

Glossary

KEY TO PRONUNCIATION

Most of the words in this glossary are followed by a phonetic spelling that serves as a guide to pronunciation. The phonetic spellings reflect standard scientific usage and can easily be interpreted following a few basic rules.

1. Any unmarked vowel that ends a syllable or that stands alone as a syllable has the long sound. For example, *ba*, *ma*, and *na* rhyme with *fay*; *be*, *de*, and *we* rhyme with *fee*; *bi*, *di*, and *pi* rhyme with *sigh*; *bo*, *do*, and *mo* rhyme with *go*. Any unmarked vowel that is followed by a consonant has the short sound (for example, the vowel sounds in *hat*, *met*, *pit*, *not*, and *but*).
2. If a long vowel appears in the middle of a syllable (followed by a consonant), it is marked with a macron (ˉ). Similarly, if a vowel stands alone or ends a syllable but should have short sound, it is marked with a breve (˘).
3. Syllables that are emphasized are indicated by stress marks. A single stress mark (ˈ) indicates the primary emphasis; a secondary emphasis is indicated by a double stress mark (ˈˈ).

A

abdomen (ab'dō-men or ab-do'men) The region of the trunk between the diaphragm and pelvis.

abduction (ab-duk'shun) Movement of a body part away from the axis or midline of the body; movement of a digit away from the axis of the limb; the opposite of *adduction*.

accessory organs Organs that assist the functioning of other organs within a system.

acetabulum (as'ĕ-tab'yū-lum) The cup-shaped depression on the lateral surface of the hipbone (os coxae) with which the head of the femur articulates.

Achilles (ĕkil'ĕz) tendon See *tendo calcaneus*.

actin (ak'tin) A protein in muscle fibers that, together with myosin, is responsible for contraction.

adduction (ă-duk'shun) Movement of a body part toward the axis or midline of the body; movement of a digit toward the axis of the limb; the opposite of *abduction*.

adipocyte (ad'ĭ-po-sīt) A fat cell found within adipose tissue.

adrenal cortex (ă-dre'nal kor'teks) The outer part of the adrenal gland that secretes steroid hormones.

adrenal glands Two small endocrine glands, one located above each kidney; also called the *suprarenal glands*.

adrenal medulla (mĕ-dul'ă) The inner part of the adrenal gland that secretes the hormones epinephrine and norepinephrine.

adventitia (ad'ven-tish'ă) The outermost epithelial layer of a visceral organ; also called *serosa*.

afferent (af'er-ent) Conveying or transmitting to.

afferent glomerular arteriole (ar-te're-ōl) A vessel within the kidney that supplies blood to the glomerulus.

afferent neuron (noor'on) A sensory nerve cell that transmits an impulse toward the central nervous system.

agonist (ag'ō-nist) The prime mover muscle, which is directly engaged in the contraction that produces a desired movement.

alimentary (al'ĭ-men'tre) canal The tubular portion of the digestive tract; also called the *gastrointestinal (GI) tract*.

allantois (ă-lan'to-is) An extraembryonic membranous sac involved in the formation of blood cells. It gives rise to the fetal umbilical arteries and vein, and also contributes to the formation of the urinary bladder.

all-or-none principle The statement that muscle fibers of a motor unit contract to their maximum extent when exposed to a stimulus of threshold strength.

alveolar (al-ve'ō-lar) sacs A cluster of alveoli that share a common chamber or central atrium.

alveolus (al-ve'ō-lus) 1. A *pulmonary alveolus* is an individual air capsule within the lung. The pulmonary alveoli are the basic functional units of respiration. 2. A *dental alveolus* is a socket that secures a tooth (a tooth socket).

amniocentesis (am''ne-o-sen-te'sis) A procedure in which a sample of amniotic fluid is aspirated to examine cells for various genetic diseases.

amnion (am'ne-on) The innermost fetal membrane—a thin sac that holds the fetus suspended in amniotic fluid; commonly known as the “bag of waters.”

ampulla (am-pool'ă) A saclike enlargement of a duct or tube.

ampulla of Vater (fa'ter) See *hepatopancreatic ampulla*.

anal (a'nal) canal The terminal tubular portion of the large intestine that opens through the anus of the GI tract.

anal glands Enlarged and modified sweat glands that empty into the anal opening.

anastomosis (ă-nas''tō-mo'sis) An anatomical convergence of blood vessels or nerves that forms a network.

anatomical position An erect body stance with the eyes directed forward, the arms at the sides, the palms of the hands facing forward, and the fingers pointing straight down.

anatomy The branch of science concerned with the structure of the body and the relationship of its parts.

antagonist (an-tag'ō-nist) 1. A muscle that acts in opposition to another muscle. 2. Any agent, such as a hormone or drug, that opposes the action of another.

antebrachium (an'te-bra'ke-um) The forearm.

anterior (ventral) Toward the front; the opposite of *posterior* (*dorsal*).

anterior root The anterior projection of the spinal cord composed of axons of motor, or efferent, fibers.

anus (a'nus) The terminal opening of the GI tract.

aorta (a-or'tă) The major systemic vessel of the arterial system of the body, emerging from the left ventricle.

aortic arch The superior left bend of the aorta between the ascending and descending portions; also called the *arch of aorta*.

apex (a'peks) The tip or pointed end of a conical structure.

apocrine (ap'ō-krin) gland A type of sweat gland that functions in evaporative cooling. It may respond during periods of emotional stress.

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aponeurosis (ap''ō-noo-ro'sis) A fibrous or membranous sheetlike tendon.

appendix (ă-pen'diks) A short pouch that attaches to the cecum; also called the *vermiform appendix*.

aqueous (a'kwe-us) humor The watery fluid that fills the anterior and posterior chambers of the eye.

arachnoid (ă-rak'noid) The weblike middle covering (meninx) of the central nervous system.

arbor vitae (ar'bor vi'te) The branching arrangement of white matter within the cerebellum.

arm (brachium) That portion of the upper extremity extending from the shoulder to the elbow.

arrector pili (ă-rek'tor pi'li); plural, arrectores pilorum A bundle of smooth muscle cells attached to a hair follicle that, upon contraction, pulls the hair into a more vertical position, resulting in goose bumps.

arteriole (ar-te're-ōl) A minute arterial branch.

artery (ar'tē-re) A blood vessel that carries blood away from the heart.

arthrology (ar-throl'ō-je) The scientific study of the structure and function of joints.

articular cartilage (ar-tik'yū-lar kar'tī-lij) A hyaline cartilaginous covering over the articulating surface of bones of synovial joints.

articulation (ar-tik'yū-la'shun) A joint.

arytenoid (ar''ē-te'noid) cartilages A pair of small cartilages on the superior aspect of the larynx.

ascending colon (ko'lon) That portion of the large intestine between the cecum and the hepatic (right colic) flexure.

association neuron (noor'on) A nerve cell located completely within the central nervous system. It conveys impulses in an arc from sensory to motor neurons; also called an *internuncial neuron* or *interneuron*.

atom The smallest particle of matter that characterizes an element.

atrioventricular (a''tre-o-ven-trik'yū-lar) bundle A group of specialized cardiac fibers that conducts impulses from the atrioventricular node to the ventricular muscles of the heart; also called the *bundle of His* or *AV bundle*.

atrioventricular node A microscopic aggregation of specialized cardiac fibers located in the interatrial septum of the heart; a component of the conduction system of the heart; also called the *AV node*.

atrioventricular valve A cardiac valve located between an atrium and a ventricle of the heart; also called an *AV valve*.

atrium (a-tre'um) Either of the two superior chambers of the heart that receive venous blood.

atrophy (ar'rō-fe) A gradual wasting away or decrease in the size of a tissue or organ.

auditory Pertaining to the structures of the ear associated with hearing.

auditory tube A narrow canal that connects the middle-ear chamber to the pharynx; also called the *eustachian canal*.

auricle (or'ī-kul) 1. The fleshy pinna of the ear. 2. An ear-shaped appendage of each atrium of the heart.

autonomic nervous system (ANS) The sympathetic and parasympathetic portions of the nervous system that innervate cardiac muscle, smooth (visceral) muscles, and glands. The ANS functions largely without conscious control.

axilla (ak-sil'ă) The depressed hollow commonly called the "armpit."

axon (ak'son) The elongated process of a nerve cell that transmits an impulse away from the cell body of a neuron.

B

ball-and-socket joint The most freely movable of all the synovial joints (e.g., the shoulder and hip joints).

baroreceptor (bar''o-re-sep'tor) A cluster of neuroreceptors stimulated by pressure changes. Baroreceptors monitor blood pressure.

basal ganglion (gang'gle-on) A mass of nerve cell bodies located deep within a cerebral hemisphere of the brain.

basement membrane A thin sheet of extracellular substance to which the basal surfaces of membranous epithelial cells are attached; also called the *basal lamina*.

basophil (ba'sō-fil) A granular leukocyte that readily stains with basophilic dye.

belly The bulging, central part of a skeletal muscle; also called *gaster*.

benign (bē'nīn) Not malignant.

bicuspid (bi-kus'pid) valve The heart valve located between the left atrium and the left ventricle; the left AV valve; also called the *mitral valve*.

bifurcation (bi''fur-ka'shun) Forked; divided into two branches.

bile (bil) A liver secretion that is stored and concentrated in the gallbladder and released through the common bile duct into the duodenum. It is essential for the absorption of fats.

bipennate (bi-pen'ăt) Denoting muscles whose fibers are arranged on each side of a tendon like barbs on a feather shaft.

bipolar neuron (noor'on) A nerve cell with two processes, one at each end of the cell body.

blastocyst (blas'tō-sist) An early stage of embryonic development consisting of a hollow ball of cells with an embryoblast (inner cell mass) and an outer layer called the trophoblast.

blood The fluid connective tissue that circulates through the cardiovascular system to transport substances throughout the body.

blood-brain barrier A specialized mechanism that inhibits the passage of certain materials from the blood into brain tissue and cerebrospinal fluid.

bolus (bo'lus) A moistened mass of food that is swallowed from the oral cavity into the pharynx.

bone 1. The hard, calcified connective tissue forming the major portion of the skeleton. 2. Any of the more than 200 anatomically distinct structures making up the skeleton.

bony labyrinth (lab'y-rinth) A series of chambers within the petrous part of the temporal bone associated with the vestibular organs and the cochlea.

Bowman's (bo'manz) capsule See glomerular capsule.

brachial plexus (bra'ke-al plek'sus) A network of nerve fibers arising from spinal nerves C5–C8 and T1. Nerves arising from the brachial plexus supply the upper extremity.

brain The enlarged superior portion of the central nervous system located in the cranial cavity of the skull.

brain stem That portion of the brain consisting of the midbrain, pons, and medulla oblongata.

bronchial (brong'ke-al) tree The bronchi and their branching bronchioles.

bronchiole (brong'ke-ōl) A small division of a bronchus within the lung.

bronchus (brong'kus) A branch of the trachea that leads to a lung.

bulbourethral (bul''bo-yoo-re'thral) glands A pair of glands that secrete a viscous fluid into the male urethra during sexual excitement; also called *Cowper's glands*.

bundle of His (hiss) See atrioventricular bundle.

bursa (bur'sa) A saclike cavity filled with synovial fluid. Bursae are located between tendons and bones or at points of friction between moving structures.

buttock (but'ok) The fleshy mass on the posterior aspect of the lower trunk, formed primarily by the gluteal muscles; the rump.

C

calyx (ka'liks) The cup-shaped portion of the renal pelvis that encircles a renal papilla.

canaliculus (kan''ā-lik'yū-lus) A microscopic channel in bone tissue that connects lacunae.

canal of Schlemm (shlem) See scleral venous sinus.

cancellous (kan'sĕ-lus) bone Spongy bone; bone tissue with a latticelike structure.

capillary (kap'ī-lar'e) A microscopic blood vessel that connects an arteriole and a venule; the functional unit of the circulatory system.

carbohydrate Any of the group of organic molecules composed of carbon, hydrogen, and oxygen, including sugars and starches. A carbohydrate usually has the formula CH₂O.

carotid (kā-rot'id) sinus An expanded portion of the internal carotid artery located immediately above the point of branching from the external carotid artery. The carotid sinus contains baroreceptors that monitor blood pressure.

carpus (kar'pus) The proximal portion of the hand that contains the eight carpal bones.

cartilage (kar'tī-lij) A type of connective tissue with a solid elastic matrix.

cartilaginous (kar''tī-laj'ī-nus) A joint that lacks a joint cavity, permitting little movement between the bones held together by cartilage.

cauda equina (kaw'dā e-kwi'nā) The extension from the terminal portion of the spinal cord, where the roots of spinal nerves resemble a horse's tail.

caudal (kaw'dal) Referring to a position more toward the tail.

cecum (se'kum) The pouchlike portion of the large intestine to which the ileum of the small intestine is attached.

cell The structural and functional unit of an organism; the smallest structure capable of performing all of the functions necessary for life.

cementum (se-men'tum) Bonelike material that binds the root of a tooth to the periodontal membrane of the tooth socket (dental alveolus).

central canal The elongated longitudinal channel at the center of an osteon in bone tissue that contains branches of the nutrient vessels and a nerve; also called a *haversian canal*.

central nervous system (CNS) The brain and the spinal cord.

centrosome (sen'trō-sōm) A specialized zone of cytoplasm near the nucleus of a cell that contains a pair of centrioles.

cerebellar peduncle (ser''ĕ-bel'ar pĕ-dung'kul) An aggregation of nerve fibers connecting the cerebellum with the brain stem.

cerebellum (ser''ĕ-bel'um) That portion of the brain concerned with the coordination of skeletal muscle contraction. Part of the metencephalon, it consists of two hemispheres and a central vermis.

cerebral aqueduct (ser''ĕ-bral ak'wĕ-dukt) See mesencephalic aqueduct.

cerebral arterial (ar-te're-al) circle An arterial vessel on the inferior surface of the brain that encircles the pituitary gland. It provides alternate routes for blood to reach the brain should a carotid or vertebral artery become occluded; also called the *circle of Willis*.

cerebral peduncles (pĕ-dung'kulz) A paired bundle of nerve fibers along the inferior surface of the midbrain that conduct impulses between the pons and the cerebral hemispheres.

cerebrospinal (ser''ĕ-bro-spi'nal) fluid (CSF) A fluid produced by the choroid plexus of the ventricles of the brain. It fills the ventricles and surrounds the central nervous system in association with the meninges.

cerebrum (ser''ĕ-brum or sĕ-re'brum) The largest portion of the brain, composed of right and left cerebral hemispheres.

ceruminous (sĕ-roo'mī-nus) gland A specialized integumentary gland that secretes cerumen, or earwax, into the external acoustic canal.

cervical (ser'vi-kal) Pertaining to the neck or a necklike portion of an organ.

cervical ganglion (gang'gle-on) A cluster of postganglionic sympathetic nerve cell bodies located in the neck, near the cervical vertebrae.

cervical plexus (plek'sus) A network of spinal nerves formed by the anterior branches of the first four cervical nerves.

cervix (ser'viks) 1. The narrow necklike portion of an organ. 2. The inferior end of the uterus that adjoins the vagina (cervix of the uterus).

chemoreceptor (ke''mo-re-sep'tor) A neuroreceptor that is stimulated by the presence of a chemical in solution.

chiasma (ki-as'mā) A crossing of nerve tracts from one side of the CNS to the other; also called a *chiasm*.

choanae (ko-a'ne) The two posterior openings from the nasal cavity into the nasopharynx; also called the *internal nares*.

chondrocranium (kon''dro-kra'ne-um) That portion of the skull that supports the brain. It is derived from endochondral bone.

chondrocyte (kon'dro-sīt) A cartilage cell.

chordae tendineae (kor'de ten-din'e-e) Tendinous bands that connect papillary muscles to the cusps of the atrioventricular valves within the ventricles of the heart.

chorion (ko're-on) An extraembryonic membrane that contributes to the formation of the placenta.

choroid (kor'oid) The vascular, pigmented middle layer of the wall of the eye.

choroid plexus A mass of vascular capillaries from which cerebrospinal fluid is secreted into the ventricles of the brain.

chromatophilic (kro''mā-to-fil'ik) substances Clumps of rough endoplasmic reticulum in the cell body of a neuron; also called *Nissl bodies*.

chromosomes (kro'mō-sōmz) Structures in the nucleus that contain the genes for genetic expression.

chyme (kīm) The mass of partially digested food that passes from the pylorus of the stomach into the duodenum of the small intestine.

cilia (sil'e-ā) Microscopic hairlike processes that move in a wavelike manner on the exposed surfaces of certain epithelial cells.

ciliary (sil'e-er'e) body A portion of the choroid layer of the eye that secretes aqueous humor. It contains the ciliary muscle that, when contracted, changes the shape of the lens.

circle of Willis See cerebral arterial circle.

circumduction (ser''kum-duk'shun) Circular movement of a body part in which a cone-shaped airspace is traced.

cleavage Rapid cell divisions of the zygote that occur approximately 30 hours after fertilization of the secondary oocyte.

clitoris (klit'or-is or kli'tor-is) A small erectile structure in the vulva of the female, homologous to the glans penis in the male.

coccygeal (kok-sij'e-al) Pertaining to the region of the coccyx; the caudal termination of the vertebral column.

cochlea (kok'le-ā) The spiral portion of the inner ear that contains the spiral organ (organ of Corti).

cochlear window A round, membrane-covered opening between the middle and inner ear, directly below the vestibular window; also called the *round window*.

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- coelom** (se'lo'm) The abdominal cavity.
- collateral** A small branch of a blood vessel or nerve fiber.
- colon** (ko'lon) The first portion of the large intestine.
- common bile duct** A tube formed by the union of the hepatic duct and cystic duct that transports bile to the duodenum.
- compact (dense) bone** Tightly packed bone, superficial to spongy bone and covered by the periosteum.
- conceptus** (kon-sep'tus) The product of conception at any point between fertilization and birth. It includes the embryo or fetus, as well as the extraembryonic structures.
- conduction myofibers** Specialized cardiac muscle fibers that conduct electrical impulses from the AV bundle into the ventricular walls; also called *Purkinje fibers*.
- condyle** (kon'dil) A rounded prominence at the end of a long bone, most often for articulation with another bone.
- cone** A type of photoreceptor cell in the retina of the eye that provides for color vision.
- congenital** (kon-jen'i-tal) Present at the time of birth.
- conjunctiva** (con'jungk-ti'vā) The thin membrane covering the anterior surface of the eyeball and lining the eyelids.
- connective tissue** One of the four basic tissue types within the body. It is a binding and supporting tissue with abundant matrix.
- conus medullaris** (ko'nus med'yū-lar'is) The caudal tapering portion of the spinal cord.
- convolution** (con-vō-loo'shun) **1.** An elevation on the surface of a structure and an infolding of the tissue upon itself. **2.** One of the convex folds on the surface of the brain.
- cornea** (kor'ne-ā) The transparent convex anterior portion of the outer layer of the eyeball.
- cornification** (kor'nī-fī-ka'shun) The drying and flattening of the outer keratinized cells of the epidermis.
- coronal** (kor'ō-nal or kō-ro'nal) **plane** A plane that divides the body into anterior and posterior portions; also called a *frontal plane*.
- coronary** (kor'ō-nar'e) **circulation** The flow of blood in the arteries and veins in the wall of the heart; the functional blood supply of the heart.
- coronary sinus** A large venous channel on the posterior surface of the heart into which the cardiac veins drain.
- corpora quadrigemina** (kor'por-ā kwad'rī-jem'ī-nā) Four superior lobes of the midbrain concerned with visual and auditory functions.
- corpus callosum** (kor'pus kā-lo'sum) A large tract of white matter within the brain that connects the right and left cerebral hemispheres.
- cortex** (kor'teks) **1.** The outer layer of an internal organ or body structure, as of the kidney or adrenal gland. **2.** The convoluted layer of gray matter that covers the surface of each cerebral hemisphere.
- costal** (kos'tal) **cartilage** The cartilage that connects the ribs to the sternum.
- cranial** (kra'ne-al) Pertaining to the cranium.
- cranial nerve** One of 12 pairs of nerves that arise from the inferior surface of the brain.
- cranium** (kra'ne-um) The endochondral bones of the skull that enclose or support the brain and the organs of sight, hearing, and balance.
- crest** A thickened ridge of bone for the attachment of muscle.
- cricoid** (kri'koid) **cartilage** A ring-shaped cartilage that forms the inferior part of the larynx.
- crista** (kris'tā) A crest, such as the crista galli that extends superiorly from the cribriform plate.
- cubital** (kyoo'bi-tal) Pertaining to the elbow. The cubital fossa is the anterior aspect of the elbow.
- cystic** (sis'tik) **duct** The tube that transports bile from the gallbladder to the common bile duct.
- cytology** (si-tol'ō-je) The science dealing with the study of cells.
- cytoplasm** (si'to-plaz'em) In a cell, the material between the nucleus and the cell (plasma) membrane.
- D**
- deciduous** (dē-sij'oo-us) Pertaining to something cast off or shed in a particular sequence. Deciduous teeth are shed and replaced by permanent teeth in a predictable sequence.
- decussation** (de'kus-a'shun) A crossing of nerve fibers from one side of the CNS to the other.
- defecation** (def'ē-ka'shun) The elimination of feces from the rectum through the anal canal and out the anus.
- deglutition** (de'gloo-tish'un) The act of swallowing.
- dendrite** (den'drīt) A nerve cell process that transmits impulses toward the cell body of a neuron.
- dentin** (den'tin) The main substance of a tooth, covered by enamel over the crown of the tooth and by cementum on the root.
- dentition** (den-tish-un) The type, number, and arrangement of a set of teeth.
- dermal papilla** (pā-pil'ā) A projection of the dermis into the epidermis.
- dermis** (der'mis) The second, or deep, layer of skin beneath the epidermis.
- descending colon** That segment of the large intestine that descends on the left side from the level of the spleen to the level of the left iliac crest.
- diaphragm** (di'ā-gram) A sheetlike dome of muscle and connective tissue that separates the thoracic and abdominal cavities.
- diaphysis** (di-af'i-sis) The body (shaft) of a long bone.
- diastole** (di-as'tō-le) The sequence of the cardiac cycle in which a heart chamber wall relaxes and the chamber fills with blood; especially ventricular relaxation.
- diencephalon** (di'en-sef'ā-lon) That part of the brain lying between the telencephalon and the mesencephalon. It includes the third ventricle, pineal gland, epithalamus, thalamus, hypothalamus, and pituitary gland.
- digestion** The process by which food is broken down mechanically and chemically into simple molecules that can be absorbed and used by body cells.
- diploe** (dip'lo-e) The spongy layer of bone positioned between the inner and outer layers of compact bone.
- distal** (dis'tal) Away from the midline or origin; the opposite of *proximal*.
- dorsal** (dor'sal) Pertaining to the back, or posterior, portion of a body part; the opposite of *ventral*.
- dorsiflexion** (dor'sī-flek'shun) Movement at the ankle or wrist as the dorsum of the foot or hand is elevated.
- ductus arteriosus** (duk'tus ar-te're-o'sus) The blood vessel that connects the pulmonary trunk and the aorta in a fetus.
- ductus deferens** (def'er-enz); plural, **ductus deferentia** A tube that carries spermatozoa from the epididymis to the ejaculatory duct; also called the *vas deferens* or *seminal duct*.
- ductus venosus** (ven-o'sus) A fetal blood vessel that connects the umbilical vein and the inferior vena cava.
- duodenum** (doo'ō-de-num or doo-od'ē-num) The first portion of the small intestine that leads from the pylorus of the stomach to the jejunum.
- dura mater** (door'ā ma'ter) The outermost meninx.

E

- eccrine (ek'rin) gland** Any of the numerous sweat glands distributed over the body that function in thermoregulation.
- ECG** Electrocardiogram; EKG.
- ectoderm (ek'tō-derm)** The outermost of the three primary germ layers of an embryo.
- edema (ē-de'mā)** Abnormal accumulation of interstitial (tissue) fluid, causing the tissue to swell.
- effector (ē-fek'tor)** An organ, such as a gland or muscle, capable of responding to a stimulus.
- efferent (ef'er-ent)** Conveying away from the center of an organ or structure.
- efferent ductules (duk'toolz)** A series of coiled tubules that convey spermatozoa from the rete testis to the epididymis.
- efferent glomerular arteriole (ar-te're-ōl)** A vessel within the kidney that conducts blood away from the glomerulus to the peritubular capillaries.
- efferent neuron (noor'on)** A motor nerve cell that conducts impulses from the central nervous system to effector organs, such as muscles or glands.
- ejaculation (ē-jak'yoo-la'shun)** The discharge of semen from the male urethra during climax.
- ejaculatory (ē-jak'yoo-lā-tor-e) duct** A tube that transports spermatozoa from the ductus deferens to the prostatic part of the urethra.
- elastic fibers** Protein strands found in certain connective tissue that have contractile properties.
- elbow** The synovial joint between the brachium and the antebrachium.
- electrocardiogram (ē-lek'tro-kar-de-ō-gram)** A recording of the electrical activity that accompanies the cardiac cycle; ECG or EKG.
- electroencephalogram (ē-lek'tro-en-sef'ā-lō-gram)** A recording of the brain-wave patterns or electrical impulses of the brain; EEG.
- electromyogram (ē-lek'tro-mi'ō-gram)** A recording of the electrical impulses or activity of a muscle; EMG.
- embryology (em'bre-ol'ō-je)** The study of prenatal development from conception through the eighth week in utero.
- enamel (ē-nam'el)** The outer dense substance covering the crown of a tooth.
- endocardium (en'do-kar'de-um)** The endothelial lining of the heart chambers and valves.
- endochondral (en'do-kon'dral) bone** Bones that develop as hyaline cartilage models first, and then are ossified.
- endocrine (en'dō-krin) gland** A ductless, hormone-producing gland of the endocrine system.
- endoderm (en'dō-derm)** The innermost of the three primary germ layers of a developing embryo.
- endolymph (en'dō-limf)** A fluid within the cochlear duct and membranous labyrinth of the inner ear that aids in the conduction of vibrations involved in hearing and maintaining equilibrium.
- endometrium (en'do-me'tre-um)** The inner lining of the uterus.
- endomysium (en-do-mis'e-um)** The connective tissue sheath surrounding individual skeletal muscle fibers, separating them from one another.
- endoneurium (en'do-nyoo're-um)** The connective tissue sheath surrounding individual nerve fibers, separating them from one another within a peripheral nerve.
- endoplasmic reticulum (en'do-plaz'mik rē-tik'yoo-lum) (ER)** A system of interconnected tubules or channels running through the cytoplasm of a cell. Rough ER bears ribosomes on its membrane, while smooth ER does not.
- endothelium (en'do-the'le-um)** The layer of epithelial tissue that forms the thin inner lining of blood vessels and heart chambers.
- eosinophil (e'ō-sin'ō-fil)** A type of white blood cell characterized by the presence of cytoplasmic granules that become stained by acidic eosin dye. Eosinophils normally constitute from 2% to 4% of the white blood cells.
- epicardium (ep'i-kar'de-um)** The thin outer layer of the heart; also called the *visceral pericardium*.
- epicondyle (ep'i-kon'dīl)** A projection of bone above a condyle.
- epidermis (ep'i-der'mis)** The outermost layer of the skin, composed of stratified squamous epithelium.
- epididymis (ep'i-did'i-mis); plural, epididymides (ep'i-dī-dīm'īdēz)** A highly coiled tube located along the posterior border of the testis. It stores spermatozoa and transports them from the seminiferous tubules of the testis to the ductus deferens.
- epidural (ep'i-door'al) space** A space between the spinal dura mater and the bone of the vertebral canal.
- epiglottis (ep'i-glot'is)** A leaflike structure positioned on top of the larynx. It covers the glottis during swallowing.
- epimysium (ep'i-mis'e-um)** The fibrous outer sheath of connective tissue surrounding a skeletal muscle.
- epinephrine (ep'i-nef'rin)** A hormone secreted from the adrenal medulla whose actions are similar to those initiated by sympathetic nervous system stimulation; also called *adrenaline*.
- epineurium (ep'i-nyoo're-um)** The fibrous outer sheath of connective tissue surrounding a nerve.
- epiphyseal (ep'i-fiz'e-al) plate** A layer of hyaline cartilage between the epiphysis and diaphysis of a long bone. It is responsible for the lengthwise growth of long bones.
- epiphysis (ē-pif'ī-sis)** The end segment of a long bone, separated from the diaphysis early in life by an epiphyseal plate, but later becoming part of the larger bone.
- epiotomy (ē-pe'ze-ot'ō-me)** An incision of the perineum at the end of the second stage of labor to facilitate delivery and avoid tearing of the perineum.
- epithelial (ep'i-the'le-al) tissue** One of the four basic tissue types; the type of tissue that covers or lines all exposed body surfaces; also called *epithelium*.
- eponychium (ep'ō-nik'e-um)** The thin layer of stratum corneum of the epidermis of the skin that overlaps and protects the lunula of the nail.
- erythrocyte (ē-rith'rō-sīt)** A red blood cell.
- esophagus (ē-sof'ā-gus)** The tubular organ of the GI tract that leads from the pharynx to the stomach as it passes through the thoracic cavity.
- estrogen (es'trōjen)** Any of several female sex hormones secreted from the ovarian (graafian) follicle.
- etiology (e'te-ol'ō-je)** The study of cause, especially of disease, including the origin and what pathogens, if any, are involved.
- eustachian (yoo-sta'shun) canal** See auditory tube.
- eversion (e-ver'shun)** Movement of the foot in which the sole is turned outward; the opposite of inversion.
- exocrine (ek'sō-krin) gland** A gland that secretes its product to an epithelial surface, either directly or through ducts.
- expiration** The process of expelling air from the lungs through breathing out; also called *exhalation*.
- extension** Movement that increases the angle between parts of a joint; the opposite of *flexion*.
- external (superficial)** Located on or toward the surface.
- external acoustic meatus (me-a'tus)** An opening through the temporal bone that connects with the tympanum and the

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middle-ear chamber and through which sound vibrations pass; also called the *external auditory meatus*.

external ear The outer portion of the ear, consisting of the auricle (pinna) and the external acoustic canal.

exteroceptor (ek''ster-o-sep'tor) A specialized sensory neuron located near the surface of the body that responds to stimuli from the external environment.

extraocular (ek''stra-ok'yū-lar) muscles The muscles that insert onto the sclera of the eye and act to change the position of the eye in its orbit (as opposed to the intraocular muscles, such as those of the iris and ciliary body within the eye); also called extrinsic ocular muscles.

extrinsic (eks-trin'sik) Pertaining to an outside or external origin.

F

face **1.** The anterior aspect of the head not supporting or covering the brain. **2.** The exposed surface of a structure.

facet (fas'et) A flattened, shallow articulating surface on a bone.

falciform (fal'si-form) ligament The extension of parietal peritoneum that separates the right and left lobes of the liver.

fallopian (fă-lo'pe-an) tube See uterine tube.

false vocal cords See vestibular folds.

falx cerebelli (falks ser''ē-bel'i) A fold of dura mater anchored to the occipital bone. It projects inward between the cerebellar hemispheres.

falx cerebri (ser'ē-bri) A fold of dura mater anchored to the crista galli. It extends between the right and left cerebral hemispheres.

fascia (fash'e-ă) A tough sheet or band of fibrous connective tissue binding the skin to underlying muscles (superficial fascia) or supporting and separating muscles (deep fascia).

fasciculus (fă-sik'yū-lus) A small bundle of muscle or nerve fibers ensheathed in connective tissue.

fauces (faw'sēz) The passageway between the mouth and the oropharynx.

feces (fe'sēz) Material expelled from the GI tract by way of the anal canal during defecation; composed of food residue, bacteria, and secretions; also called *stool*.

fetus (fe'tus) A prenatal human after 8 weeks of development.

fibroblast (fi'bro-blast) An elongated connective tissue cell with cytoplasmic extensions that is capable of forming collagenous or elastic fibers.

fibrous joint A type of articulation bound by fibrous connective tissue that allows little or no movement (e.g., a syndesmosis).

filiform papillae (fil'i-form pă-pil'e) Numerous small projections scattered irregularly over the entire surface of the tongue in which taste buds are absent.

filum terminale (fi'lum ter-mī-nal'e) A fibrous, threadlike continuation of the pia mater, that extends inferiorly from the terminal end of the spinal cord to the coccyx.

fimbriae (fim'bre-e) Fringelike extensions from the borders of the open end of the uterine tube.

fissure (fish'ur) A groove or narrow cleft that separates two parts, such as the cerebral hemispheres of the brain.

flagellum (flă-jel'um) A whiplike structure that provides motility for spermatozoa.

flexion Movement that decreases the angle between parts of a joint; the opposite of *extension*.

fontanel (fon''tă-nel') A soft membranous gap between the incompletely formed cranial bones of a fetus or baby; commonly known as a "soft spot."

foot The terminal portion of the lower extremity, consisting of the tarsus, metatarsus, and digits.

foramen (fō-ra'men); plural, foramina (fō-ram'ī-nă) An opening in an anatomical structure, usually in a bone, for the passage of a blood vessel or nerve.

foramen ovale (o-val'e) An opening through the interatrial septum of the fetal heart.

forearm That portion of the upper extremity between the elbow and the wrist; also called the *antebrachium*.

formed elements The cellular portion of blood.

fornix (for'niks) **1.** A recess surrounding the cervix of the uterus where it protrudes into the vagina. **2.** A tract within the brain connecting the hippocampus with the mammillary bodies.

fossa (fos'ă) A depressed area, usually on a bone.

fourth ventricle (ven'trī-kul) A cavity within the brain, between the cerebellum and the medulla oblongata and pons, containing cerebrospinal fluid.

fovea centralis (fo've-ă sen-tra'lis) A depression on the macula lutea of the eye where only cones are located; the area of keenest vision.

frenulum (fren'yū-lum) A membranous structure that serves to anchor and limit the movement of a body part.

frontal **1.** Pertaining to the forehead or frontal bone. **2.** Pertaining to the frontal plane.

frontal plane See coronal plane.

fungiform papillae (fun'ji-form pă-pil'e) Flattened, mushroom-shaped projections interspersed among the filiform type on the surface of the tongue. Fungiform papillae contain taste buds.

G

gallbladder A pouchlike organ attached to the underside of the liver; serves as a storage reservoir for bile secreted by the liver.

gamete (gam'ēt) A haploid sex cell; either an egg cell or a sperm cell.

ganglion (gang'gle-on) An aggregation of nerve cell bodies located outside the central nervous system.

gastrointestinal tract (GI tract) A continuous tube through the anterior (ventral) body cavity that extends from the mouth to the anus; also called the *digestive tract*.

gene That portion of the DNA of a chromosome containing the information needed to synthesize a particular protein molecule.

gingiva (jin-ji'vă) The fleshy covering over the mandible and maxilla through which the teeth protrude within the mouth; also called the *gum*.

gland A cell, tissue, or organ that produces a specific substance or secretion for use in or for elimination from the body.

glans penis (glanz pe'nis) The cone-shaped terminal portion of the penis, formed from the expanded corpus spongiosum.

gliding joint A type of synovial joint in which the articular surfaces are flat, permitting only side-to-side and back-and-forth movements.

glomerular (glo-mer'yū-lar) capsule The double-walled proximal portion of a renal tubule that encloses the glomerulus of a nephron; also called *Bowman's capsule*.

glomerulus (glo-mer'yū-lus) The coiled tuft of capillaries surrounded by the glomerular capsule. It filters urine from the blood.

glottis (glot'is) A slitlike opening into the larynx, positioned between the vocal folds.

goblet cell A mucus-secreting unicellular gland associated with columnar epithelia; also called a *mucous cell*.

Golgi (gol'je) complex A network of stacked, flattened membranous sacs within the cytoplasm of a cell. It serves to concentrate and package proteins for secretion from the cell.

Golgi tendon organ See neurotendinous receptor.

gomphosis (gom-fo'sis) A fibrous joint between the root of a tooth and the periodontal ligament of the tooth socket.

gonad (go'nad) A reproductive organ—testis or ovary—that produces gametes and sex hormones.

gray matter The region of the central nervous system composed of nonmyelinated nerve tissue.

greater omentum (o-men'tum) A double-layered peritoneal membrane that originates on the greater curvature of the stomach. It hangs inferiorly, like an apron, over the contents of the abdominal cavity.

gross anatomy The branch of anatomy concerned with structures of the body that can be studied without a microscope.

gustation (gus-ta'shun) The sense of taste.

gut The GI tract or a portion thereof; generally used in reference to the embryonic digestive tube, consisting of the foregut, midgut, and hindgut.

gyrus (gi'rus) A convoluted elevation or ridge.

H

hair A threadlike appendage of the epidermis consisting of keratinized dead cells that have been pushed up from a dividing basal layer.

hair cells Specialized sensory cells, such as in the spiral organ, possessing numerous surface microvilli; receptors for the senses of hearing and equilibrium.

hair follicle A tubular depression in the dermis of the skin in which a hair develops.

hand The terminal portion of the upper extremity, consisting of the carpus, metacarpus, and digits.

hard palate (pal'it) The bony partition between the oral and nasal cavities, formed by the maxillae and palatine bones and lined by mucous membrane.

haustra (haws'tră) Sacculations, or pouches, of the colon.

haversian (hă-ver'shun) canal *See* central canal.

haversian system *See* osteon.

head The uppermost portion of a human that contains the brain and major sense organs; the proximal articulating part of a long bone.

heart A four-chambered muscular pumping organ positioned in the thoracic cavity, slightly to the left of midline.

hemoglobin (he'mō-glo'bin) A substance in red blood cells consisting of the protein globin and the iron-containing red pigment heme. It functions in the transport of oxygen and carbon dioxide.

hemopoiesis (hem"ō-poi-e'sis) The production of red blood cells.

hepatic (hě-pat'ik) duct A duct formed from the union of several bile ducts that drain bile from the liver. It merges with the cystic duct from the gallbladder to form the common bile duct.

hepatic portal circulation The return of venous blood from the digestive organs and spleen through a capillary network within the liver before draining into the heart.

hepatopancreatic ampulla (hep"ă-to-pan"kre-at'ik am-pool'ă) A short ductule formed by the combined pancreatic and common bile ducts within the duodenal papilla; also called the *ampulla of Vater*.

hiatus (hi-a'tus) An opening or fissure; a foramen.

hilum (hi'lum) A concave or depressed area where vessels or nerves enter or exit an organ.

hinge joint A type of synovial joint in which the convex surface of one bone fits into the concave surface of another, confining movement to one plane (e.g., the knee and interphalangeal joints).

histology (his-tol'ō-je) Microscopic study of the structure and function of tissues.

horizontal (transverse) plane A directional plane that divides the body, an organ, or an appendage into superior and inferior or proximal and distal portions.

hormone (hor'mōn) A chemical substance produced in an endocrine gland and secreted into the bloodstream that acts on target cells to produce a specific effect.

hyaline (hi'ă-lin) cartilage A cartilage with a homogeneous matrix. It is the most common type, occurring at the articular ends of bones, in the trachea, and within the nose. Most of the bones in the body are formed from hyaline cartilage.

hymen (hi'men) A developmental remnant (vestige) of membranous tissue that partially covers the vaginal opening.

hyperextension Extension beyond the normal anatomical position of 180°.

hypertension Elevated or excessive blood pressure.

hypodermis (hi'pō-der'mis) Subcutaneous tissue that binds the dermis to underlying organs.

hyponychium (hi'pō-nik'e-um) A thickened supportive layer of the stratum corneum at the distal end of a digit, under the free edge of the nail.

hypothalamus (hi'po-thal'ă-mus) An important autonomic and neuroendocrine control center located below the thalamus within the diencephalon.

I

ileocecal (il'e-ō-se'kal) valve A modification of the mucosa at the junction of the small intestine and large intestine that forms a one-way passage and prevents the backflow of food materials.

ileum (il'e-um) The terminal portion of the small intestine between the jejunum and cecum.

incus (ing'kus) The middle of three auditory ossicles within the middle-ear chamber; commonly known as the “anvil.”

inferior vena cava (ve'nă kă'vă) A large systemic vein that collects blood from the body regions inferior to the level of the heart and returns it to the right atrium.

infundibulum (in'fun-dib'yoo-lum) The portion of the pituitary stalk that attaches the hypothalamus of the brain to the posterior pituitary.

ingestion The process of taking food or liquid into the body by way of the oral cavity.

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

inguinal canal The passage in the abdominal wall through which a testis descends into the scrotum.

inner ear The innermost region of the ear, containing the cochlea and vestibular organs.

insertion The more movable attachment of a muscle, usually the more distal; opposite the origin.

inspiration The act of breathing air into the pulmonary alveoli of the lungs; also called *inhalation*.

insula (in'sü-lă) A cerebral lobe lying deep to the lateral sulcus. It is covered by portions of the frontal, parietal, and temporal lobes.

integument (in-teg'yoo-ment) The skin; the largest organ of the body.

intercalated (in-ter'kă-lăt-ed) disc A thickened portion of the sarcolemma that extends across a cardiac muscle fiber and delimits the boundary between cells.

intercellular substance The matrix or material between cells that largely determines tissue types.

internal (deep) Toward the center, away from the surface of the body.

interstitial fluid Fluid between the cells; also called *tissue fluid*.

intervertebral (in'ter-ver'tē-bral) disc A pad of fibrocartilage positioned between the bodies of adjacent vertebrae.

intestinal gland A simple tubular digestive gland that opens onto the surface of the intestinal mucosa and secretes digestive enzymes; also called the *crypt of Lieberkühn*.

intestinal villus (vil'us) A minute projection from the free surface of the tunica mucosa of

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the small intestine; the basic functional unit of the digestive system.

intramembranous (in'tră-mem'bră-nus)

ossification A type of bone formation in which layers of bone are formed from mesenchymal cells without any cartilage model.

intrinsic (in-trin'zīk) Situated in or pertaining to internal origin.

inversion Movement of the foot in which the sole is turned inward; the opposite of *eversion*.

iris (i'ris) The pigmented portion of the vascular tunic of the eye that surrounds the pupil and regulates its diameter.

islets of Langerhans (i'letz of lang'er-hanz) See pancreatic islets.

isthmus (is'mus) A narrow neck or portion of tissue connecting two structures.

J

jejunum (jē-joo'num) The middle portion of the small intestine, located between the duodenum and the ileum.

joint The point of juncture between two bones; an articulation.

joint capsule The fibrous tissue that encloses the joint cavity of a synovial joint.

K

keratin (ker'ă-tin) An insoluble protein present in the epidermis and in epidermal derivatives, such as hair and nails.

kidney (kid'ne) One of the paired organs of the urinary system that, among other functions, filters wastes from the blood in the formation of urine.

kinesiology (kī-ne''se-ol'ō-je) The study of body movement.

knee The region in the lower extremity between the thigh and the leg that contains a synovial hinge joint.

L

labial frenulum (la'be-al fren'yū-lum) A longitudinal fold of mucous membrane that attaches the lips to the gum along the midline of both the upper and lower lip.

labia majora (la'be-ă mă-jor'ă); singular, labium majus The portion of the female external genitalia consisting of two longitudinal folds of skin that extend downward and backward from the mons pubis.

labia minora (mī-nor'ă), singular, labium minus

Two small folds of skin, devoid of hair and sweat glands, lying between the labia majora of the female external genitalia.

labyrinth (lab'yī-rinth) A complex system of interconnecting tubes within the inner ear that includes the semicircular ducts and the cochlear and vestibular labyrinths.

lacrimal canaliculus (lak'rī-mal kan''ă-lik'yū-lus) A drainage duct for tears at the medial corner of the eyelid. It conveys the tears medially into the nasolacrimal sac.

lacrimal gland A tear-secreting gland on the superior lateral portion of the eyeball, underneath the upper eyelid.

lactation (lak-ta'shun) The production and secretion of milk by the mammary glands.

lacteal (lak'te-al) A small lymphatic duct associated with an intestinal villus of the small intestine.

lacuna (lă-kyoo'nă) A small, hollow chamber that houses an osteocyte in mature bone tissue or a chondrocyte in cartilage tissue.

lambdoid suture (lam'doid soo'chur) The immovable joint in the skull between the parietal bones and the occipital bone.

lamella (lă-mel'ă) A concentric ring of matrix surrounding the central canal in an osteon of mature bone tissue.

lamellated corpuscle (lam'ě-la'ted kor'pus'l) A sensory receptor for pressure, found in tendons, around joints, and in visceral organs; also called a *pacinian corpuscle*.

lamina (lam'ī-nă) A thin plate of bone that extends superiorly from the body of a vertebra to form both sides of the arch of a vertebra.

lanugo (lă-noo'go) Short, silky fetal hair, which may be present for a short time on a premature infant.

large intestine The last major portion of the GI tract, consisting of the cecum, colon, rectum, and anal canal.

laryngopharynx (lă-ring''go-far'ingks) The lowermost portion of the pharynx, extending inferiorly from the level of the hyoid bone to the larynx.

larynx (lar'ingks) The short tubular organ between the pharynx and trachea that houses the vocal folds (cords); commonly known as the "voice box."

lateral Pertaining to the side; farther from the median plane.

lateral ventricle (ven'trī-kul) A cavity within the cerebral hemisphere of the brain that is filled with cerebrospinal fluid.

leg That portion of the lower extremity extending from the knee to the ankle.

lens 1. A transparent refracting medium, usually made of glass or plastic. **2.** The transparent biconvex organ of the eye lying posterior to the pupil and iris. It focuses light rays entering through the pupil to form an image on the retina.

lesser omentum (o-men'tum) A peritoneal fold of tissue extending from the lesser curvature of the stomach to the liver.

leukocyte A white blood cell; variant spelling, *leucocyte*.

ligament (lig'ă-ment) A tough cord or fibrous band of connective tissue that binds bone to bone to strengthen a joint and provide flexibility. It also may support viscera.

limbic (lim'bik) system A group of deep brain structures encircling the brain stem, including the cingulate gyrus, the hypothalamus, the hippocampus, the amygdaloid nucleus, and various fiber tracts. The limbic system is associated with aspects of emotion and behavior and autonomic functions.

linea alba (lin'ě-ă al'bă) A vertical fibrous band running down the center of the anterior abdominal wall.

lingual frenulum (ling'gwal fren'yū-lum) A longitudinal fold of mucous membrane that attaches the tongue to the floor of the oral cavity.

lipid (lip'id) Any of a group of organic molecules, including fats, phospholipids, and steroids, that are generally insoluble in water.

liver A large visceral organ lying inferior to the diaphragm in the right hypochondriac region. The liver detoxifies the blood and modifies the concentration of glucose, triglycerides, ketone bodies, and proteins in the blood plasma.

loop of Henle See nephron loop.

lower extremity A lower appendage, including the hip, thigh, knee, leg, and foot.

lumbar (lum'bar) Pertaining to the region of the loins; the part of the back between the thorax and pelvis.

lumbar plexus (plek'sus) A network of nerves formed by the anterior branches of spinal nerves L1 through L4.

lumen (loo'men) The space within a tubular structure through which a substance passes.

lung Either of the two major organs of respiration positioned within the thoracic cavity on either lateral side of the mediastinum.

lunula (loo'nyoo-lă) The crescent-shaped whitish area at the proximal portion of a nail.

luteinizing (loo'te-ĭ-ni'zing) hormone (LH) A hormone secreted by the adenohypophysis (anterior lobe) of the pituitary gland that stimulates ovulation and progesterone secretion by the corpus luteum, influences milk secretion by the mammary glands in females, and stimulates testosterone secretion by the testes in males.

lymph (limf) A clear, plasma-like fluid that flows through lymphatic vessels.

lymph node A small ovoid mass of reticular tissue located along the course of lymph vessels.

lymphocyte (lim'fo-sīt) A type of white blood cell characterized by a granular cytoplasm. Lymphocytes usually constitute about 20%–25% of the white cell count.

lymphoid tissue A type of connective tissue dominated by lymphocytes.

M

macrophage (mak'ro-fāj) A wandering phagocytic cell.

macula lutea (mak'yū-lā loo'te-ā) A yellowish depression in the retina of the eye that contains the fovea centralis, the area of keenest vision.

malignant Threatening to life; virulent. Of a tumor, cancerous, tending to metastasize.

malleus (mal'e-us) The largest and outermost of three auditory ossicles; attached to the tympanic membrane and articulating with the incus; commonly known as the “hammer.”

mammary (mam'er-e) gland The gland of the female breast responsible for lactation and nourishment of the young.

marrow (mar'o) The soft connective tissue found within the inner cavity of certain bones that produces red blood cells.

mastication (mas'tī-ka'shun) The chewing of food.

matrix (ma'triks) The intercellular substance of a tissue.

meatus (me-a'tus) A passageway or opening into a structure.

mechanoreceptor (mek'ā-no-re-sep'tor) A sensory receptor that responds to a mechanical stimulus.

medial Toward or closer to the midline of the body.

mediastinum (me'de-ā-sti-num) 1. A septum or cavity between two principal portions of an organ. 2. The region in the center of the thorax separating the lungs; contains the heart and all of the thoracic viscera except the lungs.

medulla (mě-dul'ā) The innermost part; the central portion of such organs as the adrenal gland and the kidney.

medulla oblongata (ob'long-ga'tā) That portion of the brain stem between the spinal cord and the pons.

medullary (med'l-er'e) (marrow) cavity The hollow core of the diaphysis of a long bone in which yellow bone marrow is found.

meiosis (mi-o'sis) A specialized type of cell division by which gametes, or haploid sex cells, are formed.

Meissner's corpuscle (mīs'nerz kor'pus'l) A sensory receptor found in the papillary layer of the dermis of the skin; responsible for fine, discriminative touch.

melanin (mel'ā-nin) A dark pigment found within the epidermis or epidermal derivatives of the skin.

melanocyte (mel'ā-no-sīt) A specialized melanin-producing cell found in the deepest layer of epidermis.

melanoma (mel'a-no'mā) A dark malignant tumor of the skin; frequently forms in moles.

membranous (mem'brā-nus) bone Bone that forms from membranous connective tissue rather than from cartilage; also called *intramembranous bone*.

menarche (mě-nar'ke) The first menstrual discharge; occurs normally between the ages of 9 and 17.

meninges (mě-nin'jēz); singular, meninx (me'ningks) A group of three fibrous membranes covering the central nervous system, composed of the dura mater, arachnoid, and pia mater.

meniscus (mě-nis'kus); plural, menisci (mēnis'ki or mė-nis'i) A wedge-shaped fibrocartilage in certain synovial joints.

menopause (men'ō-pawz) The period marked by the cessation of menstrual periods in the human female.

menstrual (men'stroo'al) cycle The rhythmic female reproductive cycle characterized by physical changes in the uterine lining.

menstruation (men'stroo-a'shun) The discharge of blood and tissue from the uterus at the end of menstrual cycle.

mesencephalic aqueduct (mez'en-sē-fal'ik ak'wē-duk't) The channel that connects the third and fourth ventricles of the brain; also called the *cerebral aqueduct* or the *aqueduct of Sylvius*.

mesencephalon (mez'en-sef'ā-lon) The midbrain, which contains the corpora quadrigemina, the cerebral peduncles, and specialized nuclei that help to control posture and movement.

mesenchyme (mez'en-kīm) An embryonic connective tissue that can migrate, and from which all connective tissues arise.

mesenteric (mes'en-ter'ik) patches Clusters of lymph nodes on the walls of the small intestine; also called *Peyer's patches*.

mesentery (mes'en-ter'e) A fold of peritoneal membrane that attaches an abdominal organ to the abdominal wall.

mesoderm (mes'ō-derm) The middle layer of the three primary germ layers of the developing embryo.

mesothelium (mes'ō-the'le-um) A simple squamous epithelial tissue that lines body cavities and covers visceral organs; also called *serosa*.

mesovarium (mes'ō-va're-um) The peritoneal fold that attaches an ovary to the broad ligament of the uterus.

metabolism (mě-tab'ō-liz-em) The sum total of the chemical changes that occur within a cell.

metacarpus (met'a-kar'pus) That region of the hand between the wrist and the digits, including the five bones that support the palm of the hand.

metarteriole (met'ar-te're-ōl) A small blood vessel that emerges from an arteriole, passes through a capillary network, and empties into a venule.

metastasis (mē-tas'tā-sis) 1. The spread of pathogens or cancerous cells from an original site to one or more sites elsewhere in the body. 2. A secondary cancerous growth formed by transmission of cancerous cells from a primary growth located elsewhere in the body.

metatarsus (met'ā-tar'sus) The region of the foot between the ankle and the digits that includes five bones.

metencephalon (met'en-sef'ā-lon) The most superior region of the hindbrain, containing the cerebellum and the pons.

microglia (mi-krog'le-ā) Small phagocytic cells found in the central nervous system.

microvilli (mi'kro-vil'i) Microscopic hairlike projections of the cell membranes of certain epithelial cells.

micturition (mik'tū-rish'un) The process of voiding urine; also called *urination*.

midbrain That portion of the brain between the pons and the forebrain.

middle ear The middle region of the ear, containing the three auditory ossicles.

midsagittal (mid-saj'i-tal) plane A plane that divides the body or an organ into right and left halves; also called the *median plane*.

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mitosis (mi-to'sis) The process of cell division that results in two identical daughter cells, containing the same number of chromosomes.

mitral (mi'tral) valve See bicuspid valve.

mixed nerve A nerve that contains both motor and sensory nerve fibers.

monocyte (mon'ō-sīt) A phagocytic type of white blood cell, normally constituting about 3%–8% of the white blood cell count.

mons pubis (monz pyoo'bis) A fatty tissue pad over the symphysis pubis in the female, covered by coarse pubic hair.

morphogenesis (mor'fo-jen'ē-sis) During prenatal development, the transformation involved in the growth and differentiation of cells and tissues.

morula (mor'yū-lā) An early stage of embryonic development characterized by a solid ball of cells.

motor area A region of the cerebral cortex from which motor impulses to muscles or glands originate.

motor nerve A nerve composed of motor nerve fibers.

motor neuron (noor'on) A nerve cell that conveys action potentials away from the central nervous system to effector organs (muscles and glands). Motor neurons form the anterior roots of the spinal nerves.

motor unit A single motor neuron and the muscle fibers it innervates.

mucosa (myoo-ko'sā) A mucous membrane that lines cavities and tracts opening to the exterior.

mucous (myoo'kus) cell A specialized unicellular gland that produces and secretes mucus; also called a *goblet cell*.

multipolar neuron (noor'on) A nerve cell with many processes originating from the cell body.

muscle A major type of tissue adapted to contract. The three kinds of muscle are cardiac, smooth, and skeletal.

muscularis (mus'kyū-lar'is) A muscular layer or tunic of an organ, composed of smooth muscle tissue.

myelencephalon (mi'ē-len-sef'ā-lon) The posterior region of the hindbrain that contains the medulla oblongata.

myelin (mi'ē-lin) A lipoprotein material that forms a sheathlike covering around nerve fibers.

myeloid (mi'ē-loid) tissue The red bone marrow in which blood cells are produced.

myenteric plexus (mi'en-ter'ik plek'sus) A network of sympathetic and parasympathetic nerve fibers located in the muscular layer of the wall of the small intestine; also called the *plexus of Auerbach*.

myocardium (mi'o-kar'de-um) The middle layer of the heart wall, composed of cardiac muscle.

myofibril (mi'ō-fi'bril) A bundle of contractile fibers within muscle cells.

myofilament The filament that constitutes myofibrils. It is composed of either actin or myosin.

myogram (mi'ō-gram) A recording of electrical activity within a muscle.

myology (mi-ol'ō-je) The science or study of muscle structure and function.

myometrium (mi'o-me'tre-um) The layer or tunic of smooth muscle within the uterine wall.

myoneural (mi'o-noor'al) junction The site of contact between the axon of a motor neuron and a muscle fiber.

myopia (mi-o'pe-ā) A visual defect in which objects can be seen distinctly only when very close to the eyes; also called *nearsightedness*.

myosin (mi'ō-sin) A thick filament of protein that, together with actin, causes muscle contraction.

N

nail A hardened, keratinized plate that develops from the epidermis and forms a protective covering over the distal phalanges of fingers and toes.

nares (na'rēz) The openings into the nasal cavity; also called the *nostrils*.

nasal cavity A mucosa-lined space above the oral cavity, divided by a nasal septum. It is the first chamber of the respiratory system.

nasal concha (kong'kā); plural, conchae (kong'ke) A scroll-like bone extending medially from the lateral wall of the nasal cavity; also called a *turbinate*.

nasal septum A bony and cartilaginous partition that separates the nasal cavity into two portions.

nasopharynx (na'zo-far'ingks) The first or uppermost portion of the pharynx, positioned behind the nasal cavity and extending down to the soft palate.

neck 1. Any constricted portion, such as the neck of an organ. 2. The cervical region of the body between the head and thorax.

necrosis (nē-kro'sis) Cell death or tissue death as a result of disease or trauma.

neonatal (ne'o-na'tal) Concerning the period from birth to the end of 4 weeks.

nephron (nef'ron) The functional unit of the kidney, consisting of a glomerulus, glomerular capsule, convoluted tubules, and the nephron loop.

nephron loop The U-shaped part of the nephron, consisting of descending and ascending limbs; also called the *loop of Henle*.

nerve A bundle of nerve fibers outside the central nervous system.

neurilemma (noor'ī-lem'ā) A thin, membranous covering surrounding the myelin sheath of a nerve fiber.

neurofibril (noor'ō-fi'bril) One of many delicate threadlike structures within the cytoplasm of a cell body and the axon hillock of a neuron.

neurofibril node A gap in the myelin sheath of a nerve fiber; also called the *node of Ranvier*.

neuroglia (noo-rog'le-ā) Specialized supportive cells of the central nervous system; also called *glial cells* or *glia*.

neurohypophysis (noor'ō-hi-pof'ī-sis) The posterior lobe of the pituitary gland.

neurolemmocyte (noor'ō-lem'ō-sīt) A specialized neuroglial cell that surrounds an axon fiber of a peripheral neuron and forms the myelin sheath; also called a *Schwann cell*.

neuron (noor'on) The structural and functional cell of the nervous system, composed of a cell body, dendrites, and an axon; also called a *nerve cell*.

neurotendinous (noor'ō-ten'din-us) receptor A proprioceptor found near the junction of tendons and muscles. It senses muscle tension and acts to prevent overuse of a muscle; also called a *Golgi tendon organ*.

neutrophil (noo'trō-fil) A type of phagocytic white blood cell, normally constituting about 60%–70% of the white cell count.

nipple A pigmented, cylindrical projection at the apex of the breast.

Nissl (nis'l) bodies See chromatophilic substances.

node of Ranvier (rahn-ve-a' or ran'vēr) See neurofibril node.

notochord (no'tō-kord) flexible rod of tissue that extends the length of the back of an embryo.

nuclear membrane A double-walled membrane composed of protein and lipid molecules that surrounds the nucleus of a cell.

nucleoplasm (noo'kle-ō-plaz'em) The protoplasmic contents of the nucleus of a cell.

nucleus (noo'kle-us) The spherical or oval body within a cell that contains the genetic code.

nucleus pulposus (pul-po'sis) The soft, pulpy core of an intervertebral disc; a remnant of the notochord.

O

- olfaction (ol-fak'shun)** The sense of smell.
- olfactory bulb** A ganglion-like expansion of the olfactory tract, lying inferior to the frontal lobe of the cerebrum on either side of the crista galli of the ethmoid bone; receives the olfactory nerves from the nasal cavity.
- olfactory tract** The tract of axons that conveys impulses from the olfactory bulb to the olfactory portion of the cerebral cortex.
- oligodendrocyte (ol'y-go-den'drō-sīt)** A type of neuroglial cell involved in the formation of the myelin of nerve fibers within the central nervous system.
- oocyte (o'ō-sīt)** A developing egg cell.
- oogenesis (o'ō-jen'ē-sis)** The process of female gamete formation.
- optic** Pertaining to the eye.
- optic chiasma (ki-az'mā)** An X-shaped structure on the inferior aspect of the brain, anterior to the pituitary gland, where there is a partial crossing over of fibers in the optic nerves; also called the *optic chiasm*.
- optic disc** A small region of the retina where the fibers of the ganglion neurons exit from the eyeball to form the optic nerve; also called the *blind spot*.
- optic tract** A bundle of sensory axons between the optic chiasma and the thalamus that conveys visual impulses from the photoreceptors within the eye.
- oral** Pertaining to the mouth.
- ora serrata (o'rā sē-ra'tā)** The jagged peripheral margin of the retina.
- organ** A structure consisting of two or more tissues that performs a specific function.
- organ of Corti (kor'te)** See spiral organ.
- organelle (or'gā-nel')** A specialized cellular structure that performs a specific function for the cell as a whole.
- organism** Any individual life form; either unicellular or multicellular.
- orifice (or'y-fis)** An opening into a body cavity or tube.
- origin** The place of muscle attachment—usually the more stationary point or proximal bone; opposite the insertion.
- oropharynx (o'ro-far'ingks)** The middle portion of the pharynx, located posterior to the oral cavity and extending from the soft palate to the level of the hyoid bone.
- ossicle (os'y-kul)** One of the three bones of the middle ear; also called the *auditory ossicle*.
- ossification (os'y-fi-ka'shun)** The process of bone tissue formation.
- osteoblast (os'te-ō-blast)** A bone-forming cell.
- osteoclast (os'te-ō-klast)** A cell that erodes or resorbs bone tissue.
- osteocyte (os'te-ō-sīt)** A mature bone cell.
- osteology (os'te-ol'ō-je)** The study of the structure and function of bone and the entire skeleton.
- osteon (os'te-on)** A group of osteocytes and concentric lamellae surrounding a central canal, constitutes the basic unit of structure in bone tissue; also called a *Haversian system*.
- oval window** See vestibular window.
- ovarian (o-va're-an) follicle** A developing ovum and its surrounding epithelial cells.
- ovarian ligament** A cordlike connective tissue that attaches the ovary to the uterus.
- ovary (o'vā-re)** The female gonad in which ova and certain sex hormones are produced.
- oviduct (o'vī-duct)** The tube that transports ova from the ovary to the uterus; also called the *uterine tube* or *fallopian tube*.
- ovulation (ov-yū-la'shun)** The rupture of an ovarian follicle with the release of an ovum.
- ovum (o'vum)** The female reproductive cell or gamete; an egg cell.
- P**
- pacinian corpuscle (pā-sin'e-an kor'pus'l)**
See lamellated corpuscle.
- palate (pal'at)** The roof of the oral cavity.
- palatine (pal'ā-tin)** Pertaining to the palate.
- palmar (pal'mar)** Pertaining to the palm of the hand.
- palpebra (pal'pē-brā)** An eyelid.
- pancreas (pan'kre-us)** A mixed organ in the abdominal cavity that secretes gastric juices into the GI tract and insulin and glucagon into the blood.
- pancreatic (pan'kre-at'ik) duct** A drainage tube that carries pancreatic juice from the pancreas into the duodenum of the hepatopancreatic ampulla.
- pancreatic islets** A cluster of endocrine gland cells within the pancreas that secretes insulin and glucagon; also called *islets of Langerhans*.
- papillae (pā-pil'e)** Small, nipplelike projections.
- papillary (pap'y-lar-e) muscle** Muscular projections from the ventricular walls of the heart to which the chordae tendineae are attached.
- paranasal sinus (par'ā-na'zal si'nus)** An air chamber lined with a mucous membrane that communicates with the nasal cavity.
- parasympathetic (par'ā-sim'pā-thet'ik) division** Pertaining to the division of the autonomic nervous system concerned with activities that, in general, inhibit or oppose the physiological effects of the sympathetic division of the autonomic nervous system.
- parathyroid (par'ā-thi'roid) gland** One of four small endocrine glands embedded in the posterior surface of the thyroid gland; secretes parathyroid hormone.
- parietal (pā-ri'ētal)** Pertaining to the wall of an organ or cavity.
- parietal pleura (plōor'ā)** The thin serous membrane attached to the thoracic walls of the pleural cavity.
- parotid (pā-rot'id) gland** One of the paired salivary glands located over the masseter muscle just anterior to the ear and connected to the oral cavity by the parotid duct.
- parturition (par'tyoo-rish'un)** The act of giving birth to young; childbirth.
- pectoral (pek'tō-ral)** Pertaining to the chest region.
- pectoral girdle** The portion of the skeleton that supports the upper extremities.
- pedicle (ped'ikul)** 1. A constricted portion or stalk. 2. The bony process that projects backward from the body of a vertebra, connecting with the lamina on each side.
- pelvic (pel'vik)** Pertaining to the pelvis.
- pelvic girdle** That portion of the skeleton to which the lower extremities are attached.
- pelvis (pel'vis)** A basinlike bony structure formed by the sacrum and ossa coxae.
- penis (pe'nis)** The male organ of copulation, used to introduce spermatozoa into the female vagina and through which urine passes during urination.
- pennate (pen'āt)** Pertaining to a skeletal muscle fiber arrangement in which the fibers are attached to tendinous slips in a featherlike pattern.
- perforating canal** A minute duct by means of which blood vessels and nerves from the periosteum penetrate into compact bone; also called *Volkmann's canal*.
- pericardium (per'y-kar'de-um)** The protective serous membrane that surrounds the heart.
- perichondrium (per'y-kon'dre-um)** A sheet of fibrous connective tissue that surrounds some kinds of cartilage.
- perikaryon (per'i-kar'e-on)** The cell body of a neuron.
- perilymph (per'y-limf)** A fluid of the inner ear that serves as a conducting medium for the vibrations involved in hearing and maintaining equilibrium.
- perimysium (per'y-mis'e-um)** Fascia (connective tissue) surrounding a bundle (fascicle) of muscle fibers.
- perineum (per'y-ne-um)** 1. The pelvic floor and associated structures. 2. The external region between the scrotum and anus in a male or between the vulva and anus in a female.

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- perineurium** (per''ī-noor'e-um) Connective tissue surrounding a bundle (fascicle) of nerve fibers.
- periodontal** (per''e-ō-don'tal) **ligament** The fibrous connective tissue lining the dental alveoli.
- periosteum** The fibrous connective tissue covering the outer surface of bone.
- peripheral** (pe'rif'er-al) **nervous system** (PNS) The nerves and ganglia of the nervous system that lie outside the brain and spinal cord.
- peristalsis** (per''ī-stal'sis) Rhythmic contractions of smooth muscle in the walls of various tubular organs by which the contents are forced onward.
- peritoneum** (per''ī-tō-ne'um) The serous membrane that lines the abdominal cavity and covers the abdominal visceral organs.
- Peyer's** (pi'ers) **patches** See mesenteric patches.
- phalanx** (fa'langks); plural, **phalanges** (fā-lan'jēz) A bone of a digit (finger or toe).
- pharynx** (far'ingks) The tubular organ of the digestive system and respiratory system located at the back of the oral and nasal cavities that extends to the larynx anteriorly and to the esophagus posteriorly; also called the *throat*.
- phenotype** (fe-nō-tīp) Observable features in an individual that result from expression of the genotype.
- photoreceptor** (fo''to-re-sep'tor) A sensory nerve ending capable of being stimulated by light.
- physiology** (fiz''e-ol'ō-je) The science that deals with the study of body functions.
- pia mater** (pi'ā ma'ter) The innermost meninx, in direct contact with the brain and spinal cord.
- pineal** (pin'e-al) **gland** A small cone-shaped gland located in the roof of the third ventricle.
- pinna** (pin'ā) The fleshy outer portion of the external ear; also called the *auricle*.
- pituitary** (pī-too'ī-tar-e) **gland** A small, pea-shaped endocrine gland situated in the sella turcica of the sphenoid bone and connected to the hypothalamus by the pituitary stalk; consists of anterior and posterior lobes; also called the *hypophysis*.
- pivot joint** A synovial joint in which the rounded head of one bone articulates with the depressed cup of another, permitting rotational movement.
- placenta** (plā-sen'ta) The organ of metabolic exchange between the mother and the fetus. It is expelled following birth.
- plantar** (plan'tar) Pertaining to the sole of the foot.
- plasma** (plaz'mā) The clear, yellowish fluid portion of blood in which cells are suspended.
- platelets** (plāt'letz) Small fragments of specific bone marrow cells that function in blood clotting; also called *thrombocytes*.
- pleural** (ploor'al) Pertaining to the serous membranes associated with the lungs.
- pleural cavity** The potential space between the visceral pleura and the parietal pleura surrounding a lung.
- pleural membranes** Serous membranes that surround the lungs and provide protection and compartmentalization.
- plexus** (plek'sus) A network of nerve fibers, blood vessels, or lymphatics.
- plexus of Auerbach** (ow'er-bak) See myenteric plexus.
- plexus of Meissner** (mīs'ner) See submucosal plexus.
- plicae circulares** (pli'se ser-kyū-lar-ēz) Deep folds in the wall of the small intestine that increase the absorptive surface area.
- pneumotoxic** (noo''mō-tak'sik) **area** A portion of the respiratory control center in the pons that has an inhibitory effect on the inspiratory center in the medulla oblongata.
- pons** (ponz) The portion of the brain stem just above the medulla oblongata and anterior to the cerebellum.
- popliteal** (pop''lī-te'al or pop-lit'e-al) Pertaining to the concave region on the posterior aspect of the knee.
- posterior** Toward the back; also called *dorsal*.
- posterior root** An aggregation of sensory neuron fibers lying between a spinal nerve and the posterolateral aspect of the spinal cord; also called the *dorsal root* or *sensory root*.
- posterior root ganglion** (gang'gle-on) A cluster of cell bodies of sensory neurons located along the posterior root of a spinal nerve; also called a *sensory ganglion*.
- postganglionic** (pōst''gang-gle-on'ik) **neuron** The second neuron in an autonomic motor pathway. Its cell body is outside the central nervous system, and it terminates at an effector organ.
- postnatal** After birth.
- preganglionic neuron** The first neuron in an autonomic motor pathway. Its cell body is within the central nervous system, and it terminates on a postganglionic neuron.
- pregnancy** The condition in which a female is carrying a developing offspring within the uterus.
- prenatal** Existing or occurring before birth.
- prepuce** (pre'pyoos) A fold of loose retractable skin covering the glans of the penis or clitoris; also called the *foreskin*.
- prime mover** The muscle most directly responsible for a particular movement.
- pronation** (pro-na'shun) A rotational movement of the forearm that turns the palm of the hand posteriorly; the opposite of *supination*.
- proprioceptor** (pro''pre-o-sep'tor) A sensory nerve ending that responds to changes in tension in a muscle or tendon.
- prostate** (pros'tāt) A walnut-shaped gland surrounding the male urethra just below the urinary bladder. It secretes an additive to seminal fluid during ejaculation.
- prosthesis** (pros-the'sis) An artificial device to replace a diseased or worn body part.
- protein** Any of a group of large organic molecules made up of amino acid subunits linked by peptide bonds.
- protraction** (pro-trak'shun) Forward movement of a body part, such as the mandible, on a plane parallel with the ground; the opposite of *retraction*.
- proximal** (prok'sī-mal) Closer to the midline of the body or origin of an appendage; the opposite of *distal*.
- pseudounipolar neuron** (soo''do-yoo''nī-po'lar noor'on) A nerve cell in which only one process extends from the cell body; results from the fusion of two processes during embryonic development.
- puberty** (pyoo'ber-tee) The period of development in which the reproductive organs become functional and the secondary sex characteristics are expressed.
- pulmonary** (pul'mō-ner'e) Pertaining to the lungs.
- pulmonary circulation** The circuit of blood flow between the heart and the lungs. Oxygen-poor blood from the right ventricle is oxygenated in the lungs and then returned to the left atrium of the heart.
- pulp cavity** A cavity within the center of a tooth that contains blood vessels, nerves, and lymphatics.
- pupil** The opening through the iris that permits light to enter the posterior cavity of the eyeball and be refracted by the lens.
- Purkinje** (pur-kin'je) **fibers** See conduction myofibers.
- pyloric sphincter** (pi-lor'ik sfingkt'er) A thick ring of smooth muscle encircling the opening between the stomach and the duodenum. It regulates the passage of food material into the small intestine and prevents backflow.
- pyramid** (pir'āmid) Any structure of the body with a pyramidal shape, including the renal pyramids in the kidney and the medullary pyramids on the inferior surface of the brain.

R

- ramus (ra'mus)** A branch of a bone, artery, or nerve.
- raphe (ra'fe)** A seamlike line or ridge between two similar parts of a body organ, as in the scrotum.
- receptor (re-sep'tor)** A sense organ or the specialized distal end of a sensory neuron that receives stimuli from the environment.
- rectouterine (rek'to-yoo'ter-in) pouch** A pocket formed by the deflection of the parietal peritoneum between the uterus and the rectum; also called the *pouch of Douglas* or *Douglas' cul-de-sac*.
- rectum (rec'tum)** That portion of the GI tract between the sigmoid colon and the anal canal.
- red bone marrow (mar'o)** A hematopoietic tissue found within the spongy bone tissue of certain bones.
- red nucleus (noo'kle-us)** An aggregation of gray matter of a reddish color located in the upper portion of the midbrain. It sends fibers to certain brain tracts and helps to coordinate muscular movements.
- reflex** A rapid involuntary response to a stimulus.
- reflex arc** The basic conduction pathway through the nervous system, consisting of a sensory neuron, association neuron, and a motor neuron.
- regional anatomy** The division of anatomy concerned with structural arrangement in specific areas of the body, such as the head, neck, thorax, or abdomen.
- renal (re'nal)** Pertaining to the kidney.
- renal corpuscle (kor'pus'l)** A glomerular capsule and its enclosed glomerulus; also called the *malpighian corpuscle*.
- renal cortex** The outer portion of the kidney, primarily vascular.
- renal medulla (mē-dul'ă)** The inner portion of the kidney, including the renal pyramids and renal columns.
- renal pelvis** The inner cavity of the kidney formed by the expanded ureter, into which the major calyces open.
- renal pyramid** Any of various pyramidal masses that are seen on longitudinal section of the kidney and that contain part of the nephron loops and the collecting tubules.
- respiration** The exchange of gases between the external environment and the cells of an organism.
- respiratory center** The structure or portion of the brain stem that regulates the depth and rate of breathing.
- respiratory membrane** A thin, moistened membrane within the lungs, composed of an alveolar portion and a capillary portion, through which gaseous exchange occurs.
- rete testis (re'te tes'tis)** The network of canals at the termination of the seminiferous tubules in the testis that is associated with the production of spermatozoa.
- reticular (rē-tik'yoo-lar) formation** A network of nervous tissue fibers in the brain stem that arouses the higher brain centers.
- retina (ret'ī-nă)** The inner layer of the eyeball that contains the photoreceptors.
- retraction** Backward movement of a body part, such as the mandible, on a plane parallel with the ground; the opposite of *protraction*.
- retroperitoneal (ret''ro-per''ī-tō-ne'al)** Positioned behind the parietal peritoneum.
- rhythmicity (rith-mis'ī-te) area** A portion of the respiratory control center located in the medulla oblongata. It controls inspiratory and expiratory phases.
- ribosome (ri'bō-sōm)** A cytoplasmic organelle composed of protein and RNA in which protein synthesis occurs.
- right lymphatic (lim-fat'ik) duct** A major vessel of the lymphatic system that drains lymph from the upper right portion of the body into the right subclavian vein.
- rod** A type of photoreceptor cell in the retina of the eye that is specialized for colorless, dim-light vision.
- root canal** The tubular extension of the pulp cavity into the root of a tooth. It contains vessels and nerves.
- rotation** Movement of a bone around its own longitudinal axis.
- round window** See cochlear window.
- rugae (roo'je)** Folds or ridges of the mucosa of an organ, such as those of the stomach or urinary bladder.
- S**
- sacculle (sak'yool)** The saclike cavity in the membranous labyrinth within the vestibule of the inner ear that contains a vestibular organ for equilibrium.
- sacral (sa'kral)** Pertaining to the sacrum.
- sacral plexus (plek'sus)** A network of nerve fibers arising from spinal nerves L4 through S3. Nerves arising from the sacral plexus merge with those from the lumbar plexus to form the lumbosacral plexus that supplies the lower extremity.
- saddle joint** A synovial joint in which the articular surfaces of both bones are concave in one plane and convex, or saddle shaped, in the other plane, such as in the distal carpometacarpal joint of the thumb.
- sagittal plane** A vertical plane through the body that divides it into right and left sides.
- salivary (sal'ī-ver-e) gland** An accessory digestive gland that secretes saliva into the oral cavity.
- sarcolemma (sar''kō-lem'ă)** The cell membrane of a muscle fiber.
- sarcomere (sar'kō-mēr)** The portion of a skeletal muscle fiber between a pair of Z lines; the basic subunit of skeletal muscle contraction.
- sarcoplasm (sar'kō-plaz'em)** The cytoplasm within a muscle fiber.
- scala tympani (ska'lă tim'pă-ne)** The lower channel of the cochlea that is filled with perilymph.
- scala vestibuli (vē-stib'yū-le)** The upper channel of the cochlea that is filled with perilymph.
- Schwann (shwahn) cell** See neurolemmocyte.
- sclera (skler'ă)** The outer white layer of fibrous connective tissue that serves as a protective covering for the eyeball and attachment for the extrinsic ocular muscles.
- scleral venous sinus** A circular venous drainage for the aqueous humor from the anterior chamber of the eye; located at the junction of the sclera and the cornea; also called the *canal of Schlemm*.
- scrotum (skro'tum)** The musculocutaneous sac that contains the testes and their accessory organs.
- sebaceous (sē-ba'shus) gland** An exocrine gland of the skin that secretes sebum.
- sebum (se'bum)** An oily waterproofing secretion of sebaceous glands.
- semen (se'men)** The thick, whitish secretion of the reproductive organs of the male, consisting of spermatozoa and secretions of the testes, seminal vesicles, prostate, and bulbourethral glands.
- semicircular canals** Tubular channels within the inner ear that contain the receptors for equilibrium.
- semilunar (sem'e-loo'nar) valve** Crescent-shaped heart valves, positioned at the entrances to the aorta and the pulmonary trunk.
- seminal vesicles (sem'ī-nal ves'ī-kulz)** A pair of male accessory reproductive organs, lying posterior and inferior to the urinary bladder, that secrete additives to spermatozoa into the ejaculatory ducts.

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- seminiferous (sem''i-nif'er-us) tubules** Numerous small ducts in the testes, where spermatozoa are produced.
- senescence (sĕ-nes'ens)** The process of growing old; aging.
- sensory area** A region of the cerebral cortex that receives and interprets sensory nerve impulses.
- sensory neuron (noor'un)** A nerve cell that conducts an impulse from a receptor organ to the central nervous system; also called an *afferent neuron*.
- septum (sep'tum)** A membranous or fleshy wall dividing two cavities.
- serous (se'rus) membrane** An epithelial and connective tissue membrane that lines body cavities and covers visceral organs within these cavities; also called *serosa*.
- Sertoli (ser-to'le) cells** See sustentacular cells.
- serum (se'rum)** Blood plasma with the clotting elements removed.
- sesamoid (ses'ă-moid) bone** A membranous bone formed in a tendon in response to joint stress (e.g., the patella).
- shoulder** The region of the body where the humerus articulates with the scapula; also called *omo*.
- sigmoid colon (sig'moid ko'lon)** The S-shaped portion of the large intestine between the descending colon and the rectum.
- sinoatrial (si''no-a'tre-al) node** A mass of specialized cardiac tissue in the wall of the right atrium that initiates the cardiac cycle; the SA node; also called the *pacemaker*.
- sinus (si'nus)** A cavity or hollow space within a bone or other tissue.
- sinusoid** A small, blood-filled space in certain organs, such as the spleen or liver.
- skeletal muscle** A muscle that is connected at either or both extremities with a bone. It consists of elongated, multinucleated, striated skeletal muscle fibers that contract when stimulated by motor nerve impulses.
- small intestine** The portion of the GI tract between the stomach and the cecum whose function is the absorption of food nutrients; consists of the duodenum, jejunum, and ileum.
- smooth muscle** A specialized type of nonstriated muscle tissue, composed of spindle-shaped fibers with a single nucleus. It contracts in an involuntary, rhythmic fashion within the walls of visceral organs.
- soft palate (pal'at)** The fleshy posterior portion of the roof of the mouth, extending from the palatine bones to the uvula.
- somatic (so-mat'ik)** Pertaining to the nonvisceral parts of the body.
- spermatic (sper-mat'ik) cord** A structure of the male reproductive system that includes the ductus deferens, spermatic vessels, nerves, cremaster muscle, and connective tissue. The spermatic cord extends from a testis to the inguinal ring.
- spermatogenesis (sper-mat''ō-jen'ī-sis)** The production of male gametes, or spermatozoa.
- spermatogonia (sper-mat''ō-go'ne-ă)** Sperm stem cells within the seminiferous tubules of the testes; the progenitors of spermatocytes.
- spermatozoon (sper-mat''ō-zo'on); plural, spermatozoa or, loosely, sperm** A mature male sex cell, or gamete.
- sphincter (sfingkt'ter)** A circular muscle that normally maintains constriction of a body opening or the lumen of a tubular structure and that relaxes as required by normal physiological functioning.
- sphincter of ampulla (am-pool'ă)** The muscular constriction at the opening of the common bile and pancreatic ducts; also called the *sphincter of Oddi*.
- sphincter of Oddi (o'de)** See sphincter of ampulla.
- spinal cord** The portion of the central nervous system that extends downward from the brain stem through the vertebral canal.
- spinal ganglion (gang'gle-on)** A cluster of nerve cell bodies on the posterior root of a spinal nerve.
- spinal nerve** One of the 31 pairs of nerves that arise from the spinal cord.
- spinous (spi'nus) process** A sharp projection of bone or a ridge of bone, such as on the scapula.
- spiral organ** The functional unit of hearing, consisting of a basilar membrane that supports receptor hair cells and a tectorial membrane located within the cochlea; also called the *organ of Corti*.
- spleen (splĕn)** A large, blood-filled, glandular organ in the upper left quadrant of the abdomen. It is attached by mesenteries to the stomach.
- spongy bone** A type of bone with a latticelike structure; also called *cancellous bone*.
- squamous (skwa'mus)** Flat or scalelike.
- stapes (sta'pĕz)** The innermost of the auditory ossicles of the ear that fits against the vestibular (oval) window of the inner ear; commonly known as the “stirrup.”
- statoconia (stat''ō-ko'ne-ă)** Small, hardened particles of calcium carbonate in the saccule and utricle of the inner ear that are associated with the receptors of equilibrium; also called *otoliths*.
- stomach** A pouchlike digestive organ between the esophagus and the duodenum, lying just beneath the diaphragm.
- stratified (strat'ī-fid)** Arranged in layers, or strata.
- stratum basale (bă-să'le)** The deepest epidermal layer, where mitotic activity occurs.
- stratum corneum (kor'ne-um)** The outer cornified layer of the epidermis of the skin.
- stroma (stro'mă)** A connective tissue framework in an organ, gland, or other tissue.
- subarachnoid (sub''ă-rak'noïd) space** The space within the meninges between the arachnoid and the pia mater, where cerebrospinal fluid flows.
- subdural (sub-door'al) space** The narrow space between the dura mater and the arachnoid.
- sublingual (sub-ling'gw'al) gland** One of the three pairs of salivary glands. It is located below the tongue and its several sublingual ducts open into the floor of the mouth.
- submandibular (sub''man-dib'yū-lar) gland** One of the three pairs of salivary glands. It is located below the mandible and its submandibular duct opens to the side of the lingual frenulum.
- submucosa (sub''myoo-ko'să)** A layer of supportive connective tissue that underlies a mucous membrane.
- submucosal plexus (plek'sus)** A network of sympathetic and parasympathetic nerve fibers located in the submucosa of the small intestine; also called the *plexus of Meissner*.
- sudoriferous (soo'dor-if'er-us) gland** An exocrine gland that excretes perspiration, or sweat, onto the surface of the skin; also called a *sweat gland*.
- sulcus (sulkus)** A shallow impression or groove.
- superficial** Toward or near the surface.
- superficial fascia (fash'e-ă)** A binding layer of connective tissue between the dermis of the skin and the underlying muscle.
- superior** Toward the upper part of a structure or toward the head; also called *cephalic*.
- superior vena cava (ve'nă ka'vă)** A large systemic vein that collects blood from regions of the body superior to the heart and returns it to the right atrium.
- supination (soo''pī-na'shun)** A rotational movement of the forearm that turns the palm of the hand anteriorly; the opposite of *pronation*.
- surface anatomy** The division of anatomy concerned with the form and markings of the surface of the body as they relate to the deeper structures.
- surfactant (sur-fak'tant)** A substance secreted by the pulmonary alveolar cells of the lung that reduces the surface tension and the tendency for the pulmonary alveoli to collapse after each expiration.

suspensory (sŭ-spen'sō-re) ligament **1.** A band of peritoneum that extends laterally from the surface of the ovary to the wall of the pelvic cavity. **2.** A ligament that supports an organ or a body part, such as that supporting the lens of the eye.

sustentacular (sus-ten-tak'yŭ-lar) cells Specialized cells within the testes that supply nutrients to developing spermatozoa; also called *Sertoli cells* or *nurse cells*.

sutural (soo'chur-al) bone A small bone positioned within a suture of certain cranial bones; also called a *wormian bone*.

suture (soo'chur) A type of fibrous joint found between bones of the skull.

sweat gland See sudoriferous gland.

sympathetic division Pertaining to the division of the autonomic nervous system concerned with activities that, in general, inhibit or oppose the physiological effects of the parasympathetic nervous system; also called the *thoracolumbar division*.

symphysis (sim'fī-sis) A type of joint characterized by a fibrocartilaginous pad between the articulating bones that provides slight movement.

symphysis pubis (pyoo'bis) The slightly movable cartilaginous joint between the two pubic bones of the pelvic girdle.

synapse (sin'aps) The functional junction between two neurons or between a neuron and an effector.

synaptic (sī-nap'tik) cleft The minute space that separates the axon terminal of one neuron from another neuron or muscle fiber. Neurotransmitter chemicals diffuse across the cleft to affect the postsynaptic cell.

synchondrosis (sin''kon-dro'sis) A cartilaginous joint in which the articulating bones are separated by hyaline cartilage.

syndesmosis (sin''des-mo'sis) A type of fibrous joint in which two bones are united by an interosseous ligament.

synergist (sin'er-jist) A muscle that assists the action of the prime mover.

synovial (sī-no've-al) cavity The space between the articulating bones of a synovial joint, filled with synovial fluid; also called a *joint cavity*.

synovial joint A freely movable joint in which a joint (synovial) cavity is present between the articulating bones; also called a *diarthrotic joint*.

synovial membrane The inner membrane of a joint (synovial) capsule that secretes synovial fluid into the cavity.

system A group of body organs that function together.

systemic (sis-tem'ik) Of, relating to, or affecting the organism as a whole.

systemic anatomy The division of anatomy concerned with the structure and function of the various systems of the body.

systemic circulation The circuit of blood flow from the left ventricle of the heart to the entire body and back to the heart via the right atrium; in contrast to the pulmonary circulation, which involves the lungs.

systole (sis'tō-le) The muscular contraction of a heart chamber during the cardiac cycle; ventricular contraction, unless otherwise specified.

systolic (sis-tol'ik) pressure Arterial blood pressure during the ventricular systolic phase of the cardiac cycle.

T

tactile (tak'til) Pertaining to the sense of touch.

taeniae coli (te'ne-e ko'li) The three longitudinal bands of muscle in the wall of the large intestine.

target organ A tissue or organ that is affected by a particular hormone.

tarsal gland An oil-secreting gland that opens on the exposed edge of each eyelid; also called the *meibomian gland*.

tarsus (tar'sus) Pertaining to the ankle; the proximal portion of the foot that contains the seven tarsal bones.

taste bud An organ containing the chemoreceptors associated with the sense of taste.

tectorial (tek'to''re-al) membrane A gelatinous membrane positioned over the hair cells of the spiral organ in the cochlea.

teeth Accessory structures of digestion adapted to cut, shred, crush, and grind food.

telencephalon (tel''en-sef'ă-lon) The anterior region of the forebrain, constituting the cerebral hemispheres and related parts.

tendo calcaneus (ten'do kal-ka'ne-us) The tendon that attaches the calf muscles to the calcaneus; also called the *Achilles tendon*.

tendon A band of dense regular connective tissue that attaches muscle to bone.

tendon sheath A covering of synovial membrane surrounding certain tendons.

tentorium cerebelli (ten-to're-um ser''ē bel'i) An extension of dura mater separating the cerebellum from the basal surface of the occipital and temporal lobes of the cerebral cortex.

teratogen (tĕ-rat'ō-jen) Any agent or factor that causes a physical defect in a developing embryo or fetus.

testis (tes'tis) The primary reproductive organ of a male that produces spermatozoa and male sex hormones.

thalamus (thal'ă-mus) An oval mass of gray matter within the diencephalon that serves as a sensory relay center.

thigh The proximal portion of the lower extremity between the hip and the knee in which the femur is located.

third ventricle (ven'trī-kul) A narrow cavity between the right and left halves of the thalamus and between the lateral ventricles that contains cerebrospinal fluid.

thoracic (thor'ă-sik) Pertaining to the chest region.

thoracic duct A major lymphatic vessel of the body that drains lymph from the entire body, except for the upper right quadrant, and returns it to the left subclavian vein.

thorax (thor'aks) The chest.

thrombocytes (throm'bō-sīts) See platelets.

thymus (thi'mus) A bilobed lymphoid organ positioned in the upper mediastinum, posterior to the sternum and between the lungs.

thyroid cartilage The largest cartilage of the larynx. Its two broad processes join anteriorly to form the "Adam's apple."

thyroid gland An endocrine gland located just below the larynx, in front of the trachea, consisting of two lobes connected by a narrow band of tissue called the isthmus.

tissue An aggregation of similar cells and their binding intercellular substance, joined to perform a specific function.

tongue A protrusible muscular organ on the floor of the oral cavity.

tonsil (ton'sil) A mass of lymphoid tissue embedded in the mucous membrane of the pharynx.

trabeculae (tră-bek'yŭ-le) **1.** Any of the supporting strands of connective tissue projecting into an organ and constituting part of its framework. **2.** Any of the fine spicules forming a network in spongy bone.

trachea (tra'ke-ă) The airway leading from the larynx to the bronchi, composed of cartilaginous rings and a ciliated mucosal lining of the lumen; commonly known as the "windpipe."

tract A bundle of nerve fibers within the central nervous system.

transection A cross-sectional cut.

transverse colon (ko'lon) That portion of the large intestine extending from right to left across the abdomen between the hepatic and splenic flexures.

transverse fissure (fish'ur) The prominent cleft that horizontally separates the cerebrum from the cerebellum.

tricuspid (tri-kus'pid) valve The heart valve located between the right atrium and the right ventricle; the right AV valve.

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trigone (tri'gōn) A triangular area in the urinary bladder delimited by the openings of the ureters and the urethra.

trochanter (tro-kan'ter) A broad, prominent process on the proximolateral portion of the femur.

trochlea (trok'le-a) A structure having the shape or function of a pulley, especially the part of the distal end of the humerus that articulates with the ulna.

trunk The thorax and abdomen together; also called *torso*.

tubercle (too'ber-kul) A small elevated process on a bone.

tuberosity (too'bē-ros'ī-te) An elevation or protuberance on a bone.

tunica albuginea (too'nī-ka al'byoo-jin'e-ä) A tough connective tissue sheath surrounding a structure (e.g., the capsule enclosing a testis).

tympanic (tim-pan'ik) **membrane** The membranous eardrum positioned between the outer and middle ear.

U

umbilical (um-bil'ī-kal) **cord** A flexible cordlike structure that connects the fetus with the placenta. It contains two umbilical arteries and one vein that transport nourishment to the fetus and remove its waste.

umbilicus (um-bil'ī-kus) The site where the umbilical cord was attached to the fetus; also called the *navel*.

upper extremity The appendage attached to the pectoral girdle, consisting of the shoulder, brachium, elbow, antibrachium, and hand.

ureter (yoo-re'ter) A tube that transports urine from the kidney to the urinary bladder.

urethra (yoo-re'thrä) A tube that transports urine from the urinary bladder to the outside of the body.

urinary (yoo'rī-ner'e) **bladder** A distensible sac that stores urine; situated in the pelvic cavity, posterior to the symphysis pubis.

urogenital (yoo'ro-jen'ī-tal) **triangle** The region of the pelvic floor containing the external genitalia.

uterine (yoo'ter-in) **tube** The tube through which the ovum is transported to the uterus; the site of fertilization; also called the *oviduct* or *fallopian tube*.

uterus (yoo'ter-us) The hollow muscular organ in which a fertilized egg implants and develops into a fetus. It is located within the female pelvis between the urinary bladder and the rectum; also called the *womb*.

utricle (yoo'trī-kul) An enlarged portion of the membranous labyrinth, located within the vestibule of the inner ear.

uvula (yoo'vyū-lä) A fleshy, pendulous portion of the soft palate that blocks the nasopharynx during swallowing.

V

vacuole (vak'yoo-ōl) A small space or cavity within the cytoplasm of a cell.

vagina (vä-ji'nä) A tubular organ leading from the uterus to the vestibule of the female reproductive tract that receives the male penis during coitus.

vallate papillae (val'ät pä-pil'e) The largest of the papillae on the surface of the tongue. They are arranged in an inverted V-shape at the back of the tongue. Vallate papillae contain taste buds.

vasomotor (va-zo-mo'tor) **center** A cluster of nerve cell bodies in the medulla oblongata. It controls the diameter of blood vessels, and therefore has an important role in regulating blood pressure.

vein A blood vessel that conveys blood toward the heart.

vena cava (ve'nä ka'vä) One of two large vessels that return deoxygenated blood to the right atrium of the heart.

ventral (ven'tral) Toward the front or belly surface; the opposite of *dorsal*.

ventricle (ven'trī-kul) A cavity within an organ; especially those cavities in the brain that contain cerebrospinal fluid and those in the heart that contain blood to be pumped from the heart.

venule (ven'yool) A small vessel that carries venous blood from capillaries to a vein.

vermiform (ver'mī-form) **appendix** See appendix.

vermis (ver'mis) The narrow, middle lobular structure that separates the cerebellar hemispheres.

vertebral (ver'tē-bral) **canal** The tubelike cavity extending through the vertebral column that contains the spinal cord; also called the *spinal canal*.

vestibular (vē-stib'yū-lar) **foldds** The supporting folds of tissue for the vocal folds within the larynx; also called *false vocal cords*.

vestibular window The oval opening in the bony wall between the middle and inner ear on which the footplate of the stapes rests; also called the *oval window*.

vestibule (ves'tī-byool) A space or region at the beginning of a canal, especially that of the nose, inner ear, and vagina.

villus (vil'us) A minute projection from the free surface of a mucous membrane, especially one of the vascular projections of the mucosal layer of the small intestine.

viscera (vis'er-ä) The organs within the abdominal or thoracic cavities.

visceral (vis'er-al) Pertaining to the membranous covering of the viscera.

visceral peritoneum (per'ī-tō-ne'um) A serous membrane that covers the surfaces of abdominal viscera.

visceral pleura (ploor'ä) A serous membrane that covers the surfaces of the lungs.

visceroreceptor (vis'er-ō-sep'tor) A sensory receptor located within the visceral organs that responds to internal pain, pressure, stretch, and chemical changes.

vitreous (vit're-us) **humor** The transparent gel that occupies the posterior cavity, located between the lens and retina of the eyeball.

vocal folds Folds of the mucous membrane in the larynx that produce sound as they are pulled taut and vibrated; also called *vocal cords*.

Volkmann's (folk'manz) **canal** See perforating canal.

vulva (vul'vä) The external genitalia of the female that surround the opening of the vagina; also called the *pudendum*.

W

white matter Bundles of myelinated axons located in the central nervous system.

wormian (wer'me-an) **bone** See sutural bone.

Y

yellow bone marrow (mar'o) Specialized tissue within medullary cavities of certain bones in which lipids are stored.

Z

zygote (zi'gōt) A fertilized egg cell formed by the union of a spermatozoon and an ovulated secondary oocyte (ovum).