



Anatomical Terminology

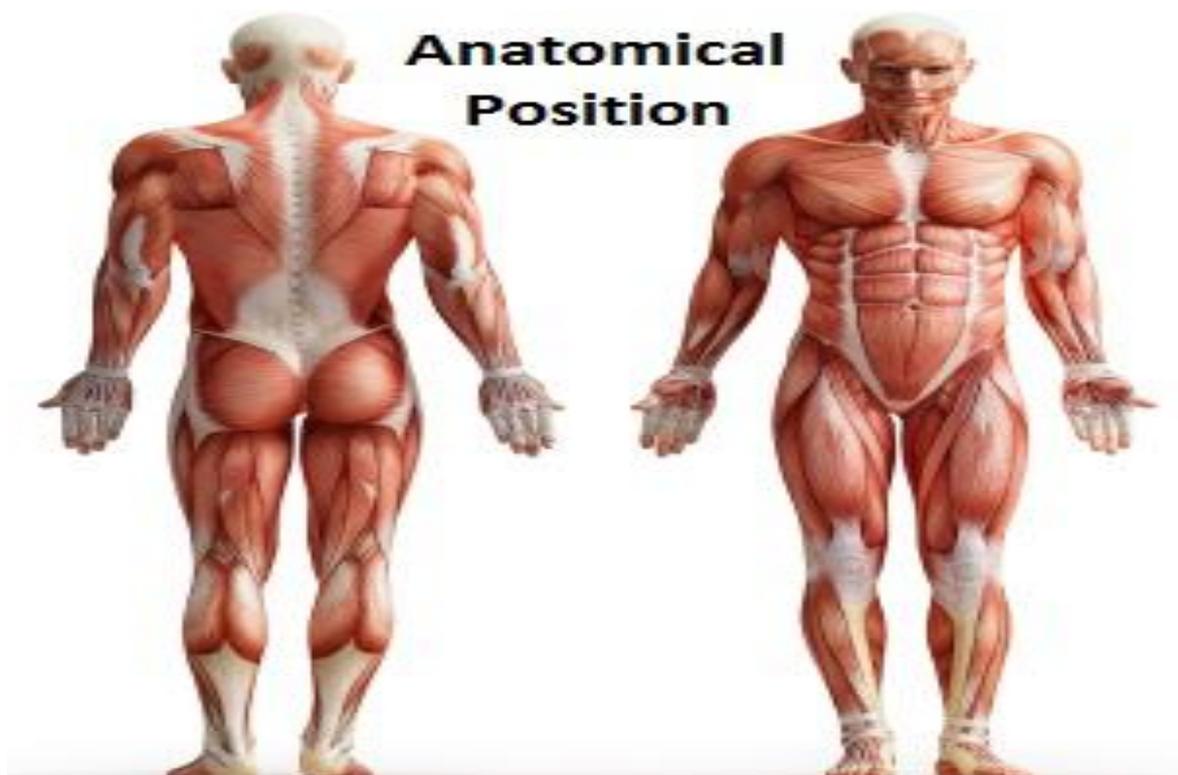
Anatomical terminology is a standardized scientific language used to describe the **location, position, movement, and relationships** of structures within the human body. These standardized terms ensure precision, clarity, and consistency in communication among healthcare professionals.

When anatomical terms are used, it is always assumed that the body is in the **anatomical position**, regardless of the actual posture of the individual.

Anatomical Position

The **anatomical position** is the standard reference position for describing body structures:

- ✓ The body stands erect
- ✓ Feet are parallel and flat on the ground
- ✓ Head and eyes face forward
- ✓ Upper limbs hang at the sides
- ✓ Palms face forward (thumbs pointing laterally)





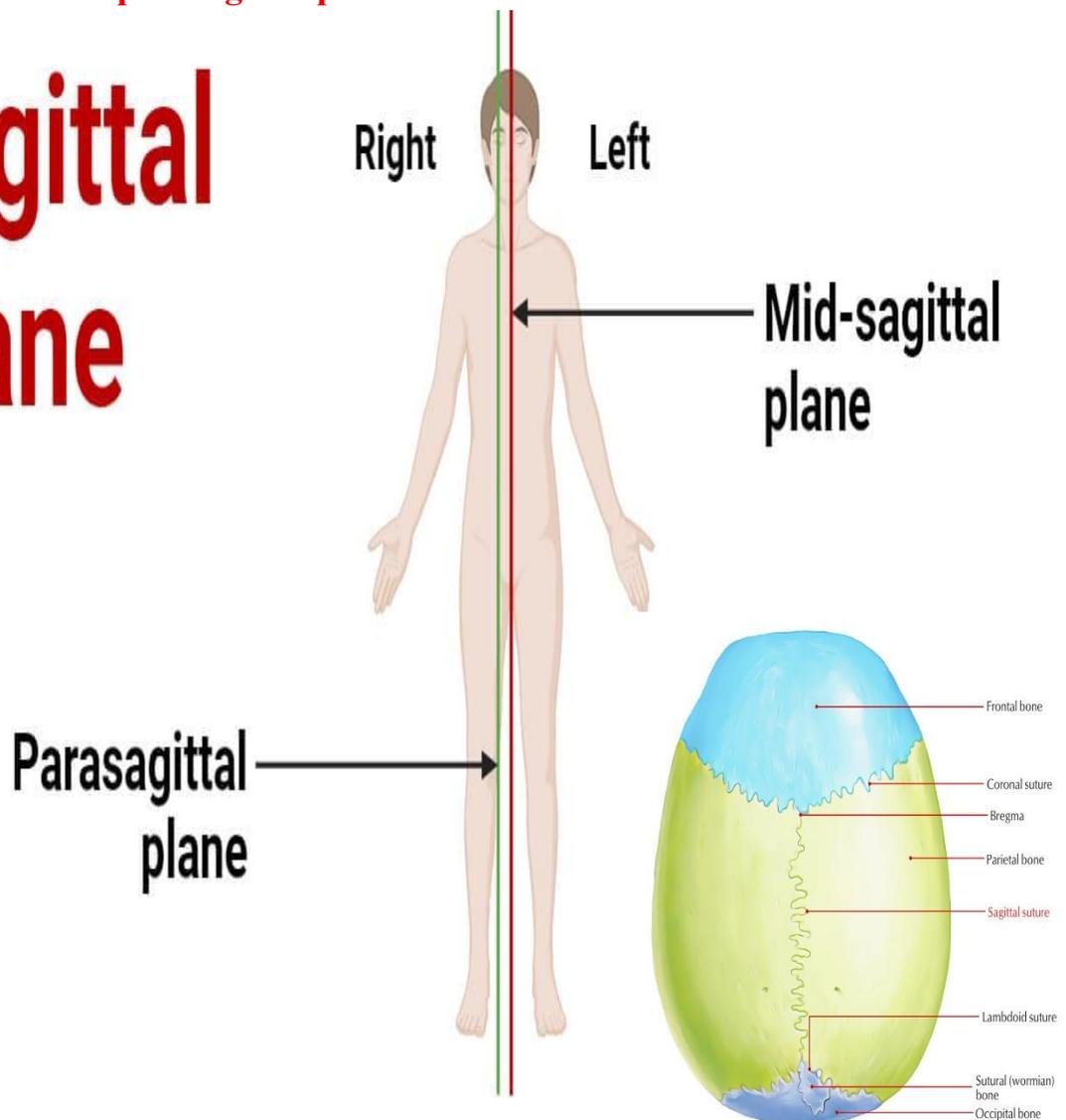
Anatomical Planes

To describe the position of one body structure relative to another, the body is conceptually divided by **four principal imaginary planes**:

1. Median (**Sagittal**) Plane

The median (**midsagittal**) plane divides the body into equal right and left halves. Any sagittal plane parallel to the median plane that divides the body into unequal portions is termed **a parasagittal plane**.

Sagittal Plane





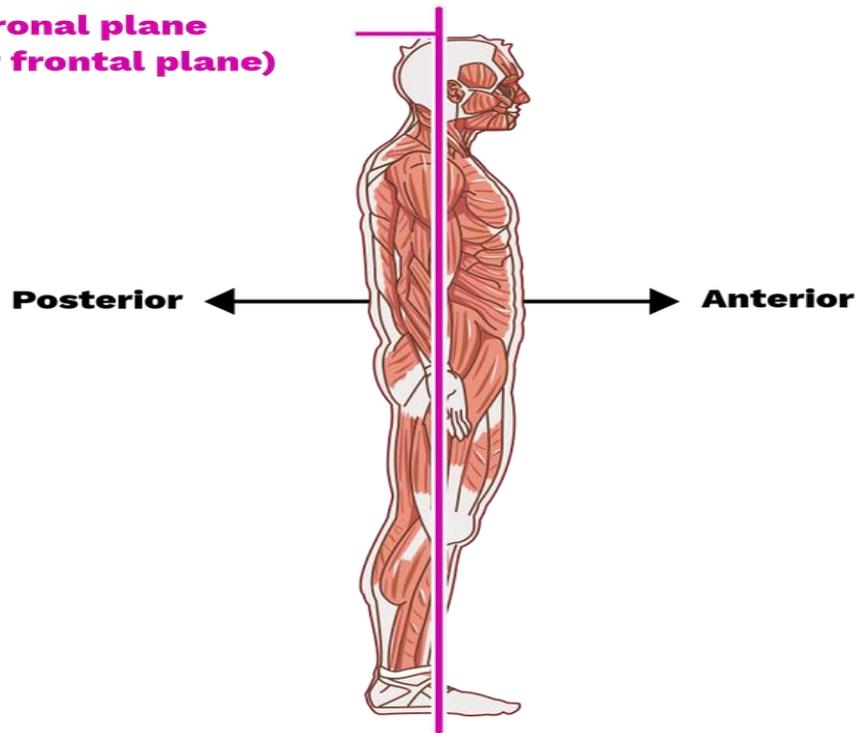
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2. Frontal (Coronal) Plane

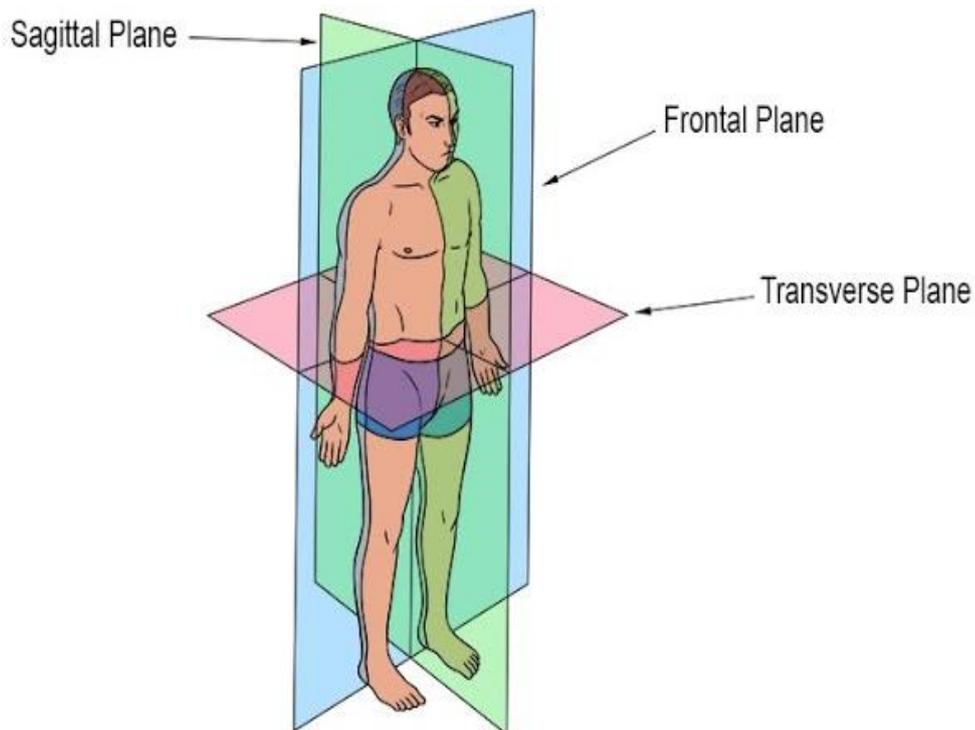
The frontal (**coronal**) plane divides the body into anterior (**ventral**) and posterior (**dorsal**) portions.

**Coronal plane
(Or frontal plane)**



3. Transverse (Horizontal) Plane

The transverse plane divides the body into **superior (upper)** and **inferior (lower)** parts. This plane is particularly important in cross-sectional anatomical imaging.



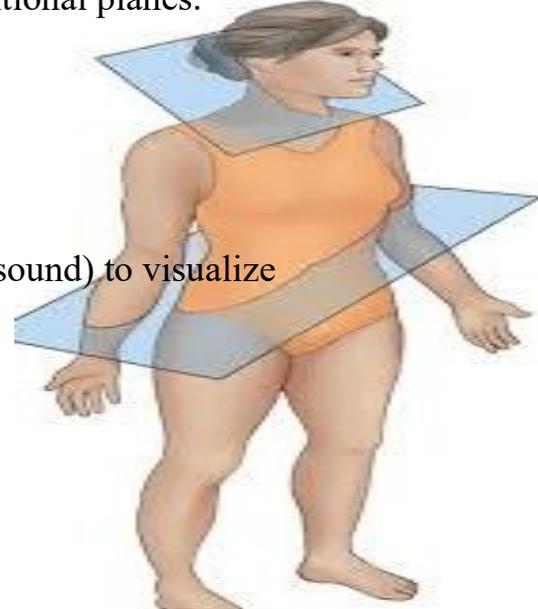


4. Oblique plane

The oblique plane is an imaginary plane that passes through the body at an angle, not parallel to the sagittal, frontal, or transverse planes. It allows sections of the body or organs that cannot be fully captured by the traditional planes.

Characteristics

- ✓ Cuts the body or an organ **diagonally**
- ✓ Provides **angled views** of structures
- ✓ Often used in **medical imaging** (CT, MRI, and ultrasound) to visualize complex anatomical relationships



Directional Terms

Directional terms are used to describe the relative position of anatomical structures in relation to one another.

Superior / Inferior

- **Superior:** Toward the head or upper part of a structure
- **Inferior:** Away from the head or toward the lower part of a structure

Cranial / Caudal

Cranial

- **Meaning:** Toward the head or skull
- **Synonym:** Superior (in the anatomical position)

Caudal

- **Meaning:** Toward the lower end of the body or tail region
- **Synonym:** Inferior (in the anatomical position)



Anterior / Posterior (Ventral / Dorsal)

- **Anterior (Ventral):** Toward the front of the body
- **Posterior (Dorsal):** Toward the back of the body

Medial / Lateral

- **Medial:** Toward the median plane of the body
- **Lateral:** Away from the median plane

Proximal / Distal

- **Proximal:** Closer to the point of attachment or origin
- **Distal:** Farther from the point of attachment or origin

Superficial / Deep (External / Internal)

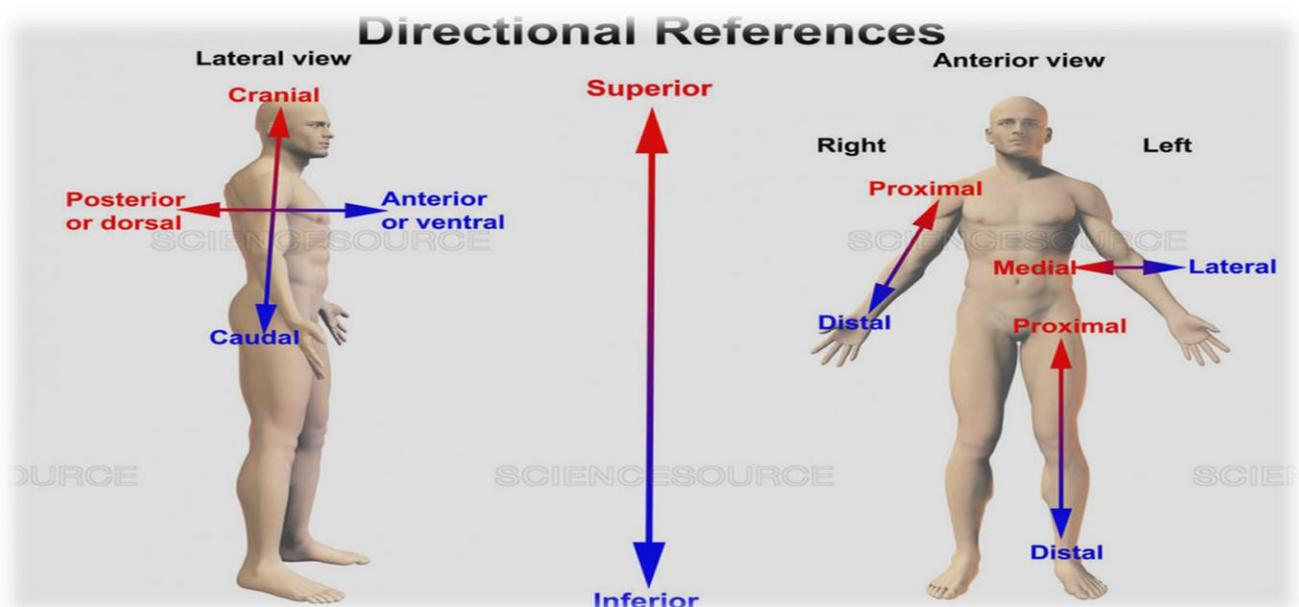
- **Superficial (External):** Located toward or at the body surface
- **Deep (Internal):** Located away from the body surface

Intermediate

- Positioned **between** two other structures

Palmar / Plantar

- **Palmar:** Relating to the palm of the hand
- **Plantar:** Relating to the sole of the foot





Regional Anatomy

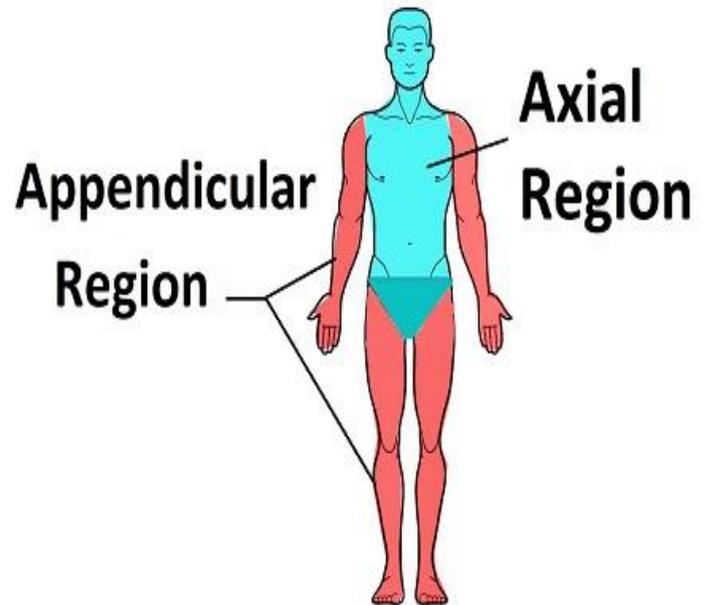
The human body is anatomically divided into **two major regions**:

1. Axial Region: Includes:

- ✓ Head
- ✓ Neck
- ✓ Trunk (thorax, abdomen, and pelvis)

2. Appendicular Region : Includes:

- ✓ Upper limbs
- ✓ Lower limbs



Body Cavities and Serous Membranes

The body contains spaces—called cavities—that house the internal organs. The two major body cavities are the **dorsal cavity** and the **ventral cavity**. Each of these cavities is subdivided further, as shown below.

1. Cranial Cavity

- ✓ Formed by the cranial bones
- ✓ Houses and protects the **brain**

2. Vertebral Canal

- ✓ Formed by the vertebral column
- ✓ Contains the **spinal cord**

3. Ventral Body Cavity

The ventral cavity is subdivided into the **Thoracic cavity** and the **Abdominopelvic cavity**, both of which are lined by **serous membranes**.



Thoracic Cavity

- ✓ Bordered anteriorly and laterally by the thoracic wall
- ✓ Posteriorly by the vertebral column
- ✓ Inferiorly by the diaphragm

A- Mediastinum

The mediastinum is the central compartment of the thoracic cavity and contains the **heart, thymus, esophagus, trachea**, and major blood vessels.

B- Pericardial Cavity

- ✓ Surrounds the heart
- ✓ Formed by **parietal and visceral layers of the pericardium**

C- Pleural Cavities

- ✓ Surround the lungs
- ✓ Formed by **parietal and visceral pleural membranes**

Abdominopelvic Cavity

The abdominopelvic cavity consists of the **abdominal cavity** and the **pelvic cavity**.

Abdominal Cavity

- ✓ Bordered superiorly by the diaphragm
- ✓ Inferiorly by an imaginary transverse plane at the pelvic brim
- ✓ Contains the **stomach, liver, spleen, pancreas, small intestine**, and most of the **large intestine**
- ✓ Lined by the **peritoneum**

Pelvic Cavity

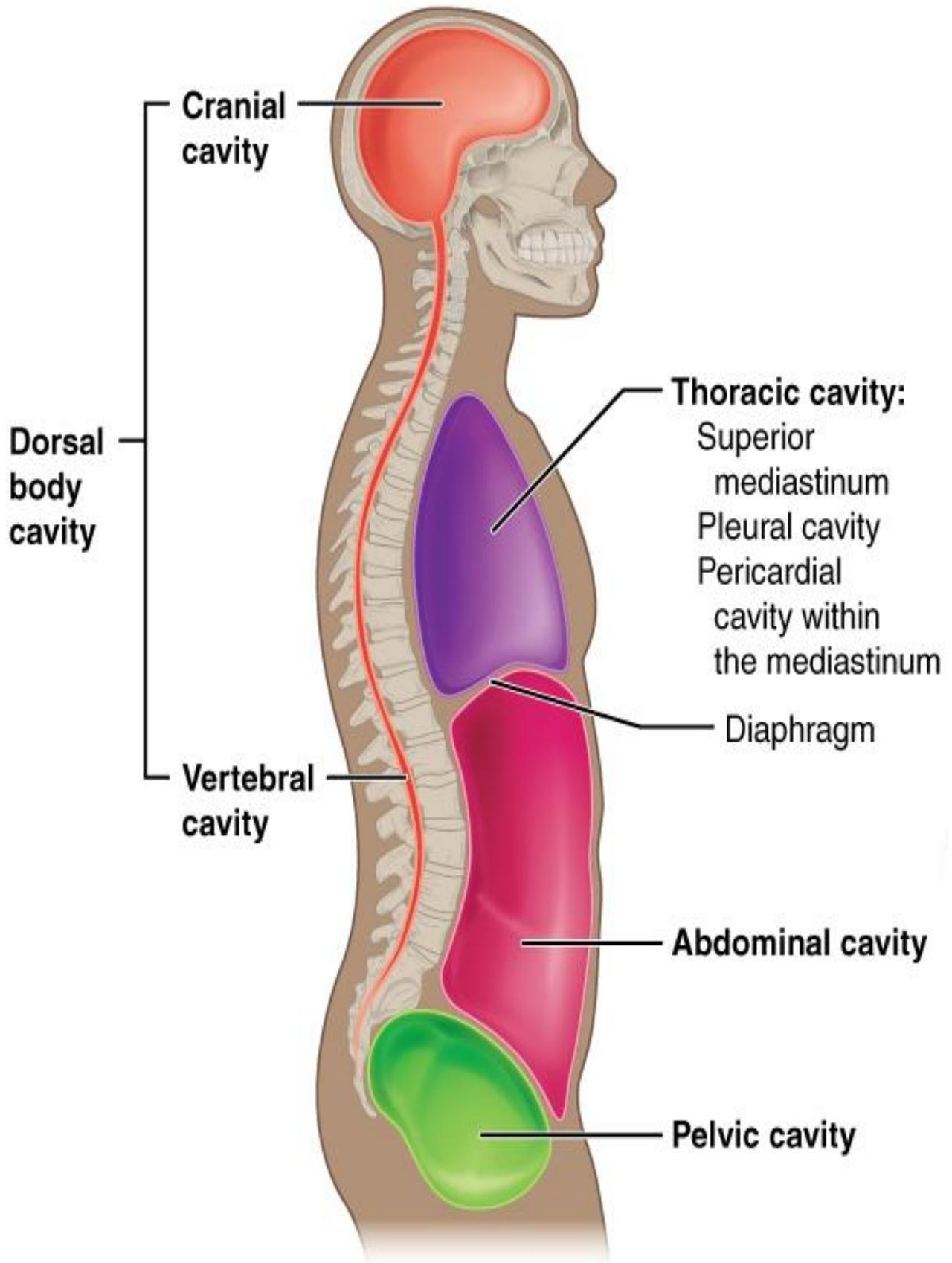
- ✓ Located inferior to the abdominal cavity
- ✓ Enclosed by the pelvic bones
- ✓ Contains the **urinary bladder, internal reproductive organs**, and portions of the **large intestine**



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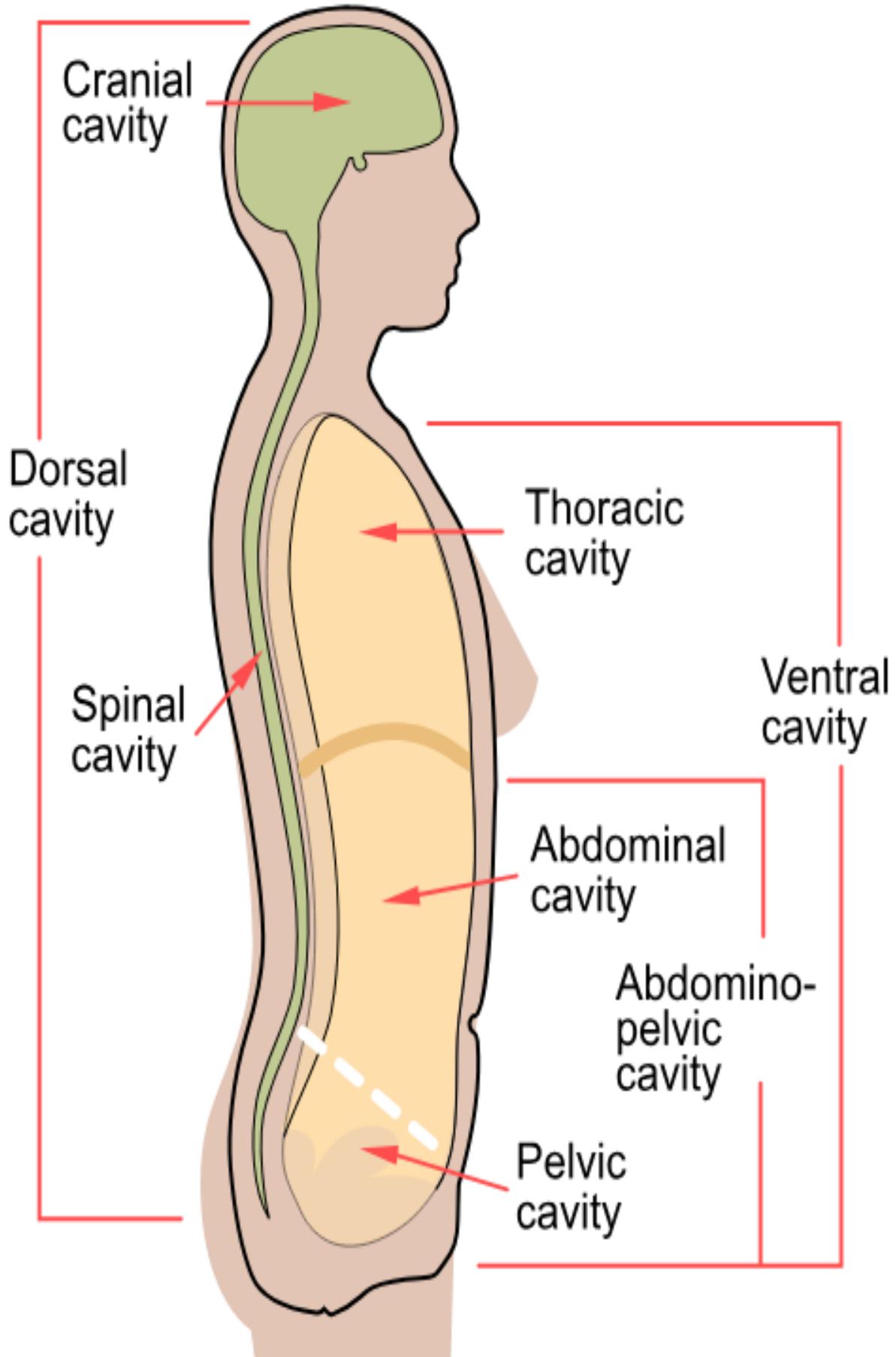


✓ Lined by the peritoneum





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Abdominal (**Abdominopelvic**) Regions and Quadrants

Because the abdominopelvic cavity is so large, and because it contains numerous organs, it's divided further into regions (which are used to locate organs in anatomical studies) as well as quadrants (which are used to pinpoint the site of abdominal pain).

For accurate anatomical and clinical localization, the abdominopelvic cavity is divided into **nine regions**, arranged in **three horizontal rows** and **three vertical columns**.

☞ Middle Column

✓ **Epigastric Region:**

Contains portions of the liver, stomach, pancreas, duodenum, and adrenal glands

✓ **Umbilical Region:**

Contains the transverse colon, loops of the small intestine, and major blood vessels

✓ **Hypogastric (Pubic) Region:**

Contains the urinary bladder, sigmoid colon, and parts of the small intestine

☞ Right and Left Hypochondriac Regions

✓ Located lateral to the epigastric region

✓ **Right:** liver, gallbladder, part of the right kidney

✓ **Left:** stomach, spleen, left colic flexure, part of the left kidney

☞ Right and Left Lumbar Regions

✓ Located lateral to the umbilical region

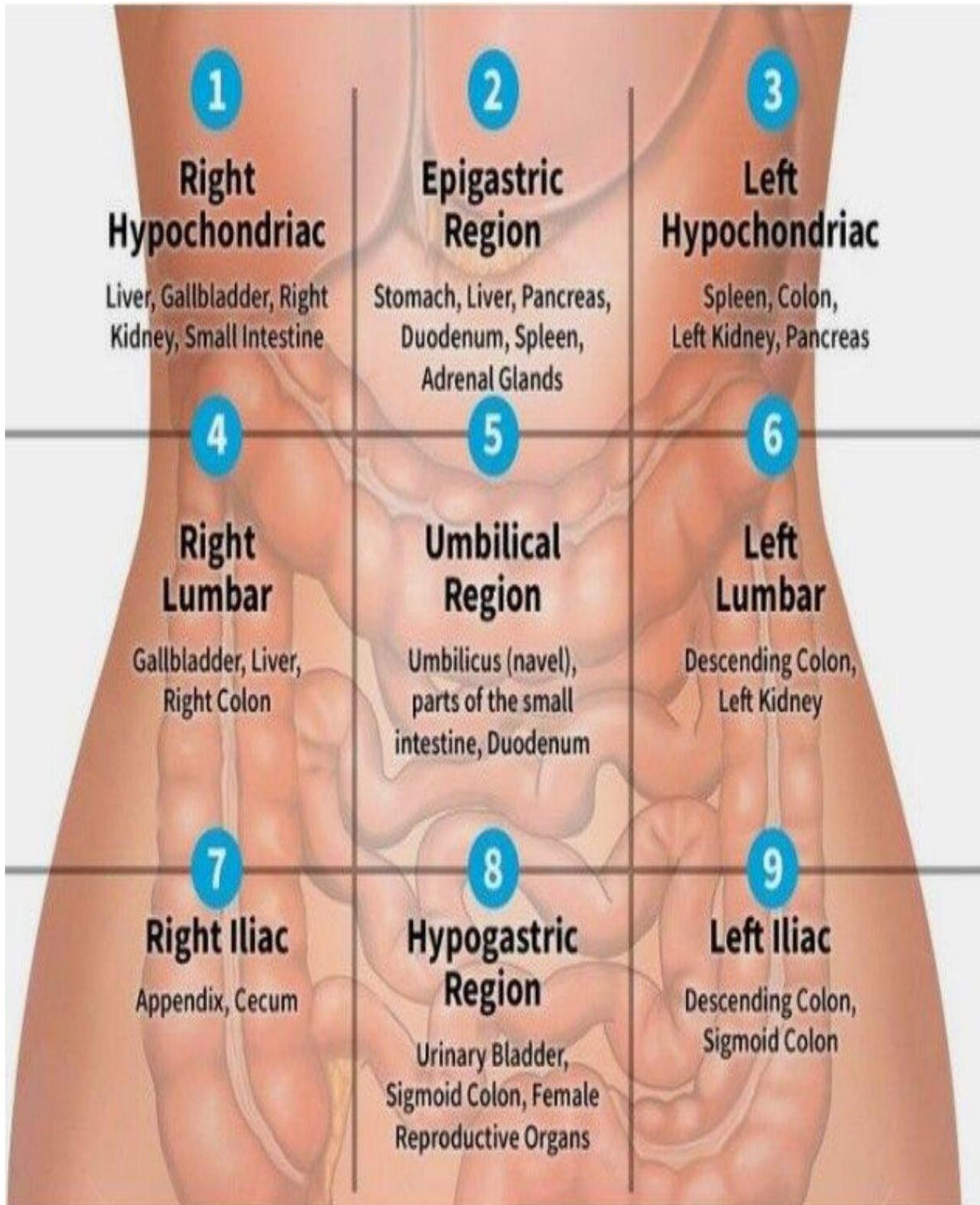
✓ **Right:** ascending colon, right kidney, small intestine

✓ **Left:** descending colon, left kidney, small intestine



☞ Right and Left Iliac (Inguinal) Regions

- ✓ Located lateral to the hypogastric region
- ✓ **Right:** cecum, appendix, small intestine
- ✓ **Left:** sigmoid colon and portions of the small intestine





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