labium (la'be-um) Lip.

Labyrinth (lab'ī-rinth) Bony cavities and membranes of the inner ear.

Lacrimal (lak'rī-mal) Pertaining to tears.

Lactation (lak-ta'shun) Production and secretion of milk.

Lacteal (lak'te-al) Lymphatic capillaries in the small intestine that take up lipids.

Lacuna (lah-ku'nah) Little depression or cavity; in bone and cartilage, each lacuna is occupied by a cell.

Lamina (lam'ī-nah) (1) A thin layer or flat plate; (2) the portion of a vertebra between the transverse process and the spinous process.

Laparoscopy (lap'ah-ros'ko-pe; "observing the flank") Examination of the peritoneal cavity and the associated organs with a laparoscope, a viewing device (endoscope) at the end of a thin tube that is inserted through the abdominal wall.

Larynx (lar'ingks) Cartilaginous organ located between the pharynx and trachea; contains the vocal cords; the voice box.

Lateral Away from the body midline.

Leukocyte (loo'ko-sīt) White blood cell; the five types of leukocytes are all involved in the defense against disease.

Ligament (lig'ah-ment) Band of dense regular connective tissue that connects bones.

Limbic system (lim'bik) A functional brain system involved in emotional and visceral responses; structurally, it includes medial portions of the cerebral cortex (septal nuclei, cingulate gyrus, hippocampal formation, and amygdala), the fornix, and parts of the diencephalon (hypothalamus and anterior thalamic nuclei).

Lumbar (lum'bar) Region of the back between the thorax and the pelvis.

Lumen (lu'men) The cavity inside a tube, blood vessel, or hollow organ.

Luteinizing hormone (LH) (loo'te-in-īz'ing) A hormone secreted by the anterior pituitary; in females, it aids maturation of follicles in the ovary and triggers ovulation; in males, it signals the interstitial cells of the testis to secrete testosterone.

Lymph (limf) The clear fluid transported by the lymphatic vessels.

Lymph node Bean-shaped lymphoid organ that filters and cleanses the lymph.

Lymphatic system (lim-fat'ik) Organ system consisting of lymphatic vessels, lymph nodes, and the lymphoid organs and tissues; drains excess tissue fluid and fights disease.

Lymphatics General term used to designate lymphatic vessels.

Lymphocyte (lim'fo-sīt) Agranular white blood cell that arises from bone marrow and becomes functionally activated in the lymphoid organs of the body; the main cell type of the immune system; each lymphocyte recognizes a specific antigen.

Lymphoid organs The organs of the lymphatic system that house lymphocytes and function in immunity; spleen, lymph nodes, tonsils, and thymus are the main examples.

Lymphoid tissue The main tissue of the immune system; a reticular connective tissue that houses and activates many lymphocytes.

- Lyse** (līz) To break up or disintegrate.
- Lysosome** (li'so-sōm) A membrane-bound, saclike cytoplasmic organelle that contains a wide variety of digestive enzymes.
- Macrophages** (mak'ro-fāj-es) The general phagocytic cells of the body, capable of engulfing and digesting a wide variety of foreign cells, particles, and molecules; present throughout the connective tissues of the body and especially abundant in lymphoid tissues of the immune system.
- Malignant** (mah-lig'nant) Life-threatening; pertains to neoplasms such as cancer that spread and lead to death.
- Mammary glands** (mam'ar-e) The breasts.
- Mast cell** A connective tissue cell containing secretory granules that initiate and mediate local inflammatory responses.
- Mastication** (mas'tī-ka'shun) Chewing.
- Meatus** (me-a'tus) A canal or opening.
- Mechanoreceptor** (mek'ah-no-re-sep'tor) Receptor sensitive to mechanical forces, such as touch, stretch, pressure, or vibration.
- Medial** Toward the midline of the body.
- Median** (me'de-an) In the midline of the body; midsagittal.
- Mediastinum** (me'de-ah-sti'num) Region of the thoracic cavity between the lungs; contains the heart, thoracic aorta, esophagus, and other structures.
- Medulla** (me-dul'ah) Middle or internal region of certain organs.
- Medulla oblongata** (ob'long-gah'tah) Inferior part of the brain stem.
- Meiosis** (mi-o'sis) A process of nuclear division that occurs during the production of the sex cells and reduces the chromosome number by half; results in the formation of haploid (*n*) cells.
- Melanin** (mel'ah-nin) Dark pigment formed by cells called melanocytes; imparts color to the skin and hair.
- Memory lymphocytes** T and B lymphocytes that provide for immunological memory (acquired, long-term immunity from diseases).
- Meninges** (mě-nin'jēz) Protective coverings around the brain and spinal cord; from external to internal, they are the dura mater, arachnoid mater, and pia mater.
- Meningitis** (men'in-jī'tis) Inflammation of the meninges.
- Menstrual cycle** (men'stroo-al) The changes in the female reproductive organs that occur every month (28 days, on the average).
- Menstruation** (men'stroo-a'shun) Menstrual phase of the uterine cycle; the periodic, cyclic discharge of blood and tissue from the lining of the female uterus in the absence of pregnancy.
- Mesencephalon** (mes'en-sef'ah-lon) Midbrain.
- Mesenchyme** (mes'eng-kīm) The type of embryonic tissue from which connective tissues and muscle tissues arise.
- Mesenteries** (mes'en-ter'ēz) Double-layered sheets of peritoneum that support most organs in the abdominopelvic cavity.
- Mesoderm** (mez'o-derm) The embryonic germ layer that gives rise to most structures in the body, including the skeleton, muscles, dermis, connective tissues, kidneys, and gonads.
- Metabolic rate** (mě-tah-bol'ik) Energy expended by the body per unit time.
- Metabolism** (mě-tab'o-lizm) Sum total of all the chemical reactions occurring in the cells of the body.
- Metastasis** (mě-tas'tah-sis) The spread of cancer from one body part or organ to another not directly connected to it.
- Microvilli** (mi'kro-vil'i) Immobile, cellular projections on the free surface of most epithelia; microvilli anchor sheets of mucus or increase surface area for absorption.
- Micturition** (mik'tu-rish'un) Urination, or voiding; emptying the bladder.
- Midbrain** Region of the brain stem that lies between the diencephalon and the pons.
- Mineralocorticoids** (min'er-al-o-kor'tī-koids) Steroid hormones secreted by the adrenal cortex that increase the resorption of sodium and water by the kidneys; the main mineralocorticoid is aldosterone.
- Mitochondrion** (mi'to-kon'dre-on) Cytoplasmic organelle that generates most adenosine triphosphate (ATP) for cellular activities; mitochondria are the cell's "power plants."
- Mitosis** (mi-to'sis) Division of the nucleus during the typical process of cell division, during which the chromosomes are distributed to the two daughter nuclei.
- Mitral valve** The valve on the left side of the heart between the left atrium and left ventricle. Also called the *bicuspid valve*.
- Mixed nerve** A nerve containing fibers of both sensory and motor neurons; most nerves are mixed nerves.
- Monocyte** (mon'o-sīt) An agranular white blood cell, with a large nucleus that is often bent into the shape of a C; the largest of all blood cells; develops into a macrophage.
- Motor neuron** Nerve cell that signals muscle cells to contract or gland cells to secrete; also called *efferent neuron*.
- Motor unit** A motor neuron and all of the muscle cells it stimulates.
- Mucosa** (mu-ko'sah) See Mucous membranes.
- Mucous membranes** Moist membranes that line all tubular organs and body cavities that open to the exterior (digestive, respiratory, urinary, and reproductive tracts).
- Mucus** (mu'kus) A sticky, viscous fluid that covers many internal surfaces in the body; it consists of the protein mucin and a large amount of water.
- Multipolar neuron** (mul'tī-po'lar) A nerve cell that has more than two processes; most neurons are multipolar, having several dendrites and an axon.
- Muscle fiber** Muscle cell.
- Muscle spindle** Complex, spindle-shaped receptor in skeletal muscles that senses muscle stretch.
- Muscle tone** Continuous, low levels of contractile force produced by muscles that are not actively shortening.
- Myelencephalon** (mi'el-en-sef'ah-lon) Caudal part of the hindbrain; the medulla oblongata.
- Myelin sheath** (mi'ē-lin) Fatty insulating sheath that surrounds all but the thinnest nerve fibers; formed of the plasma membrane of neuroglia wrapped in concentric layers around the nerve fiber.
- Myocardial infarction** (mi'o-kar'de-al) Condition characterized by dead tissue areas in the myocardium of the heart; caused by interruption of blood supply to the area; also called *heart attack*.
- Myocardium** (mi'o-kar'de-um) Layer of the heart wall composed of cardiac muscle.
- Myofibril** (mi'o-fi'bril) Rodlike bundle of contractile myofilaments in the cytoplasm of a skeletal muscle cell; made of repeating segments called sarcomeres.
- Myofilament** (mi'o-fil'ah-ment) The contractile filaments in muscle cells; the two varieties are thick (myosin) filaments and thin (actin) filaments.
- Myometrium** (mi'o-me'tre-um) The thick layer of smooth muscle in the wall of the uterus.
- Myosin** (mi'o-sin) A contractile protein in cells, especially abundant in muscle cells.
- Nares** (na'rēz) The nostrils.
- Necrosis** (ně-kro'sis) Death of a cell or tissue caused by disease or injury.
- Neoplasm** (ne'o-plazm) See Tumor.
- Nephron** (nef'ron) A major division of the uriniferous tubule in the kidney (the other division is the collecting duct).
- Nerve** A collection of nerve fibers (long axons) in the peripheral nervous system.
- Nerve fiber** Any long axon of a neuron.
- Nerve impulse** See action potential.
- Neural crest** Embryonic tissue derived from ectoderm that migrates widely within the embryo and gives rise to sensory neurons, all nerve ganglia, melanocytes, and other structures.
- Neuroglia** (nu-rog'le-ah) Nonexcitable cells of neural tissue that support, protect, and insulate neurons; glial cells.
- Neurohypophysis** (nu'ro-hi-pof'i-sis) The part of the pituitary gland that derives from the brain; contains the stalklike infundibulum and the posterior lobe of the pituitary.

Neuromuscular junction Location where the axon terminal of a motor neuron meets a skeletal muscle fiber; this junction transmits the stimulus to contract from the neuron to the muscle fiber.

Neuron (nu'ron) Cell of the nervous system specialized to generate and transmit electrical signals; a nerve cell.

Neurotransmitter (nu"ro-trans'mit-er) Chemical released by neurons that may, upon binding to receptors on neurons or effector cells, stimulate or inhibit them.

Neutrophil (nu'tro-fil) Most abundant type of white blood cell; a granulocyte specialized for destroying bacteria.

Nucleic acid (nu-kle'ik) The class of organic molecules that includes deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).

Nucleolus (nu-kle'o-lus) A small, dark-staining body in the cell nucleus; represents parts of several chromosomes and manufactures the basic subunits of ribosomes.

Nucleus (nu'kle-us) (1) Control center of a cell; contains genetic material; (2) a cluster of neuron cell bodies in the brain.

Occipital (ok-sip'i-tal) Pertaining to the area at the back of the head.

Occlusion (ö-kloo'zhun) Closure or obstruction.

Olfaction (ol-fak'shun) Smell.

Olfactory epithelium (ol-fak'to-re) A sensory receptor region in the superior lining of the nasal cavity; this epithelium contains olfactory neurons that respond to odors in the air.

Oocyte (o'o-sit) Immature egg undergoing the process of meiosis.

Oogenesis (o"o-jen'ě-sis) Process of ovum (female gamete) formation.

Ophthalmic (of-thal'mik) Pertaining to the eye.

Optic (op'tik) Pertaining to the eye.

Optic chiasma (ki-az'mah) A cross-shaped structure anterior to the diencephalon of the brain, representing the point of crossover of half the axons of the optic nerve.

Organ A part of the body formed of two or more tissues and adapted to carry out a specific function; the stomach and biceps brachii muscle are examples of large organs, but many organs are smaller and simpler (sweat gland, hair follicle, muscle spindle).

Organ system A group of organs that work together to perform a vital body function; e.g., the nervous system.

Organelles (or'gah-nelz') Small structures in the cytoplasm (ribosomes, mitochondria, and others) that perform specific functions for the cell. Nucleus is also an organelle.

Origin Attachment of a muscle that remains relatively fixed during muscular contraction.

Osmosis (oz-mo'sis) Diffusion of a solvent (water molecules) through a membrane from a dilute solution into a more concentrated one.

Ossification (os"i-fī-ka'shun) Bone formation. *See* Osteogenesis.

Osteoblast (os'te-o-blast") A bone-forming cell.

Osteoclast (os'te-o-klast") Large cell that reabsorbs or breaks down the bone matrix.

Osteocyte (os'te-o-sīt") Mature bone cell, shaped like a spider with a body and long processes, that occupies a lacuna in the bone matrix.

Osteogenesis (os'te-o-jen'ě-sis) Process of bone formation.

Osteon (os'te-on) Tube-shaped unit in mature, compact bone; consists of concentric layers of bone lamellae surrounding a central canal; also called *Haversian system*.

Osteoporosis (os'te-o-po-ro'sis) Age-related condition (affects many elderly women) in which bones weaken as bone reabsorption outpaces bone deposition; the weakened bones break easily.

Ovarian cycle (o-va're-an) Monthly cycle of follicle development in the ovaries, ovulation, and formation of the corpus luteum; the menstrual cycle as it involves the ovaries.

Ovary (o'var-e) Female sex organ in which ova (eggs) are produced; the female gonad in the pelvis.

Ovulation (o"vu-la'shun) Ejection of an egg (oocyte) from the ovary.

Ovum (o'vum) (1) General meaning: the female germ cell, or egg; (2) specific meaning: female germ cell after a sperm has entered it but before the sperm nucleus and the egg nucleus have fused.

Oxytocin (ok"si-to'sin) Hormone produced by the hypothalamus and released by the posterior pituitary; it stimulates contraction of the uterus during childbirth and the ejection of milk during nursing.

Palate (pal'at) Roof of the mouth.

Palpation (pal-pa'shun) Using one's fingers to feel deep organs through the skin of the body surface.

Pancreas (pan'kre-as) Tadpole-shaped gland posterior to the stomach; produces both exocrine and endocrine secretions.

Pancreatic juice Bicarbonate-rich secretion of the pancreas containing enzymes for digestion of all food categories.

Parasympathetic (par"ah-sim"pah-thet'ik) The division of the autonomic nervous system that oversees digestion, elimination, and glandular function; the resting and digesting division.

Parathyroid glands (par"ah-thi'roid) Small endocrine glands located on the posterior aspect of the thyroid gland.

Parathyroid hormone (PTH) Hormone secreted by the parathyroid glands; it increases the concentration of calcium ions in the blood.

Paresthesia An abnormal sensation of numbness, burning, or tingling.

Parietal (pah-ri'ě-tal) Pertaining to the walls of a cavity.

Pars distalis (parz dis-tal'is) The main division of the adenohypophysis of the pituitary gland; the anterior lobe of the pituitary.

Pars nervosa (ner-vo'sah) The region of the neurohypophysis of the pituitary gland from which hormones are secreted; the posterior lobe of the pituitary.

Pectoral (pek'tor-al) Pertaining to the chest.

Pectoral girdle Bones that attach an upper limb to the axial skeleton: clavicle and scapula.

Pelvic girdle The paired hip bones that attach the lower limbs to the axial skeleton.

Pelvis (pel'vis) Inferior region of the body trunk; contains the basin-shaped, bony structure called the bony pelvis.

Pepsin (pep'sin) Protein-digesting enzyme secreted by the stomach lining.

Pericardial cavity (per"i-kar'de-al) Space between the parietal and visceral layers of pericardium. Contains a small amount of serous fluid.

Pericardium (per"i-kar'de-um) Double-layered sac that encloses the heart and forms its superficial layer.

Perichondrium (per"i-kon'dre-um) Membrane of fibrous connective tissue that covers the external surface of cartilages.

Perimysium (per"i-mis'e-um) Connective tissue that surrounds and separates fascicles (bundles) of muscle fibers within a skeletal muscle.

Perineum (per"i-ne'um) Region of the trunk superficial to the pelvic diaphragm and bounded by the pubic symphysis anteriorly, coccyx posteriorly, and ischial tuberosities laterally. Contains the anus, vulva (females), and scrotum (males).

Periosteum (per"e-os'te-um) Membrane of fibrous connective tissue that covers the external surface of bones of the skeleton.

Peripheral nervous system (PNS) Portion of the nervous system consisting of nerves and ganglia that lie outside the brain and spinal cord.

Peristalsis (per"i-stal'sis) Progressive, wavelike contractions that squeeze foodstuffs through the alimentary canal (or that move other substances through other body organs).

Peritoneal cavity (per"i-to-ne'al) Space between the parietal and visceral layers of peritoneum. Contains a small amount of serous fluid.

Peritoneum (per"i-to-ne'um) Serous membrane that lines the interior of the abdominopelvic cavity and covers the surfaces of the organs in this cavity.

Peritonitis (per"i-to-ni'tis) Infection and inflammation of the peritoneum.

Peritubular capillaries Capillaries in the kidney that surround the proximal and distal convoluted tubules; active in resorption.

- Phagocytosis** (fag"o-si-to' sis) The process by which a cell forms cytoplasmic extensions to engulf foreign particles, cells, or macromolecules and then uses lysosomes to digest these substances.
- Pharynx** (far'ingks) Muscular tube extending from the region posterior to the nasal cavity to the esophagus; the "throat" part of the digestive tube.
- Photoreceptors** (fo"to-re-sep'tors) Specialized receptor cells that respond to light energy: rod cells and cone cells.
- Pia mater** (pi'ah ma'ter) Most internal and most delicate of the three membranes (meninges) covering the brain and spinal cord.
- Pinocytosis** (pin"o-si-to' sis) The process by which cells engulf extracellular fluids. Also called fluid-phase endocytosis.
- Pituitary gland** (pī-tu'ī-tār'e) A hormone-secreting, golf club-shaped structure that hangs inferiorly from the brain and performs a variety of endocrine functions, such as regulating the gonads, thyroid gland, adrenal cortex, lactation, and water balance. Also called the *hypophysis*.
- Placenta** (plah-sen'tah) Temporary organ formed from both fetal and maternal tissues that provides nutrients and oxygen to the developing fetus, carries away fetal waste molecules, and secretes the hormones of pregnancy; shed as the afterbirth when labor is over.
- Plasma** (plaz'mah) The nonliving, fluid component of blood, within which the blood cells are suspended.
- Plasma cell** Cell formed from the division of an activated B lymphocyte; secretes antibodies.
- Plasma membrane** Membrane that encloses cell contents; the external, limiting membrane of the cell.
- Plasmalemma** (plaz"mah-lem'ah) *See* Plasma membrane.
- Platelet** Cell fragment found in blood; plugs small tears in blood vessels and helps initiate clotting.
- Pleura** (ploo'rah) Serous membrane that lines the pleural cavity in the thorax and covers the external surface of the lung.
- Pleural cavity** (ploo'ral) Space between the parietal and visceral layers of pleura. Contains a small amount of serous fluid.
- Plexus** (plek'sus) A network of converging and diverging nerves or veins.
- Plica** (pli'kah) A fold.
- Podocytes** (pod'o-sīts) Octopus-shaped epithelial cells that surround the glomerular capillaries; they help produce and maintain the basement membrane (a filtration membrane in the kidney).
- Pons** The part of the brain stem between the midbrain and the medulla oblongata.
- Portal system** A system of vessels in which two capillary beds, rather than one, lie between the incoming artery and the outgoing vein of a body region; a portal vein lies between the two capillary beds. Examples are the hepatic portal system and the hypophyseal portal system.
- Posterior** Toward the back; dorsal.
- Posterior lobe of pituitary** *See* neurohypophysis.
- Postganglionic neuron** (gang-gle-on'ik) Autonomic motor neuron that has its cell body in a peripheral ganglion and projects its axon to an effector.
- Preganglionic neuron** (pre"gang-gle-on'ik) Autonomic motor neuron that has its cell body in the central nervous system and projects its axon to a peripheral ganglion.
- Prime mover** Muscle that bears the major responsibility for a particular movement; agonist.
- Process** (1) Prominence or projection; (2) series of actions for a specific purpose; (3) projection from the cell body of a neuron.
- Progesterone** (pro-jes'tě-rōn) Hormone that prepares the uterus to receive the implanting embryo.
- Pronation** (pro-na'shun) Medial rotation of the forearm that causes the palm to face posteriorly.
- Prone** Refers to a body lying horizontally with the face downward.
- Proprioceptor** (pro"pre-o-sep'tor) Receptor that senses movement in the musculoskeletal system; more specifically, proprioceptors sense stretch in muscles, tendons, and joint capsules.
- Protein** (pro'tēn) A long chain of amino acids or several linked chains of amino acids; the amino acid chains have bent and folded (and often coiled) to give each protein a distinct shape.
- Proximal** (prok'sī-mal) Toward the attached end of a limb, or near the origin of a structure.
- Pseudostratified** (soo"do-strat'ī-fīd) Pertaining to an epithelium that appears to be stratified (consisting of more than one layer of cells) but is not; the cells vary in height, but all touch the base of the epithelium.
- Puberty** (pu'ber-te) Period of life when reproductive maturity is reached.
- Pulmonary** (pul'mo-ner"e) Pertaining to the lungs.
- Pulmonary circuit** System of blood vessels that serve gas exchange in the lungs: the pulmonary arteries, capillaries, and veins.
- Pulse** Rhythmic expansion and recoil of arteries resulting from the contraction of the heart; can be felt from outside the body.
- Pupil** Opening in the center of the iris through which light enters the eye.
- Purkinje fibers** (pur-kin'je) Long rows of modified cardiac muscle cells of the conduction system of the heart; also called *subendocardial branches*.
- Pyloric region** (pi-lor'ik) A funnel-shaped region of the stomach, just proximal to the pylorus.
- Pylorus** The distal, ring-shaped portion of the stomach that joins the small intestine and contains the pyloric sphincter muscle.
- Ramus** (ra'mus) Branch of a nerve, artery, or bone.
- Raphe** (ra'fe) A seam in the midline.
- Receptor** (1) Peripheral nerve ending, or complete cell, that responds to particular types of stimulus; (2) a cell component, usually a membrane protein, that binds to specific molecules to signal a certain response.
- Reduction** Restoring broken bone ends or dislocated bones to their original positions.
- Reflex** Automatic response to a stimulus.
- Relay nucleus** Any nucleus in the brain whose neurons receive signals from one region of the central nervous system and relay this information to another region; within the relay nucleus, the information is organized and edited.
- Renal** (re'nal) Pertaining to the kidney.
- Renin** (re'nin) Hormone released by the kidneys that is involved with raising blood pressure, blood volume, and the sodium concentration in blood.
- Respiratory system** Organ system that carries out gas exchange; includes the nose, pharynx, larynx, trachea, bronchi, and lungs.
- Rete** (re'te) A network, often composed of nerve fibers or blood vessels.
- Reticular cell** (rě-tik'u-lar) A fibroblast in reticular connective tissue (in bone marrow, spleen, lymph nodes, and so on).
- Reticular formation** Functional system that runs through the core of the brain stem; involved in alertness, arousal, and sleep; also contains visceral centers that control heart rate, breathing rate, and vomiting; controls some body movements as well.
- Reticulocyte** (rě-tik'u-lo-sīt) Immature or young erythrocyte.
- Retina** (ret'ī-nah) Contains neural layer of the eyeball, including the photoreceptor cells for vision, and a supportive pigmented layer.
- Retroperitoneal** External or posterior to the peritoneum.
- Rhinencephalon** (ri"nen-sef'ah-lon) The part of the cerebrum that receives and integrates olfactory (smell) impulses.
- Ribonucleic acid (RNA)** (ri"bo-nu-kle'ik) Nucleic acid that contains the sugar ribose; acts in protein synthesis.
- Ribosome** (ri'bo-sōm) Cytoplasmic organelle on which proteins are synthesized.
- RICE** An acronym for rest, ice, compression, and elevation; standard treatment for injuries to muscles, tendons, and ligaments.
- Rod cell** One of the two types of photoreceptor cells in the retina of the eye.

Rostral Toward the nasal region or higher brain centers.

Rugae (roo'ge) Elevations or ridges, as in the mucosa of the stomach.

Sacral (sa'kral) Pertaining to the sacrum; the region in the midline of the buttocks.

Sagittal plane (saj'i-tal) A vertical plane that divides the body or a body part into right and left portions.

Sarcolemma (sar'ko-lem'ah) The plasma membrane of a muscle cell.

Sarcomere (sar'ko-mēr) The smallest contractile unit of skeletal and cardiac muscle; the part of a myofibril between two Z discs; contains myofilaments composed mainly of contractile proteins (actin, myosin).

Sarcoplasm (sar'ko-plazm) The cytoplasm of a muscle cell.

Sarcoplasmic reticulum (SR) (sar'ko-plaz-mik rě-tik'u-lum) Specialized smooth endoplasmic reticulum of muscle cells; stores calcium ions.

Sclera (skle'rah) Outer fibrous layer of the eyeball.

Scrotum (skro'tum) The external sac that encloses the testes.

Sebaceous gland (se-ba'shus) Gland in the skin that produces an oily secretion called sebum.

Sebum (se'bum) The oily secretion of sebaceous glands.

Secretion (se-kre'shun) (1) The passage of material formed by a cell to its exterior; (2) cell product that is transported to the exterior of a cell.

Section A cut through the body (or an organ) along a particular plane; a thin slice of tissue prepared for microscopic study.

Semen (se'men) Fluid mixture containing sperm and secretions of the male accessory reproductive glands.

Semilunar valves (sem'i-lu'nar) Valves at the base of the aorta and the pulmonary trunk that prevent blood from returning to the heart ventricles after ventricular contraction.

Seminiferous tubules (sem'i-nif'er-us) Highly convoluted tubules within the testes that form sperm.

Sensory neuron Nerve cell that carries information received from sensory receptors; also called *afferent neuron*.

Serosa (se-ro'sah) *See* Serous membrane.

Serous cell Exocrine gland cell that secretes a watery product containing digestive enzymes.

Serous fluid (se'rus) A clear, watery lubricant secreted by cells of a serous membrane.

Serous membrane Moist, slippery membrane that lines internal body cavities (pleural, pericardial, and peritoneal cavities) and covers visceral organs within these cavities; also called *serosa*.

Serum (se'rum) Amber-colored fluid that exudes from clotted blood plasma as the clot shrinks and then no longer contains clotting factors.

Sinoatrial (SA) node (si'no-a'tre-al) A collection of specialized cardiac muscle cells in the superior wall of the right atrium; pacemaker of the heart.

Sinus (si'nus) (1) Mucous-membrane-lined, air-filled cavity in certain bones of the face; (2) dilated channel for the passage of blood or lymph.

Sinusoid (si'nu-soid) An exceptionally wide, twisted, leaky capillary; large protein molecules or whole blood cells pass easily through the walls of sinusoids.

Skeletal muscle A striated muscle tissue composed of long, cylindrically shaped, multinucleated cells. Located in the muscles that attach to and move the skeleton.

Smooth muscle Musculature consisting of spindle-shaped, unstriated (nonstriated) muscle cells; present in the walls of most visceral organs.

Somatic (so-mat'ik) Pertaining to the region of the body that lies external to the ventral body cavity, including the skin, skeletal muscles, and the skeleton; opposite of *visceral*.

Somite (so'mīt) A mesodermal segment of the body of the embryo.

Special Pertaining to sensory inputs or motor outputs that are *localized* rather than being widespread through the body; opposite of *general*.

Special senses The senses whose receptors are confined to a small region rather than distributed widely through the body: taste, smell, vision, hearing, and equilibrium.

Spermatogenesis (sper'mah-to-jen'e-sis) The process by which sperm (male gametes) form in the testes; involves meiosis.

Sphincter (sfink'ter) A muscle surrounding an opening; acts as a valve to close and open the orifice.

Spinal nerves The 31 pairs of nerves that attach to the spinal cord.

Spinal reflex A reflex mediated through the spinal cord.

Squamous (skwa'mus) Flat, platelike; pertaining to flat epithelial cells that are wider than they are tall.

Stenosis (stě-no'sis) Constriction or narrowing.

Steroids (ste'roids) Group of lipid molecules containing cholesterol and some hormones.

Stimulus (stim'u-lus) An excitant or irritant; a change in the environment that evokes a response.

Striated muscle (stri'āt-ed) Muscle consisting of cross-striated (striped) muscle fibers: skeletal and cardiac muscle.

Stroke Condition in which brain tissue is deprived of its blood supply, as in blockage of a cerebral blood vessel; also called *cerebrovascular accident*.

Stroma (stro'mah) The connective tissue framework of an organ.

Subcutaneous (sub'ku-ta'ne-us) Deep to the skin.

Sulcus (sul'kus) A groove.

Superficial Located close to or on the body surface; outer; external; opposite of *deep*.

Superficial fascia The hypodermis; the fatty layer just below the skin.

Superior Closer to the head; above.

Supination (soo'pī-na'shun) Lateral rotation of the forearm that causes the palm to face anteriorly.

Supine (soo'pīn) Refers to a body lying horizontally with the face upward.

Suprarenal gland (soo'prah-re'nal) *See* Adrenal gland.

Surfactant (ser-fak'tant) Detergent-like fluid secreted by certain cells lining the respiratory alveoli in the lungs; reduces the surface tension of water molecules, thus preventing collapse of the alveoli after each breath.

Suture (soo'cher) An immovable, fibrous joint; except at the jaw joint, all bones of the skull are united by sutures.

Sweat gland Tubular gland in the skin that secretes sweat (which cools the body).

Sympathetic division (sim'pah-thet'ik) Division of the autonomic nervous system that prepares the body to cope with danger or excitement; the fight-or-flight division.

Symphysis (sim'fī-sis) A joint in which the bones are connected by fibrocartilage.

Synapse (sin'aps) Specialized cell junction between two neurons, at which the neurons communicate.

Synaptic cleft Fluid-filled space at a synapse between neurons; also called *synaptic gap*.

Synarthrosis (sin'ar-thro'sis) Any immovable joint.

Synchondrosis (sin'kon-dro'sis) A joint in which bones are united by hyaline cartilage.

Syndesmosis (sin'des-mo'sis) A joint in which bones are united only by a ligament.

Synergist (sin'er-jist) Muscle that aids the action of a prime mover by contributing to the same movement or by stabilizing joints to prevent undesirable movements.

Synovial fluid (sī-no've-al) Fluid secreted by the synovial membranes of the freely movable joints of the body; lubricates the joint surfaces and nourishes the articular cartilages.

Synovial joint Freely movable joint with a cavity and a capsule. *See* Diarthrosis.

Systemic (sis-tem'ik) Pertaining to the whole body.

Systemic circuit System of blood vessels that carries oxygenated blood to the tissues throughout the body.

- Systole** (sis'to-le) Period during which the ventricles or the atria of the heart contract.
- T cells** Lymphocytes that mediate cellular immunity; include cytotoxic and helper T cells; also called *T lymphocytes*.
- T tubule** Extension of the muscle cell plasmalemma (sarcolemma) that protrudes deeply into the muscle cell.
- Target cell** A cell that is capable of responding to a hormone because it bears receptors to which the hormone can bind.
- Taste buds** Bulb-shaped sensory organs on and around the tongue that house the receptor cells for taste.
- Telencephalon** (tel'en-sef'ah-lon) Rostral division of the embryonic forebrain; develops into the cerebrum.
- Tendon** (ten'don) Cord of dense regular connective tissue that attaches muscle to bone.
- Testis** (tes'tis) Male primary sex organ that produces sperm; male gonad in the scrotum.
- Testosterone** (tes-tos'tě-rōn) *See* Androgen.
- Thalamus** (thal'ah-mus) An egg-shaped mass of gray matter in the diencephalon of the brain; consists of nuclei through which information is relayed to the cerebral cortex.
- Thermoreceptor** (ther'mo-re-sep'tor) Receptor sensitive to temperature changes.
- Thoracic cage** Skeletal structures that form the framework of the thorax; includes sternum, ribs, thoracic vertebrae, and costal cartilages.
- Thoracic duct** Large lymphatic duct that ascends anterior to the vertebral column; drains the lymph from up to three-fourths of the body (all except the body's superior right quarter).
- Thorax** (tho'raks) That portion of the body superior to the diaphragm and inferior to the neck.
- Thymus** (thi'mus) Organ of the immune system that is essential for the production of T cells (T lymphocytes); located in the anterior thorax.
- Thyroid gland** (thi'roid) Butterfly-shaped endocrine gland in the anterior neck; its main hormone (thyroid hormone) increases metabolic rate.
- Tight junction** A type of cell junction that closes off the intercellular space; also called a *zonula occludens*.
- Tissue** A group of similar cells (and extracellular material) that perform similar functions; primary tissues of the body are epithelial, connective, muscle, and nervous tissue.
- Tissue fluid** Watery fluid that, along with the molecules of ground substance, occupies the extracellular matrix of connective tissue; it is a filtrate of the blood containing all the small molecules of blood plasma; also called *interstitial fluid*.
- Trabecula** (trah-bek'u-lah) (1) Any one of the fibrous bands extending from the capsule to the interior of an organ; (2) a piece of the bony network in spongy bone.
- Trachea** (tra'ke-ah) Windpipe; the cartilage-reinforced air tube that extends from the larynx to the bronchi.
- Tract** A collection of nerve fibers in the central nervous system having the same origin, destination, and function.
- Transverse process** One of a pair of projections that extend laterally from the neural arch of a vertebra.
- Trauma** (traw'mah) A wound, injury, or shock, usually caused by external forces.
- Trochanter** (tro-kan'ter) A large, somewhat blunt process on a bone.
- Trophoblast** (trof'o-blast) External layer of cells in the blastocyst (early embryo); forms the embryo's contribution to the placenta.
- Tropic hormone** (tro'pik) A hormone that regulates the function of another endocrine organ; tropic hormones signal endocrine glands to secrete their own hormones.
- Tubercle** (too'ber-k'l) A nodule or small rounded process on a bone.
- Tuberosity** (too'bě-ros'ĭ-te) A broad process on a bone, larger than a tubercle.
- Tumor** An abnormal growth of cells; a swelling; a neoplasm; can be cancerous.
- Tunica** (too'nĭ-kah) A covering or coat; a layer or membrane of tissue.
- Tympanic membrane** (tim-pan'ik) The eardrum located between the outer and middle ear.
- Ulcer** (ul'ser) Erosion of the surface of an organ or tissue, such as a peptic ulcer in the wall of the stomach or small intestine.
- Umbilical cord** (um-bil'ĭ-kal) A cord that attaches to the navel before birth and connects the fetus to the placenta; contains the umbilical arteries and vein.
- Umbilicus** (um-bil'ĭ-kus) Navel; belly button.
- Unipolar neuron** (u'nĭ-po'lar) A sensory neuron in which a single short process projects from the cell body but divides like a T into two long processes (central process and peripheral process).
- Urea** (u-re'ah) The main nitrogen-containing waste excreted in urine.
- Ureter** (u-re'ter) Tube that carries urine from kidney to bladder.
- Urethra** (u-re'thrah) Tube that carries urine from the bladder to the exterior.
- Uterine tube** (u'ter-in) Tube through which the ovum travels to the uterus; also called *fallopian tube* and *oviduct*.
- Uterus** (u'ter-us) Hollow, thick-walled pelvic organ that receives the developing embryo; site where embryo/fetus develops; the womb.
- Varicose vein** A dilated vein filled with pooled blood resulting from the failure of the venous valve to prevent backflow in the vessel.
- Vasa recta** (va'sah rek'tah) Capillary-like blood vessels that supply the loops of Henle and collecting ducts in the medulla of the kidney.
- Vasa vasorum** Small blood vessels located in the tunica externa of large arteries that supply oxygen and nutrients to the outer layers of the vessel wall.
- Vascularized** (vas'ku-lar-ĭzd") Having a blood supply; containing blood vessels.
- Vasoconstriction** (vas'o-kon-strĭk'shun) Narrowing of blood vessels, normally through the contraction of smooth muscle cells in the vessel walls.
- Vasodilation** (vas'o-di-la'shun) Relaxation of smooth muscle cells in the walls of blood vessels, causing the vessels to dilate (widen).
- Vasomotor fibers** (vas'o-mo'tor) Sympathetic nerve fibers that regulate the contraction of smooth muscle in the walls of blood vessels, thereby regulating the diameter of the vessels.
- Vein** Vessel that carries blood toward the heart.
- Ventilation** (ven'tĭ-la'shun) Breathing; consists of inspiration and expiration.
- Ventral** (ven'tral) Toward the front of the body; anterior.
- Ventricles** (1) Paired, inferiorly located heart chambers that function as the major blood pumps; (2) fluid-filled cavities of the brain.
- Venule** (ven'ūl) A small vein.
- Vertebral column** (ver'tē-bral) The spine or spinal column; formed of a number of bones called vertebrae, the discs between these vertebrae, and two composite bones (sacrum and coccyx).
- Vesicle** (ves'ĭ-k'l) A small, liquid-filled sac; also refers to the urinary bladder.
- Vesicular follicle** (vē-sĭk'u-lar fol'ĭ-k'l) Mature ovarian follicle; formerly called *Graafian follicle*.
- Villus** (vil'us) One of many fingerlike projections of the internal surface of the small intestine that together increase the surface area for nutrient absorption.
- Viscera (visceral organs)** (vis'er-ah) The organs within the ventral body cavity, including the stomach, bladder, heart, lungs, spleen.
- Visceral** Pertaining to the organs and structures within the ventral body cavity and to all smooth muscle and glands throughout the body; opposite of *somatic*.
- Visceral muscle** Smooth muscle and cardiac muscle.
- Vitamins** Organic compounds required by the body in minute amounts that generally must be obtained from the diet.
- Vulva** (vul'vah) The external genitalia of the female.
- White matter** White substance of the central nervous system; contains tracts of myelinated nerve fibers.
- Yolk sac** Embryonic sac that stores a tiny quantity of yolk and gives rise to the lining of the digestive tube; also gives rise to the primordial germ cells and the blood cells.
- Zygote** (zi'gōt) Fertilized egg.

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