

SNS COLLEGE OF ALLIED HEALTH SCIENCE
Affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai



DEPARTMENT OF PHYSICIAN ASSISTANT

COURSE NAME : ANATOMY

UNIT : INTRODUCTION TO HUMAN ANATOMY

TOPICS : INTRODUCTION, PLANES AND ORGAN SYSTEM

FACULTY NAME : Ms. SINEKA M

INTRODUCTION (Define)

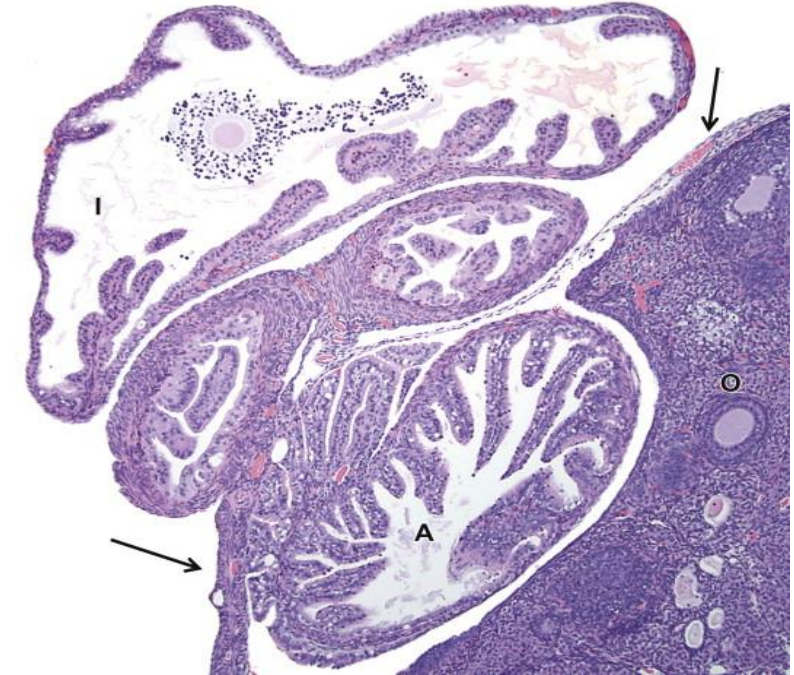
- Anatomy is the identification and description of **structures** in living things.
- **Gross anatomy (or macroscopic anatomy):** The study of bodily structures that are large enough to be seen with the naked eye.
- This includes the examination of internal organs via dissection or medical imaging.



- **Systemic anatomy:** The study of the structures that make up a specific body system, such as the digestive or nervous system.
- **Regional anatomy:** The study of the interrelationships of structures within a specific body region, like the head, abdomen, or upper limb.

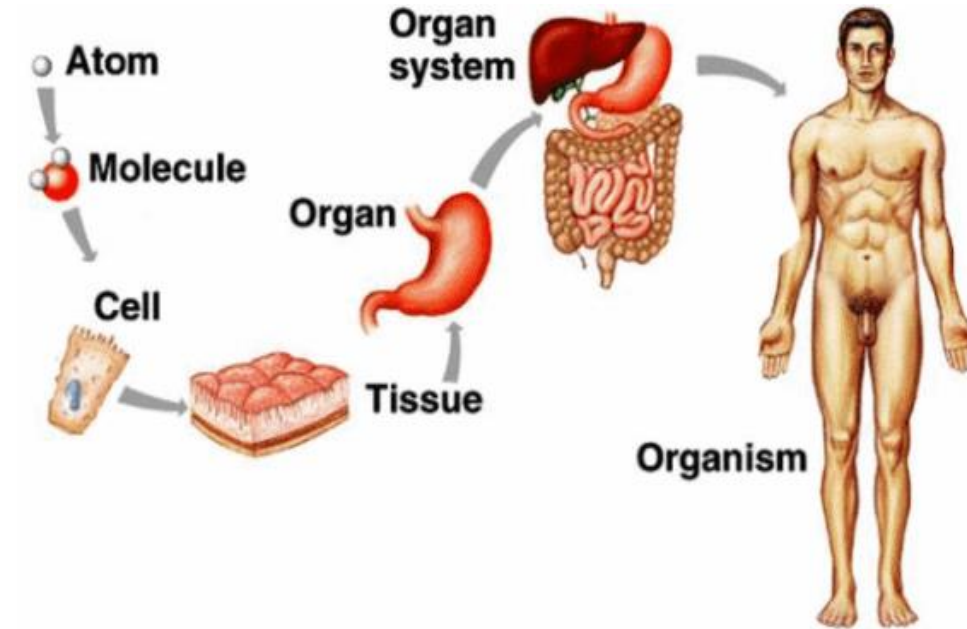
Microscopic anatomy (or histology):

- The study of tissues and cells using microscopes.
 - **Histology:** The study of tissues.
 - **Cytology:** The study of individual cells.

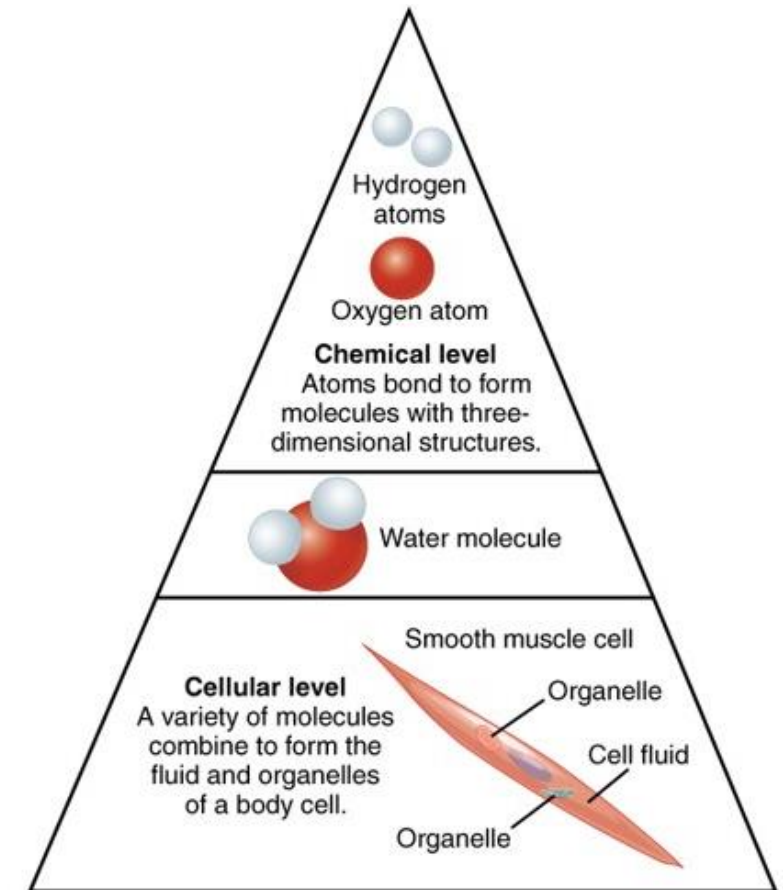


LEVELS OF STRUCTURAL ORGANIZATION

- **Chemical level:** Atoms combine to form molecules.
- **Cellular level:** The smallest living units of the body, such as blood cells or neurons.
- **Tissue level:** Groups of similar cells that work together to perform a specific function.



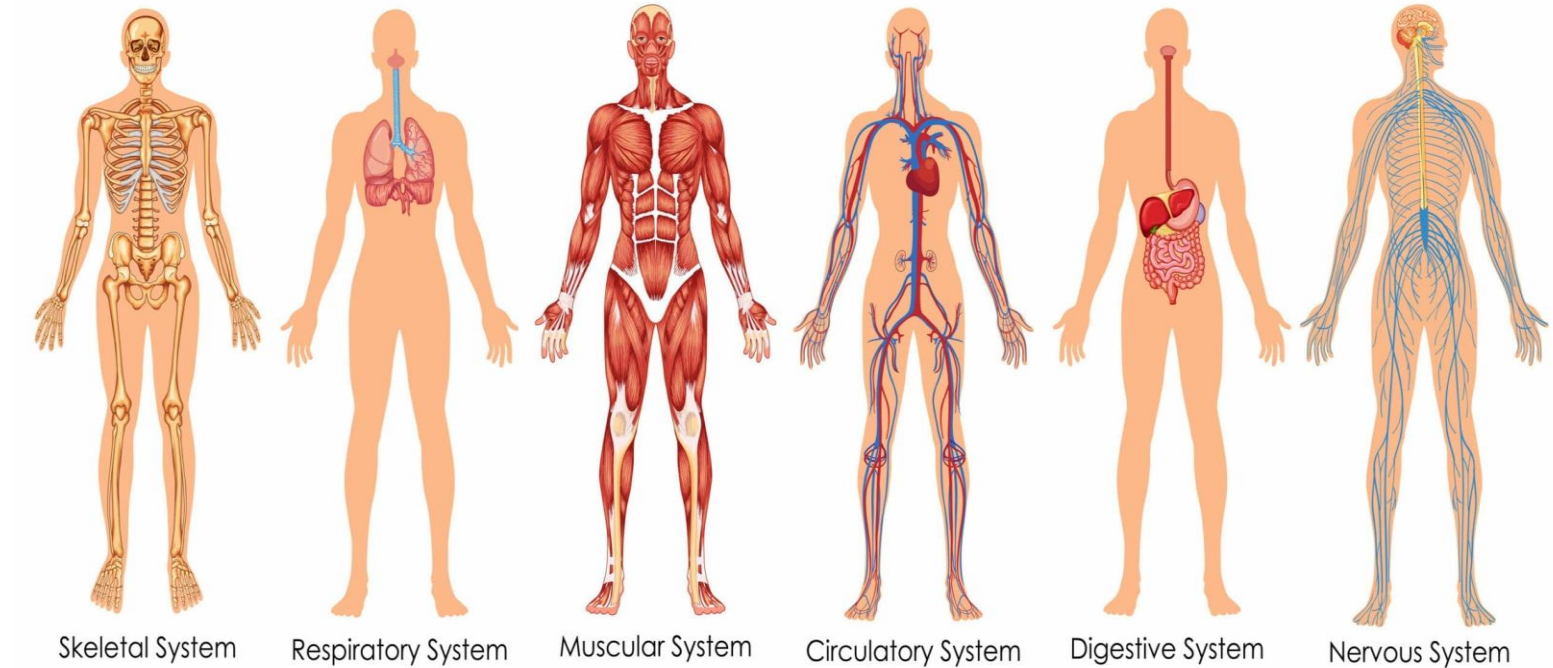
- **Organ level:** Structures made of multiple types of tissues that carry out specific functions.
- Examples include the heart, lungs, and stomach.
- **Organ system level:** A group of organs that work together for a common purpose.



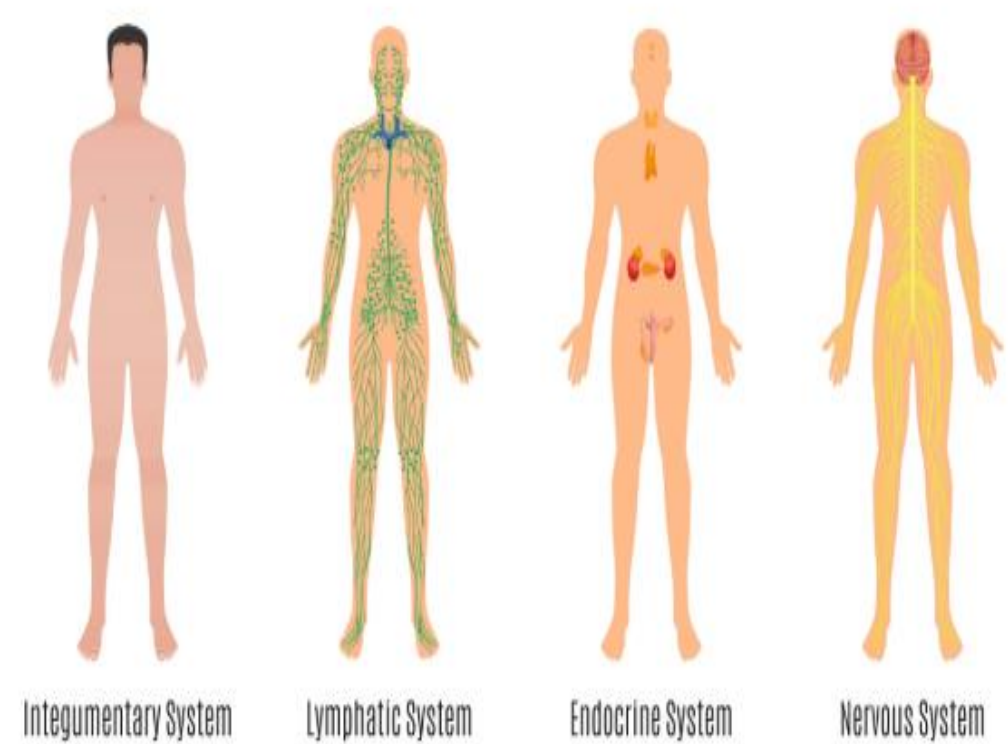
HUMAN ORGAN SYSTEMS

11 major systems:

- Skeletal
- Muscular
- Lymphatic
- Respiratory
- Digestive
- Nervous (central/autonomic)

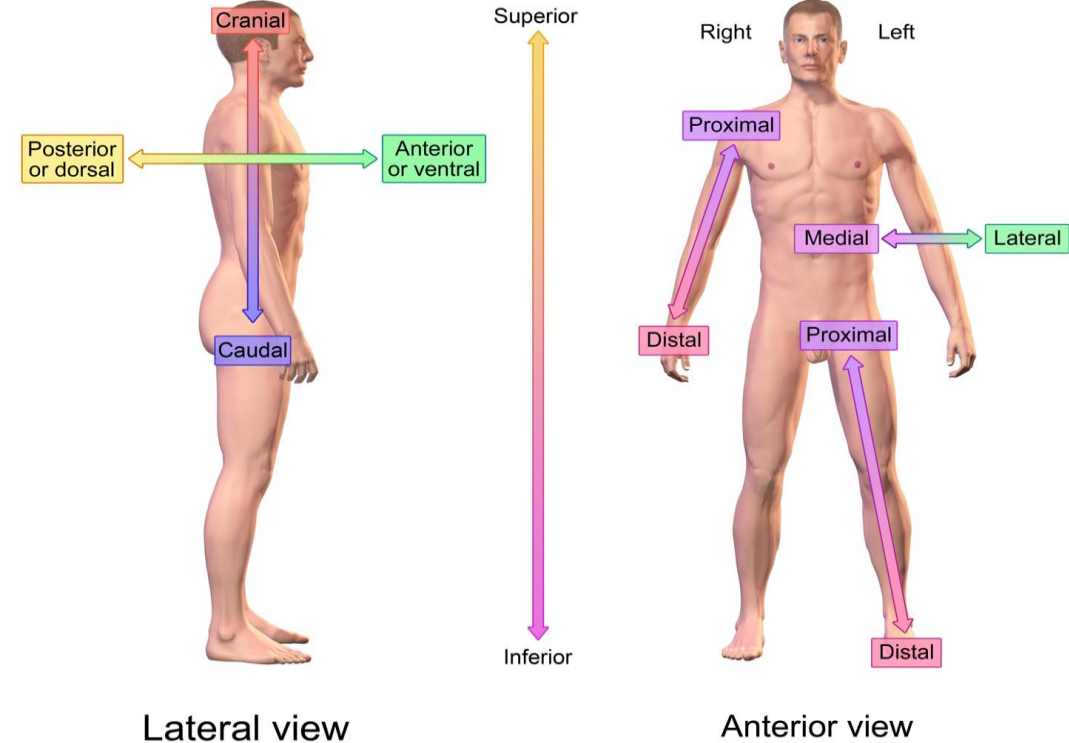


- Endocrine (hormone regulation)
- Cardiovascular (heart)
- Urinary
- Reproductive
- Integumentary (skin, hair, nails)



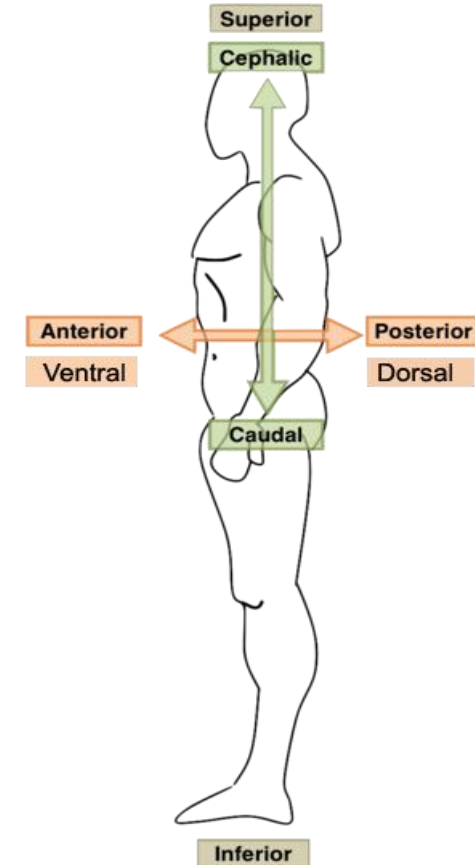
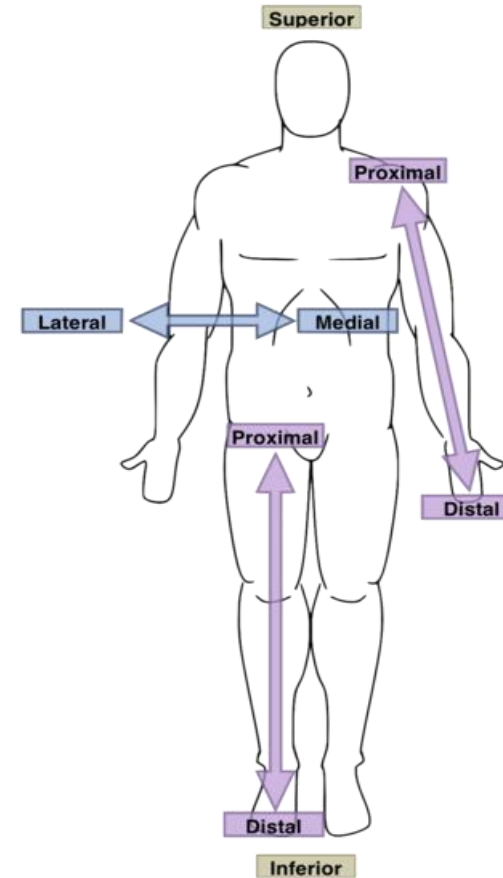
ANATOMICAL DIRECTIONS

- Anterior (ventral/front)
- Posterior (dorsal/back)
- Superior (upper/above)
- Inferior (lower/below)



Directional References

- Medial (closer to midline)
- Lateral (away from midline)
- Proximal (closer to attachment)
- Distal (farther from attachment)

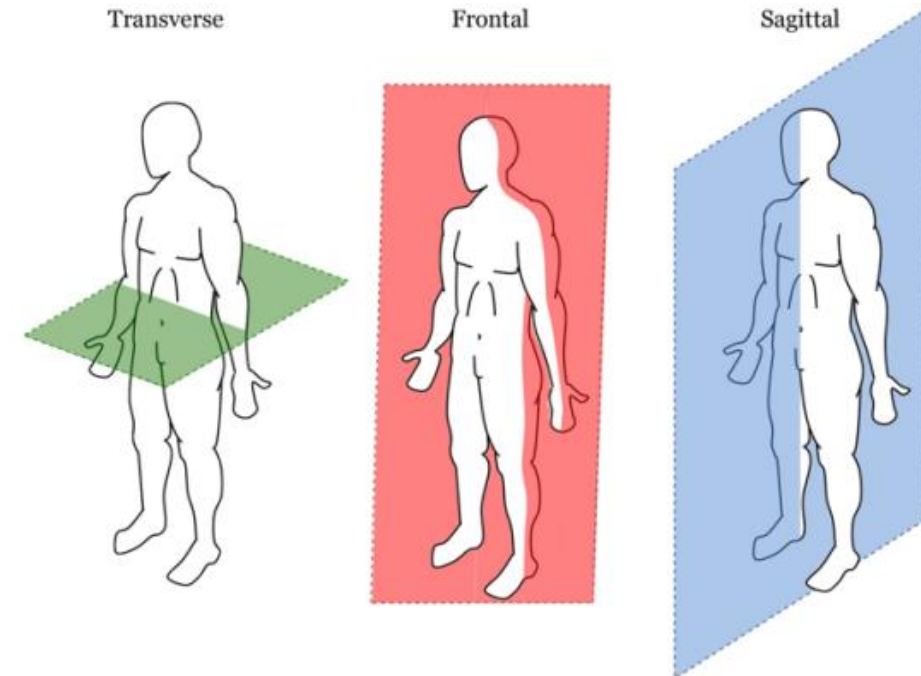


PLANES OF THE BODY

- Hypothetical planes for describing structure locations in anatomical position.

Main planes:

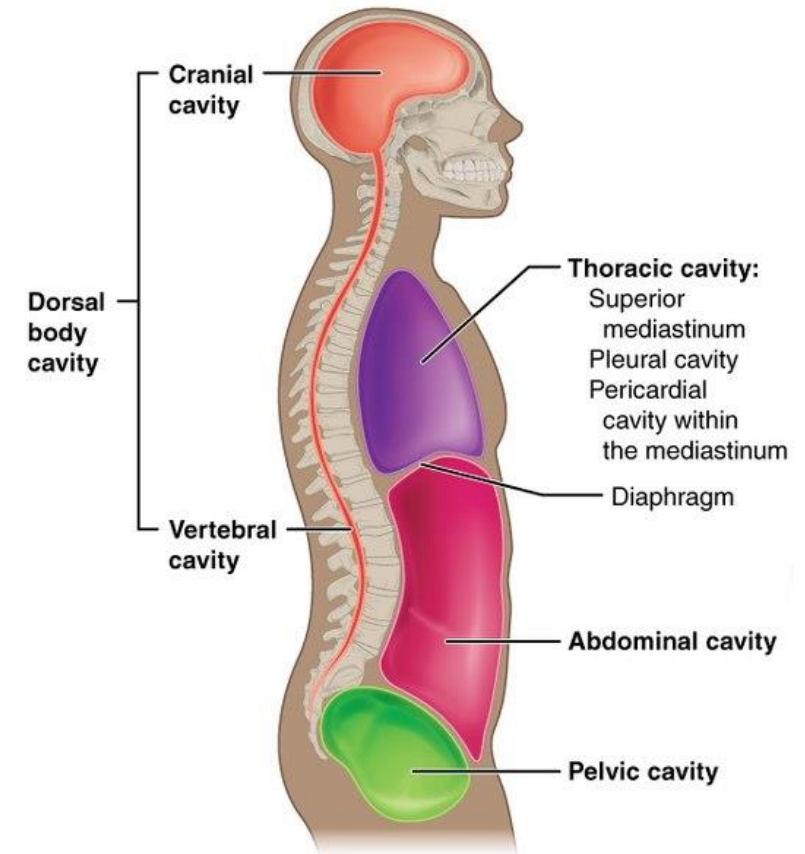
- Sagittal
- Coronal
- Transverse



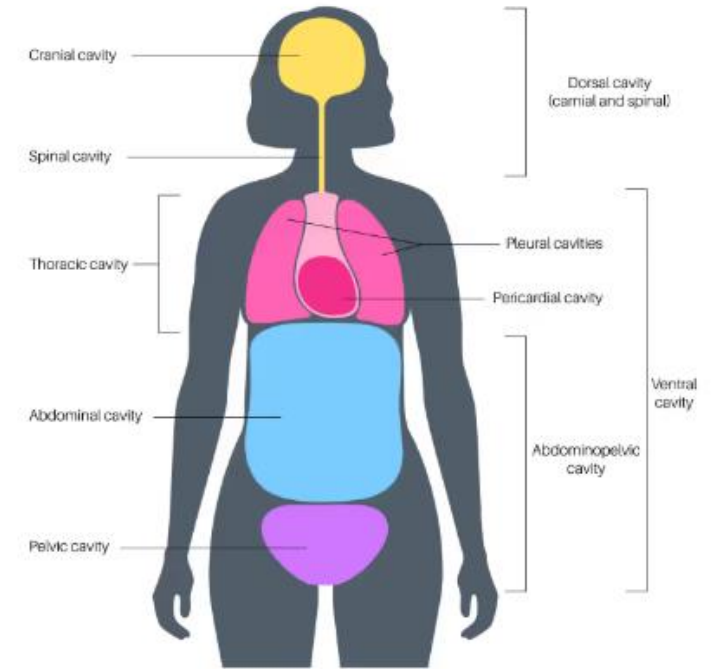
- **Sagittal Plane** : Vertical plane dividing body longitudinally into left and right sections.
- **Coronal Plane** : Vertical plane perpendicular to sagittal, dividing body into anterior (front) and posterior (back) sections.
- **Transverse Plane** : Horizontal plane perpendicular to sagittal/coronal, parallel to ground; divides into superior (upper) and inferior (lower) sections.

BODY CAVITIES

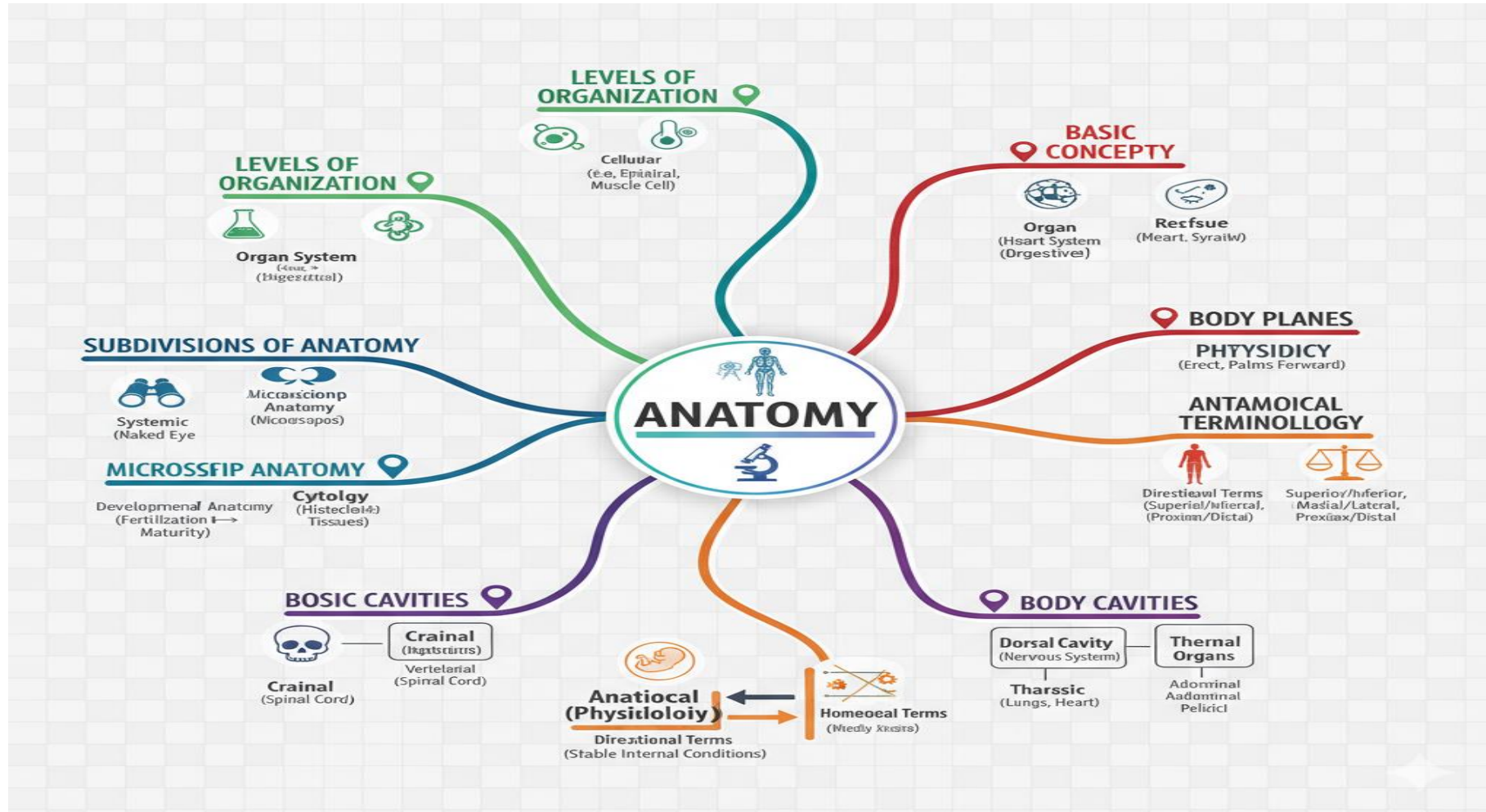
- Spaces within the body that contain, protect, and separate organs.
- **Dorsal Cavity:** Protects the nervous system.
 - Cranial Cavity (Brain)
 - Vertebral/Spinal Cavity (Spinal Cord)



- **Ventral Cavity:** Houses internal organs (viscera).
 - Thoracic Cavity (Lungs, Heart)
 - Abdominopelvic Cavity
 - ❑ Abdominal Cavity (Stomach, Liver, Intestines, etc.)
 - ❑ Pelvic Cavity (Bladder, Reproductive organs, Rectum)



SUMMARY



References

- Manipal Manual of Anatomy
- <https://www.kenhub.com/en/library/education/the-human-anatomy>
- <https://www.medicalnewstoday.com/articles/248743>
- <https://teachmeanatomy.info/the-basics/>