

# Organization of the Body



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Chapter 2

# Learning Objectives

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- 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

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- **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.)

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## □ Digestive System

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

# Body Systems (Cont.)

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## □ Endocrine System

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



# Body Systems (Cont.)

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- **Female and Male Reproductive System**
  - Produce the cells that join to form the embryo

# Body Systems (Cont.)

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- **Musculoskeletal System**

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



# Body Systems (Cont.)

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## □ Nervous System

- Carries electrical messages to and from the brain and spinal cord

# Body Systems (Cont.)

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## □ **Respiratory System**

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

# Body Systems (Cont.)

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- **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.)

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## □ Urinary System

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

# Body Cavities and Organs

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- **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.)

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- **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

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- 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

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- **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.)

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### □ 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.)

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- **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.)

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**chondr/o** cartilage

**coccyg/o** coccyx, tailbone

**crani/o** skull

**epitheli/o** skin, surface tissue

**esophag/o** esophagus

# Combining Forms (Cont.)

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**hepat/o** liver

**lapar/o** abdomen

**laryng/o** larynx (voice box)

**later/o** side

**lumb/o** loin or waist

# Combining Forms (Cont.)

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**lymph/o**

lymph (clear fluid in tissue spaces and lymph vessels)

**mediastin/o**

mediastinum (space between the lungs)



# Combining Forms (Cont.)

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**pelv/o**

pelvis (bones of the hip)

**peritone/o**

peritoneum (membranes  
surrounding the abdomen)

**pharyng/o**

pharynx (throat)

# Combining Forms (Cont.)

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**pleur/o**

pleura

**poster/o**

back, behind

**sacr/o**

sacrum (five fused bones in the lower back)

**spin/o**

spine (backbone)

# Combining Forms (Cont.)

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**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.)

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4. Hip region

L E P V S I

5. Throat

R P Y X N A H

6. Windpipe

A C E T H R A

# Medical Scramble

## (Cont.)

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Bonus Term: A procedure necessary for brain surgery

R M O C O I Y N T A



Questions?