

Chapter 2

Organization of the Body

Learning Objectives

- **Name the body systems** and their functions.
- **Identify body cavities** and specific organs within them.
- **List the divisions of the back.**
- **Identify three planes of the body.**
- **Analyze, pronounce, and spell** new terms related to organs and tissues in the body.

Organization of the Body

Cells

- Individual units found in all parts of the human body

Tissues

- Similar cells grouped together to do a specific job

Organs

- Structures composed of several kinds of tissue

Systems

- Groups of organs working together to perform complex functions

Body Systems

- **Circulatory System**

Heart, blood, and blood vessels

Body Systems (cont.)

- **Digestive System**

Brings food into the body and breaks it down so it can enter the bloodstream

Body Systems (cont.)

- **Endocrine System**

Composed of glands; sends chemical messengers called hormones into the blood

Body Systems (cont.)

- **Female and Male
Reproductive System**

Produce the cells that join to form
the embryo

Body Systems (cont.)

- **Musculoskeletal System**

Including muscles, bones, joints, and connective tissues; supports the body and allows it to move

Body Systems (cont.)

- **Nervous System**

Carries electrical messages to and from the brain and spinal cord

Body Systems (cont.)

- **Respiratory System**

Controls breathing, a process in which air enters and leaves the body

Body Systems (cont.)

- **Skin and Sense Organ Systems**

Including the skin and eyes and ears;
receives messages from the environment
and sends them to the brain

Body Systems (cont.)

- **Urinary System**

Produces urine and sends it out of the body through the kidneys, ureters, bladder, and urethra.

Body Cavities and Organs

- **Cranial:** organs include brain
- **Thoracic:** organs include lungs and heart
- **Abdominal:** organs include stomach, small and large intestines, spleen, and pancreas

Body Cavities and Organs (cont.)

- **Pelvic:** organs include the urinary bladder, ureters, urethra, rectum and anus, and the uterus
- **Spinal:** spinal column and nerves of the spinal cord

Divisions of the Spinal Column

- Cervical (neck) region
- Thoracic (chest) region
- Lumbar (loin or waist) region
- Sacral (sacrum or lower back) region
- Coccygeal (coccyx or tailbone) region

Planes of the Body

- **Frontal (coronal) plane**

- A vertical plane that divides the body or body part, such as an organ, into **front and back** portions.

Planes of the Body (cont.)

- **Sagittal (lateral) plane**

- Another type of vertical plane that divides the body or organ into **right and left sides**.
- The ***midsagittal plane*** divides the body vertically into **right and left halves**.

Planes of the Body (cont.)

- **Transverse (axial) plane**

- A horizontal plane that divides the body or organ into **upper and lower portions**, as in a **cross-section**.

Combining Forms

abdomin/o abdomen

anter/o front

bronch/o bronchial tubes

cervic/o *neck* of the body
 or *neck* (cervix) of the
 uterus

Combining Forms (cont.)

chondr/o	cartilage
coccyg/o	coccyx, tailbone
crani/o	skull
epitheli/o tissue	skin, surface
esophag/o	esophagus

Combining Forms (cont.)

hepat/o

liver

lapar/o

abdomen

laryng/o

larynx (voice box)

later/o

side

lumb/o

loin or waist

Combining Forms (cont.)

lymph/o **lymph** (clear fluid
in tissue spaces and lymph
vessels)

mediastin/o **mediastinum**
(space between the lungs)

Combining Forms (cont.)

pelv/o
(the hip)

pelvis (bones of

peritone/o

peritoneum

(membranes

abdomen)

surrounding the

pharyng/o

pharynx (throat)

Combining Forms (cont.)

pleur/o pleura

poster/o back, behind

sacr/o sacrum (five fused
bones in the lower back)

spin/o spine (backbone)

Combining Forms (cont.)

thorac/o chest

trache/o trachea (windpipe)

vertebr/o vertebra (backbone)

Medical Scramble

1. Female endocrine organ

R O A V Y

2. Space below the diaphragm

E B M A O N D

3. Pertaining to the chest

H C I R A O C T

Medical Scramble (cont.)

4. Hip region

L E P V S I

5. Throat

R P Y X N A H

6. Windpipe

A C E I H R A

Medical Scramble (cont.)

Bonus Term: A procedure necessary
for brain surgery

R M O C O I Y N T A