

BIOS 251 Exam 1 Study Outline (highlights were on EXAM 1)

Week 1

I. C100 – Basic Terminology

- Anatomy: The study of body structure
- Physiology : The study of body parts and how they interact with one another
- Structure and function compliment one another
 - Example: Red Blood cells

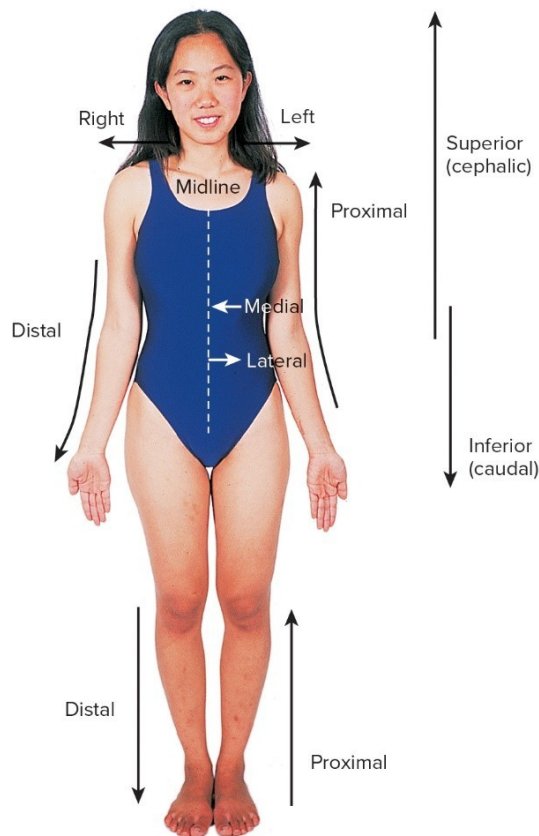
II. C101 -Anatomical Position and Anatomical Terminology

- Anatomical Position - reference point for all directions and regions of the human body.
 - Subject faces the observer while standing erect, with arms at both sides of the body, palms of the hands facing forward, and feet flat on the floor.
- Anatomical Regions:
 1. Axial- represents core of body, includes all structures except the upper and lower appendages (arms and legs)
 - Cephalic (head)
 - Cervical (neck)
 - Thoracic (chest)
 - Abdominal (belly)
 - Pelvic (hip)
 - Pubic (groin)
 2. Appendicular – includes upper and lower appendages
 - Axillary (armpit)
 - Brachial (upper arm)
 - Antecubital (front of the elbow)
 - Antebrachial (forearm)
 - Carpal (wrist)
 - Palmar (palm)
 - Pollex (thumb)
 - Digital or phalangeal (fingers)
 - Femoral (thigh)
 - Patellar (anterior surface of the knee)
 - Crural (leg)
 - Pedal (foot)

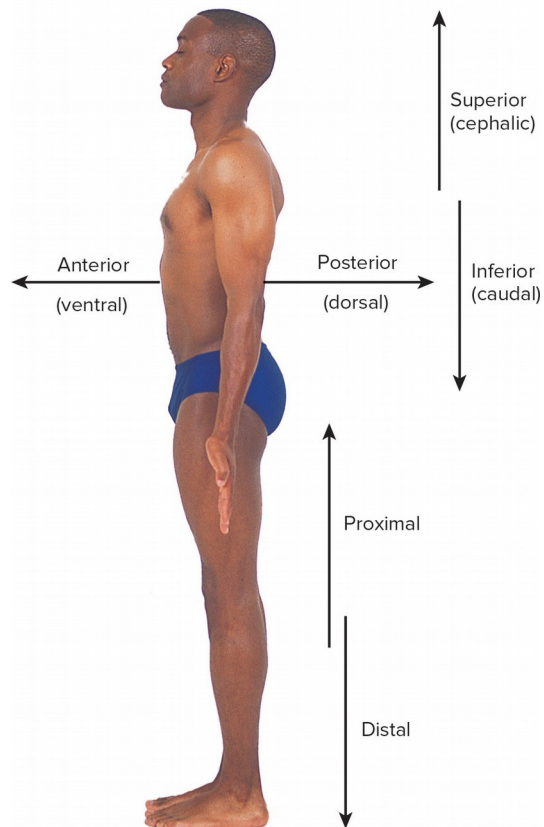
Directional Terms

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Ventral - Toward the front* or belly

Dorsal - Toward the back or spine

Anterior - Toward the ventral side

Posterior - Toward the dorsal side

Cephalic - Toward the head or superior end

Rostral - Toward the forehead or nose

Caudal - Toward the tail or inferior end

Superior - Above

Inferior - Below

Medial - Toward the median plane

Lateral - Away from the median plane

Proximal - Closer to the point of attachment or origin

Distal - Farther from the point of attachment or origin

Ipsilateral - On the same side of the body (right or left)

Contralateral - On opposite sides of the body (right and left)

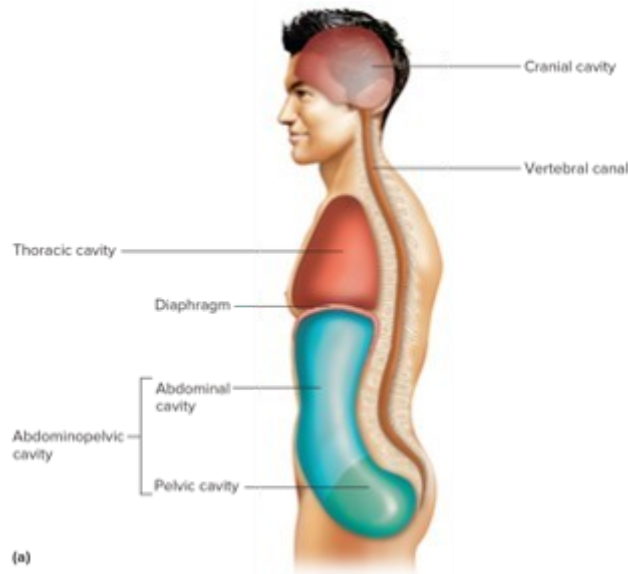
Superficial - Closer to the body surface

Deep - Farther from the body surface

III. C102 – Body Cavities

- Body cavities act as compartments within the human body and have **two** basic functions:
 - To protect vital internal organs from accidental shock

- To allow for any possible change in shape and size of organs, while still maintaining the organ system's integrity
- The human body contains **four** main body cavities:
 1. **Cranial (contains the brain)**
 2. Vertebral (contains the spinal cord)
 3. **Thoracic (contains the heart and the lungs)**
 4. **Abdominopelvic (contains all abdominal and pelvic organs)**
 5. The Thoracic and abdominopelvic cavities are separated by the diaphragm

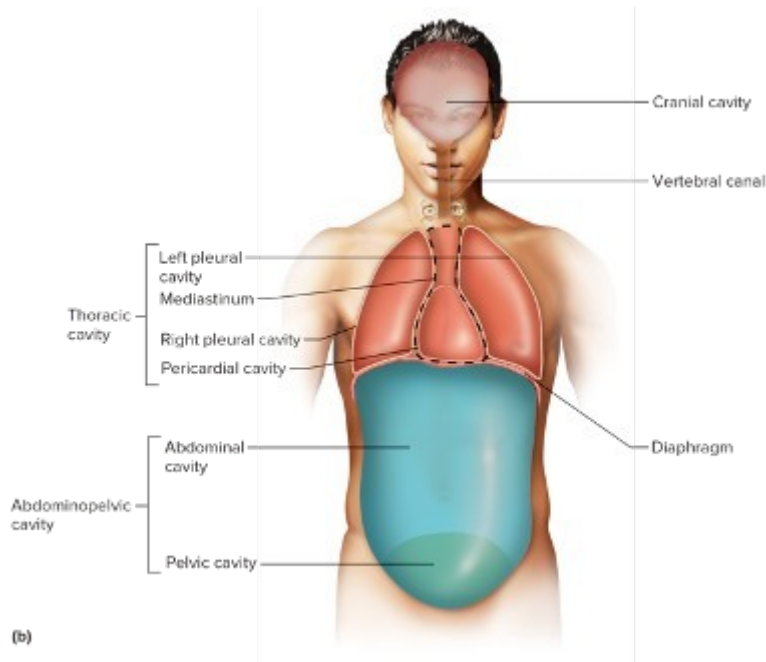


Body cavities are subdivided further based on the organs they house.

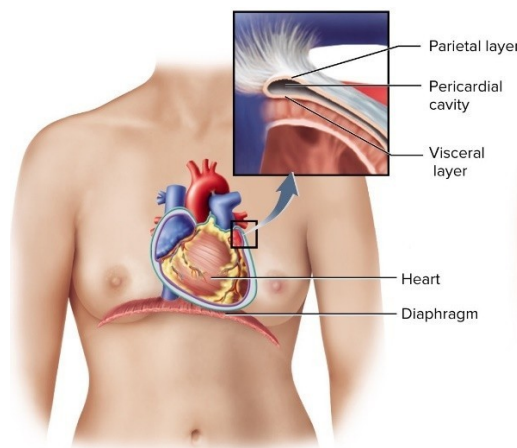
- Subdivisions of the Thoracic cavity
 - Two Pleural cavities, each of which surrounds a lung
 - Each lung sits on either side of the mediastinum, which is an area in the middle of the thorax that contains the heart, portions of the trachea, the esophagus, and several important vessels.
 - Pericardial cavity, which encloses the heart

- Subdivisions of the Abdominopelvic cavity
 - Abdominal cavity
 - Contains the stomach, intestines, spleen, and liver

- Superior region of the cavity
- Pelvic cavity
- Contains urinary bladder, reproductive organs, and rectum
- Inferior region of the cavity



All body cavities are lined by serous membranes, which are a two-layered tissue that is lubricated by a serum-like fluid. These membranes also cover organs.



(a) Pericardium

Parietal layer – lines cavity
 Visceral layer – covers organ
 Fluid-filled cavity between the 2 layers

- Abdominopelvic Quadrants and Regions
 - **Four Abdominopelvic Quadrants**
 - Right Upper quadrant
 - Left Upper quadrant