Body Planes and Anatomical References
Anatomic References
Body Direction

• Health care workers need to be able to clearly identify areas of the body. They must do so in order to correctly apply treatments, injections, and diagnoses.

• Such directional terms are based on anatomical position. In this position, the body is upright and facing forward, with the arms at the sides and the palms toward the front.
Body Plans

- **Body planes** are imaginary lines drawn through the body. They separate the body into sections and are used to create directional terms.

- The three body planes are:
  - Transverse
  - Midsagittal
  - Frontal
Transverse Plane and Related Directional Terms

- The **transverse plane** is horizontal and divides the body into a top half and a bottom half.
  - Body parts above other parts are called **superior**.
  - Body parts below other body parts are called **inferior**.

- Two other terms related to this plane also refer to direction.
  - **Cranial** refers to body parts toward the head.
  - **Caudal** refers to body parts toward the lower end of the spine or feet.
Midsagittal Plane and Related Directional Terms

• The **midsagittal plane** is also known as the **median plane** or the **midline**.

• The midsagittal plane is vertical and divides the body into equal right and left halves.
  - Body parts toward this plane are called **medial**.
  - Body parts away from this plane are called **lateral**.
Frontal Plane and Related Directional Terms

• The **frontal plane** is also known as the *coronal plane*.

• The frontal plane is vertical. It divides the body into front and back sections.
  ▫ Body parts toward the front section are called **ventral**, or *anterior*.
  ▫ Body parts toward the back section are called **dorsal**, or *posterior*.
Other Directional Terms

- Two other terms are used to describe the location of a body part in relation to the point of attachment, or \textit{point of reference}.
  - Body parts toward the point of attachment are called \textbf{proximal}.
  - Body parts distant from this point are called \textbf{distal}. 
Body Cavities

• **Body cavities** are spaces within the body that contain vital organs.

• The two major cavities in the body are the dorsal and ventral cavities.
  - The **dorsal cavity** is a long, continuous cavity located on the back of the body.
  - The **ventral cavity** is located on the front side of the body.
Dorsal Cavity

- The dorsal cavity is divided into two sections:
  - The **cranial cavity** contains the brain.
  - The **spinal cavity** contains the spinal cord.
Ventral Cavity

- The ventral cavity is divided into three sections:
  - The **thoracic cavity** contains the trachea, esophagus, bronchi, lungs, heart, and major blood vessels. It is also known as the *chest cavity*.
  - The **abdominal cavity** contains the stomach, small intestine, most of the large intestine, liver, gallbladder, pancreas, and spleen.
  - The **pelvic cavity** contains the reproductive organs, bladder, and rectum.
Small Body Cavities

- The **orbital cavity** contains the eye structures.
- The **nasal cavity** contains the parts that form the nose.
- The **oral cavity**, or *buccal cavity*, contains the teeth and the tongue in the mouth.
Abdominal Regions: Quadrants

- Because the abdominal cavity is so large, it helps to divide it into regions.
- One method of division results in **quadrants**, or four regions:
  - Right upper quadrant (RUQ)
  - Left upper quadrant (LUQ)
  - Right lower quadrant (RLQ)
  - Left lower quadrant (LLQ)
Abdominal Regions: Nine Regions

- Another method of dividing the abdominal cavity results in nine regions:
  - **Epigastric** – above the stomach
  - **Umbilical** – near the umbilicus
  - **Hypogastric** – below the stomach
  - **Left Hypochondriac** – below the ribs, left side
  - **Right Hypochondriac** – below the ribs, right side
  - **Left Lumbar** – near the waist, left side
  - **Right Lumbar** – near the waist, right side
  - **Left Iliac** – near the hips, left side
  - **Right Iliac** – near the hips, right side