▶ Tracking Your Progress

After reading this chapter, can you:	Page Reference	Objective Met?
• Identify and define the main parts of a medical term?	122	☐
• Identify and define a combining vowel and combining form?	123	☐
• Describe standard anatomical position?	127	☐
• Identify and define terms that describe directions and positions of the body?	127	☐
• Identify and define commonly used medical abbreviations and acronyms?	131	☐

Chapter Quiz

Matching

Match the key terms in the left column with the definitions in the right column by placing the letter of each correct answer in the space provided.

_____ 1. tachy-
_____ 2. U/A
_____ 3. -rrhage
_____ 4. algesia
_____ 5. TRX
_____ 6. -ostomy
_____ 7. -partum
_____ 8. SNT
_____ 9. a-, an-
_____ 10. proximal
_____ 11. sternum
_____ 12. cutane/o
_____ 13. -ictal
_____ 14. TPR
_____ 15. carp/o
_____ 16. -itis
_____ 17. anti-
_____ 18. gluc/o
_____ 19. bilateral
_____ 20. brady-

A. Skin
B. Closer to the midline or center area of the body
C. Inflammation
D. Soft, nontender
E. Transport
F. Breastbone
G. Pertaining to both sides
H. Fast
I. Temperature, pulse, respirations
J. Sensitivity to pain
K. Without, from, absence of
L. Against, opposing
M. Upon arrival
N. Sugar
O. Wrist
P. Seizure, attack
Q. Slow
R. Creation of an opening
S. Rapid flow or discharge
T. Birth, labor

Short Answer

Answer each question in the space provided.

21. Based on your knowledge of medical terminology, what does the term *hypodermic* mean?

22. Define *dyspnea.*

23. What is the medical term that means inflammation of a joint?

24. What is the medical term for red blood cell?

25. Define *hematoma.*

f. Integumentary
g. Endocrine
h. Renal
i. Male and female reproductive

5.9 Given a series of models or diagrams, label the anatomical structures of each of the following body systems:
a. Skeletal
b. Respiratory
c. Cardiovascular
d. Nervous
e. Skin
f. Endocrine
g. Renal/urinary
h. Male and female reproductive

5.10 Describe differences in the reproductive anatomy of children compared to adults.

5.11 Apply understanding of anatomy and physiology to explain the function of the life support chain.

MATCH TERMINOLOGY/DEFINITIONS

PART A

A. The front of the body or body part

B. The standard reference position for the body in the study of anatomy; in this position, the body is standing erect, facing the observer, with arms down at the sides and the palms of the hands forward

C. A small tube located near the junction of the small and large intestines in the right lower quadrant of the abdomen, the function of which is not well understood

D. The microscopic sacs of the lungs where gas exchange with the bloodstream takes place

E. The study of body structure

F. The largest artery in the body; it transports blood from the left ventricle to begin systemic circulation

G. The ability of the heart to generate and conduct electrical impulses on its own

H. The highest portion of the shoulder

I. Any blood vessel carrying blood away from the heart

J. The conversion of glucose into energy without the use of oxygen

K. Four divisions of the abdomen used to pinpoint the location of a pain or injury

L. The two upper chambers of the heart; the right chamber receives unoxygenated blood returning from the body, and the left chamber receives oxygenated blood returning from the lungs

M. The conversion of glucose into energy by the use of oxygen

_____ **1.** Abdominal quadrants
_____ **2.** Acetabulum
_____ **3.** Acromioclavicular joint
_____ **4.** Acromion process
_____ **5.** Aerobic metabolism
_____ **6.** Alveoli
_____ **7.** Anaerobic metabolism
_____ **8.** Anatomical position
_____ **9.** Anatomy
_____ **10.** Anterior
_____ **11.** Aorta
_____ **12.** Appendix
_____ **13.** Arteriole
_____ **14.** Artery
_____ **15.** Atria
_____ **16.** Automaticity

N. The pelvic socket into which the ball of the proximal end of the femur fits to form the hip joint

O. The smallest kind of artery

P. The joint where the acromion and the clavicle meet

Part B

A. The system made up of the heart and the blood vessels

B. Blood vessels that supply the muscle of the heart

C. The ring-shaped structure that forms the lower portion of the larynx

D. The carotid and femoral pulses, which can be felt in the central part of the body

E. The top, back, and sides of the skull

F. The brain and spinal cord

G. The wrist bones

H. Specialized involuntary muscle found only in the heart

I. The collarbone

J. The cardiovascular system

K. A system of specialized muscle tissue that conducts electrical impulses that, in turn, stimulate the heart to beat

L. The large neck arteries, one on each side of the neck, that carry blood from the heart to the head

M. A thin-walled, microscopic blood vessel where the oxygen/carbon dioxide and nutrient/waste exchange with the body's cells takes place

N. Artery of the upper arm; the site of the pulse checked during infant CPR

O. The division of the peripheral nervous system that controls involuntary motor functions

P. The heel bone

Q. The two large sets of branches that come off the trachea and enter the lungs

R. On both sides

S. The pressure caused by blood exerting force against the walls of the blood vessels

T. The round saclike organ of the renal system used as a reservoir for urine

_____ **1.** Autonomic nervous system

_____ **2.** Bilateral

_____ **3.** Bladder

_____ **4.** Blood pressure

_____ **5.** Brachial artery

_____ **6.** Bronchi

_____ **7.** Calcaneus

_____ **8.** Capillary

_____ **9.** Cardiac conduction system

_____ **10.** Cardiac muscle

_____ **11.** Cardiovascular system

_____ **12.** Carotid arteries

_____ **13.** Carpals

_____ **14.** Central nervous system (CNS)

_____ **15.** Central pulses

_____ **16.** Circulatory system

_____ **17.** Clavicle

_____ **18.** Coronary arteries

_____ **19.** Cranium

_____ **20.** Cricoid cartilage

Part C

A. The bone of the upper arm, between the shoulder and the elbow

B. The proximal opening of the trachea

C. A sitting position

D. Further away from the torso

E. Inadequate perfusion of the cells and tissues of the body caused by insufficient flow of blood through the capillaries

_____ **1.** Dermis

_____ **2.** Diaphragm

_____ **3.** Diastolic blood pressure

_____ **4.** Digestive system

F. A sac on the underside of the liver that stores bile produced by the liver

G. The inner layer of the skin, rich in blood vessels and nerves, found beneath the epidermis

H. A hormone produced by the body; as a medication, it dilates respiratory passages and is used to relieve severe allergic reaction

I. The muscular structure that divides the chest cavity from the abdominal cavity

J. System by which food travels through the body and is broken down into absorbable forms

K. Artery supplying the foot, lateral to the large tendon of the big toe

L. Referring to the back of the body or the back of the hand or foot

M. The outer layer of the skin

N. The pressure in the arteries when the left ventricle is refilling

O. The large bone of the thigh

P. System of glands that produce chemicals called hormones that help to regulate many body activities and functions

Q. A leaf-shaped structure that prevents food and foreign matter from entering the trachea

R. A passive process in which the intercostal muscles and the diaphragm relax, causing the chest cavity to decrease in size and air to flow out of the lungs

S. The lateral and smaller bone of the lower leg

T. The major artery supplying the leg

_____ **5.** Distal

_____ **6.** Dorsal

_____ **7.** Dorsalis pedis artery

_____ **8.** Endocrine system

_____ **9.** Epidermis

_____ **10.** Epiglottis

_____ **11.** Epinephrine

_____ **12.** Exhalation

_____ **13.** Femoral artery

_____ **14.** Femur

_____ **15.** Fibula

_____ **16.** Fowler's position

_____ **17.** Gall bladder

_____ **18.** Glottic opening

_____ **19.** Humerus

_____ **20.** Hypoperfusion

▷ PART D

A. The lower, posterior portions of the pelvis

B. The voicebox

C. The two fused bones forming the upper jaw

D. To the side, away from the midline of the body

E. Toward the midline of the body

F. The free-floating bone in the neck that provides structure to the larynx

G. The lower jaw bone

H. The superior and widest portion of the pelvis

I. Organs of the renal system used to filter blood and regulate fluid levels in the body

J. Away from the head; usually compared with another structure that is closer to the head

K. The largest organ of the body; produces bile to assist in breakdown of fats and assists in the metabolism of various substances in the body

_____ **1.** Hyoid bone

_____ **2.** Ilium

_____ **3.** Inferior

_____ **4.** Inhalation

_____ **5.** Insulin

_____ **6.** Involuntary muscle

_____ **7.** Ischium

_____ **8.** Joint

_____ **9.** Kidney

_____ **10.** Large intestine

L. An active process in which the intercostal muscles and the diaphragm contract, expanding the size of the chest cavity and causing air to flow into the lungs

M. The superior portion of the sternum

N. A hormone produced by the pancreas or taken as a medication by many diabetics

O. Protrusion on the side of the ankle

P. Muscle that responds automatically to brain signals but cannot be consciously controlled

Q. The point where two bones come together

R. The muscular tube that removes water from waste products received from the small intestine and removes anything absorbed by the body toward excretion from the body

S. The organs where exchange of atmospheric oxygen and waste carbon dioxide take place

T. Tissue that connects bone to bone

_____ **11.** Larynx

_____ **12.** Lateral

_____ **13.** Ligament

_____ **14.** Liver

_____ **15.** Lungs

_____ **16.** Malleolus

_____ **17.** Mandible

_____ **18.** Manubrium

_____ **19.** Maxillae

_____ **20.** Medial

PART E

A. The basin-shaped bony structure that supports the spine and is the point of proximal attachment for the lower extremities

B. The kneecap

C. Referring to the palm of the hand

D. The area directly posterior to the mouth

E. The bony structures around the eyes; the eye sockets

F. The nose bones

G. The radial, brachial, posterior tibial, and dorsalis pedis pulses, which can be felt at peripheral points of the body

H. A gland located behind the stomach that produces insulin and juices that assist in digestion of food in the duodenum of the small intestine

I. The hand bones

J. A line drawn vertically from the middle of the armpit to the ankle

K. The supply of oxygen to and removal of wastes from the cells and tissue of the body as a result of the flow of blood through the capillaries

L. The nerves that enter and leave the spinal cord and travel between the brain and organs without passing through the spinal cord

M. An imaginary line drawn down the center of the body, dividing it into right and left halves

N. The foot bones

O. Tissue that can contract to allow movement of a body part

P. The line through the center of each clavicle

Q. The system of brain, spinal cord, and nerves that governs sensation, movement, and thought

_____ **1.** Metacarpals

_____ **2.** Metatarsals

_____ **3.** Mid-axillary line

_____ **4.** Mid-clavicular line

_____ **5.** Midline

_____ **6.** Muscle

_____ **7.** Musculoskeletal system

_____ **8.** Nasal bones

_____ **9.** Nasopharynx

_____ **10.** Nervous system

_____ **11.** Orbits

_____ **12.** Oropharynx

_____ **13.** Palmar

_____ **14.** Pancreas

_____ **15.** Patella

_____ **16.** Pelvis

_____ **17.** Penis

_____ **18.** Perfusion

_____ **19.** Peripheral nervous system

_____ **20.** Peripheral pulses

R. The system of bones and skeletal muscles that supports and protects the body and permits movement

S. The organ of male reproduction responsible for sexual intercourse and the transfer of sperm

T. The area directly posterior to the nose

▶ Part F

A. Lying on the side

B. The body system that regulates fluid balance and filtration of blood

C. The lateral bone of the forearm

D. A flat surface formed when slicing through a solid object

E. Components of the blood that carry oxygen to and carbon dioxide away from the cells

F. Artery of the lower arm; it is felt when taking the pulse at the wrist

G. The toe bones and finger bones

H. Lying face down

I. The area directly posterior to the mouth and nose; it is made up of the oropharynx and the nasopharynx

J. Referring to the sole of the foot

K. The back of the body or body part

L. The fluid portion of the blood

M. Artery supplying the foot, behind the medial ankle

N. The study of body function

O. The rhythmic beats caused as waves of blood move through and expand the arteries

P. Components of the blood; membrane-enclosed fragments of specialized cells

Q. Closer to the torso

R. The vessels that carry blood from the right ventricle of the heart to the lungs

S. The vessels that carry oxygenated blood from the lungs to the left atrium of the heart

T. The medial anterior portion of the pelvis

_____ **1.** Phalanges

_____ **2.** Pharynx

_____ **3.** Physiology

_____ **4.** Plane

_____ **5.** Plantar

_____ **6.** Plasma

_____ **7.** Platelets

_____ **8.** Posterior

_____ **9.** Posterior tibial artery

_____ **10.** Prone

_____ **11.** Proximal

_____ **12.** Pubis

_____ **13.** Pulmonary artery

_____ **14.** Pulmonary vein

_____ **15.** Pulse

_____ **16.** Radial artery

_____ **17.** Radius

_____ **18.** Recovery position

_____ **19.** Red blood cells

_____ **20.** Renal system

▶ Part G

A. An organ located in the left upper quadrant of the abdomen that acts as a blood filtration system and a reservoir for reserves of blood

B. Muscular sac between the esophagus and the small intestine where digestion of food begins

C. Toward the head

D. The pressure created in the arteries when the left ventricle contracts and forces blood out into the circulation

_____ **1.** Reproductive system

_____ **2.** Respiration

_____ **3.** Respiratory system

_____ **4.** Scapula

_____ **5.** Shock

_____ **6.** Skeleton

E. Tissue that connects muscle to bone

F. The wing-shaped plate of cartilage that sits anterior to the larynx and forms the adams apple

G. The bony structure of the head

H. The bones of the body

I. The shoulder blade

J. The process of moving oxygen and carbon dioxide between circulating blood and the cells

K. The system of nose, mouth, throat, lungs, and muscles that brings oxygen into the body and expels carbon dioxide

L. The body system that is responsible for human reproduction

M. The layer of tissue between the body and the external environment

N. Hypoperfusion

O. The muscular tube between the stomach and the large intestine, divided into the duodenum, the jejunum, and the ileum, which receives partially digested food from the stomach and continues digestion

P. The breastbone

Q. The layers of fat and soft tissue found below the dermis

R. The ankle bones

S. Lying on the back

T. The chest

_____ **7.** Skin

_____ **8.** Skull

_____ **9.** Small intestine

_____ **10.** Spleen

_____ **11.** Sternum

_____ **12.** Stomach

_____ **13.** Subcutaneous layers

_____ **14.** Superior

_____ **15.** Supine

_____ **16.** Systolic blood pressure

_____ **17.** Tarsals

_____ **18.** Tendon

_____ **19.** Thorax

_____ **20.** Thyroid cartilage

▷ PART H

A. The female organ of reproduction used for both sexual intercourse and as an exit from the uterus for the fetus

B. Any blood vessel returning blood to the heart

C. The tubes connecting the bladder to the ureter or penis for excretion of urine

D. The process of moving gasses (oxygen and carbon dioxide) between inhaled air and the pulmonary circulation of the blood

E. A position in which the patient's feet and legs are higher than the head

F. The two lower chambers of the heart

G. The trunk of the body; the body without the head and the extremities

H. The 33 bones of the spinal column

I. Components of the blood; they produce substances that help the body fight infection

J. Form the structure of the cheeks

K. The medial and larger bone of the lower leg

_____ **1.** Tibia

_____ **2.** Torso

_____ **3.** Trachea

_____ **4.** Trendelenburg position

_____ **5.** Ulna

_____ **6.** Urethra

_____ **7.** Uterus

_____ **8.** Vagina

_____ **9.** Valve

_____ **10.** Vein

_____ **11.** Vena cava

_____ **12.** Ventilation

_____ **13.** Ventral

L. The windpipe; the structure that connects the pharynx to the lungs

M. The medial bone of the forearm

N. Female organ of reproduction used to house the developing fetus

O. A structure that opens and closes to permit the flow of a fluid in only one direction

P. The superior vena cava and the inferior vena cava, which return blood from the body to the right atrium

Q. Referring to the front of the body

R. The smallest kind of vein

S. Muscle that can be consciously controlled

T. The inferior portion of the sternum

U. The male organ that produces sperm

V. Word endings that form nouns, adjectives, or verbs

W. The foundation of a word

X. Roots that are combined in medical terms

Y. Two or more whole words combined to form another term

Z. Used to modify or qualify a root word

_____ **14.** Ventricles

_____ **15.** Venule

_____ **16.** Vertebrae

_____ **17.** Voluntary muscle

_____ **18.** White blood cells

_____ **19.** Xiphoid process

_____ **20.** Zygomatic arches

_____ **21.** Combining form

_____ **22.** Compound

_____ **23.** Prefix

_____ **24.** Root

_____ **25.** Suffix

_____ **26.** Testes

MULTIPLE-CHOICE REVIEW

_____ **1.** All the following are body systems *except*:
A. respiratory.
B. cardiovascular.
C. abdominal.
D. musculoskeletal.

_____ **2.** If a patient is lying on his or her left side, the patient is said to be in the _____ position.
A. Fowler's
B. recovery
C. left supine
D. left prone

_____ **3.** When a patient who has been having difficulty breathing is placed in a sitting-up position on a stretcher, this position is called:
A. prone.
B. supine.
C. Fowler's.
D. Trendelenburg.

_____ **4.** When treating a patient who is dizzy and passing out, the EMT should place the patient lying flat with her or his head lower than her or his legs. This position is called:
A. prone.
B. supine.
C. Fowler's.
D. Trendelenburg.

_____ **5.** The musculoskeletal system has three main functions. It gives the body shape, provides for body movements, and:
A. gives the body sensation.
B. protects vital internal organs.
C. provides for the body's outer covering.
D. allows transport of oxygen into the cells.