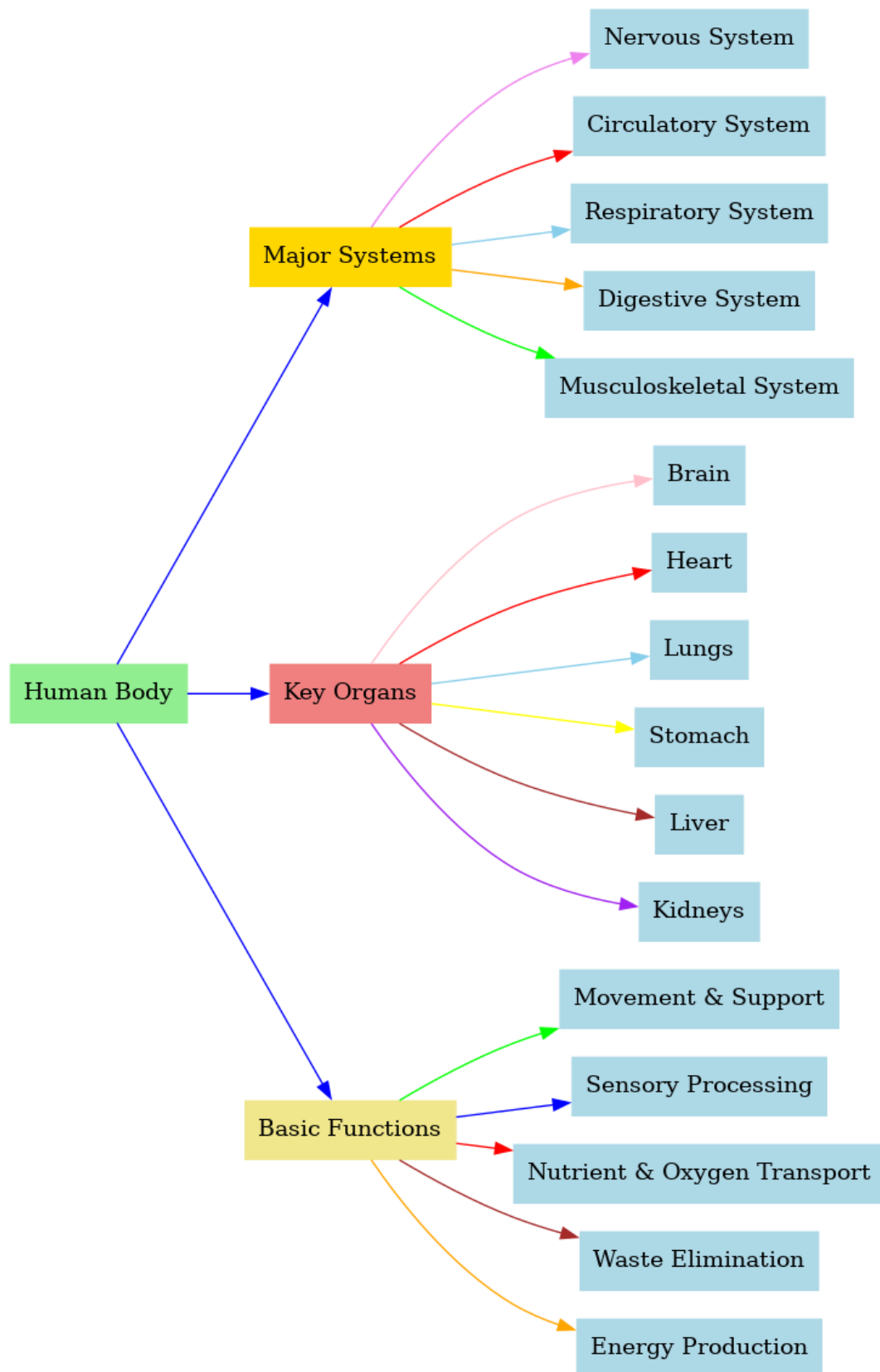


FirstHope Notes | Pharm D Year - 1

Introduction to Human Body



Definition & Scope of Anatomy and Physiology

Anatomy: Definition and Scope

- Anatomy is the study of the structure and organization of living organisms, particularly focusing on the physical makeup of the human body.
- It involves examining the body's various parts, including bones, muscles, organs, blood vessels, nerves, and tissues.

Anatomy is further divided into several branches:

1. Gross anatomy (macroscopic anatomy):

- Studies the structures visible to the naked eye, such as organs and organ systems.

2. Microscopic anatomy:

- Examines structures that can only be observed under a microscope, including cells and tissues.
- Histology and cytology are sub-disciplines within microscopic anatomy.

3. Developmental anatomy:

- Investigates the changes in an organism's structure from conception to adulthood, including embryology, which focuses on the development of an organism from fertilization to birth.

4. Comparative anatomy:

- Analyses and compares the anatomical structures of different species, providing insight into evolutionary relationships and adaptations.

Physiology: Definition and Scope

- Physiology is the study of the functions and processes of living organisms, with a particular focus on how the human body's various systems work together to maintain homeostasis.
- Physiology examines the mechanisms behind the body's functions at the molecular, cellular, tissue, organ, and system levels.

The field is divided into several branches, including:

1. Cell physiology:

- Investigates the processes and functions of cells and their components.

2. Systems physiology:

- Explores the function and interaction of specific organ systems, such as the cardiovascular, respiratory, and nervous systems.

3. Neurophysiology:

- Examines the functions and mechanisms of the nervous system, including the brain, spinal cord, and peripheral nerves.

4. Endocrinology:

- Studies the production, secretion, and action of hormones and their role in regulating the body's functions.

5. Exercise physiology:

- Focuses on the effects of physical activity on the body and its systems, including adaptations and performance optimization.

Basic Anatomical Terminology

- Basic anatomical terminology is essential for accurate and effective communication in the fields of anatomy, physiology, and medicine.
- These terms provide a **standardized way** to describe the **location, orientation, and relationships** of body structures.

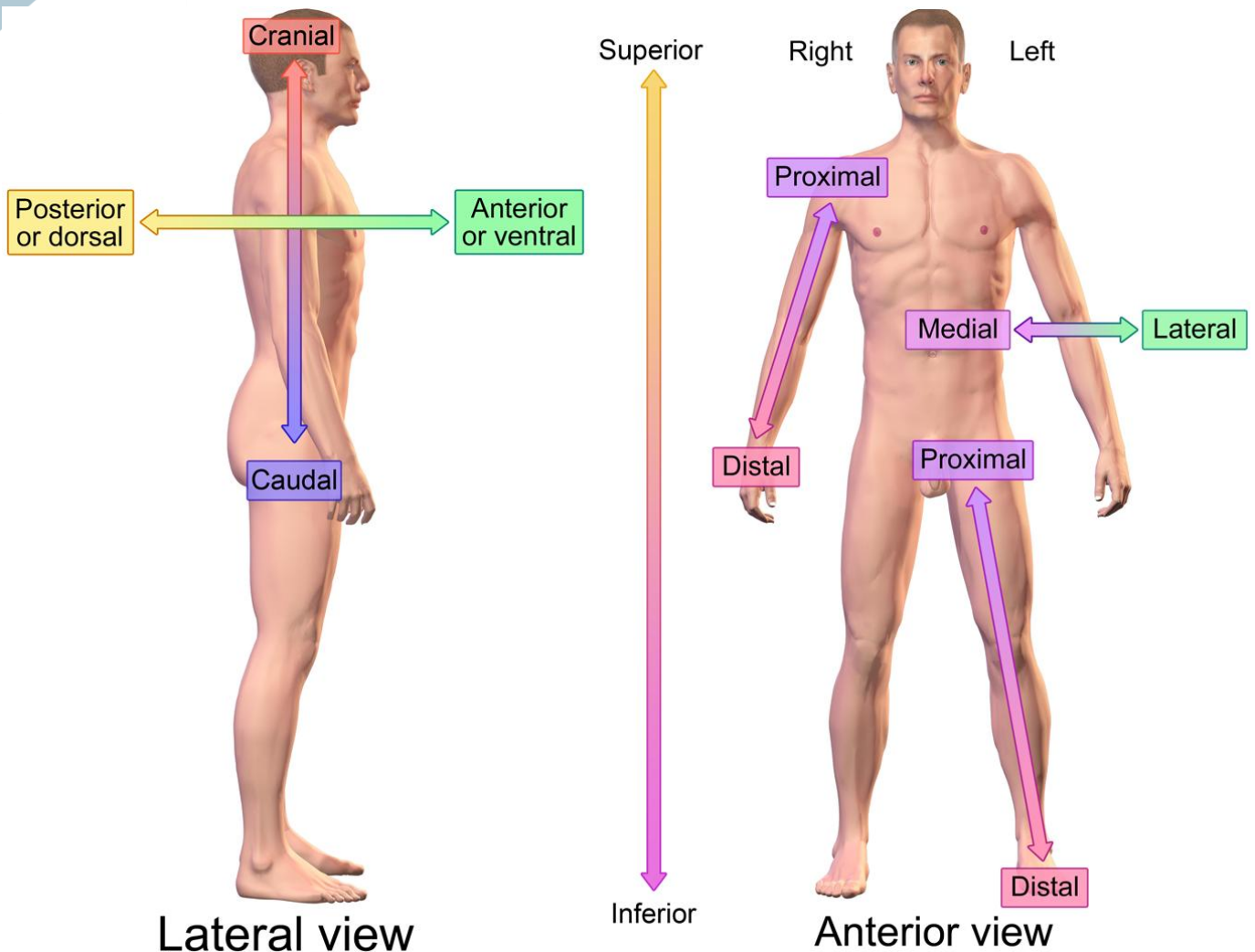
Some fundamental anatomical terms include:

1. Anatomical Position:

- A reference point for describing the location and orientation of body structures.
- The anatomical position involves the individual standing upright, facing forward, with arms at the sides, palms facing forward, and feet parallel.

2. Directional Terms:

- These terms describe the relative position of body structures in relation to each other:

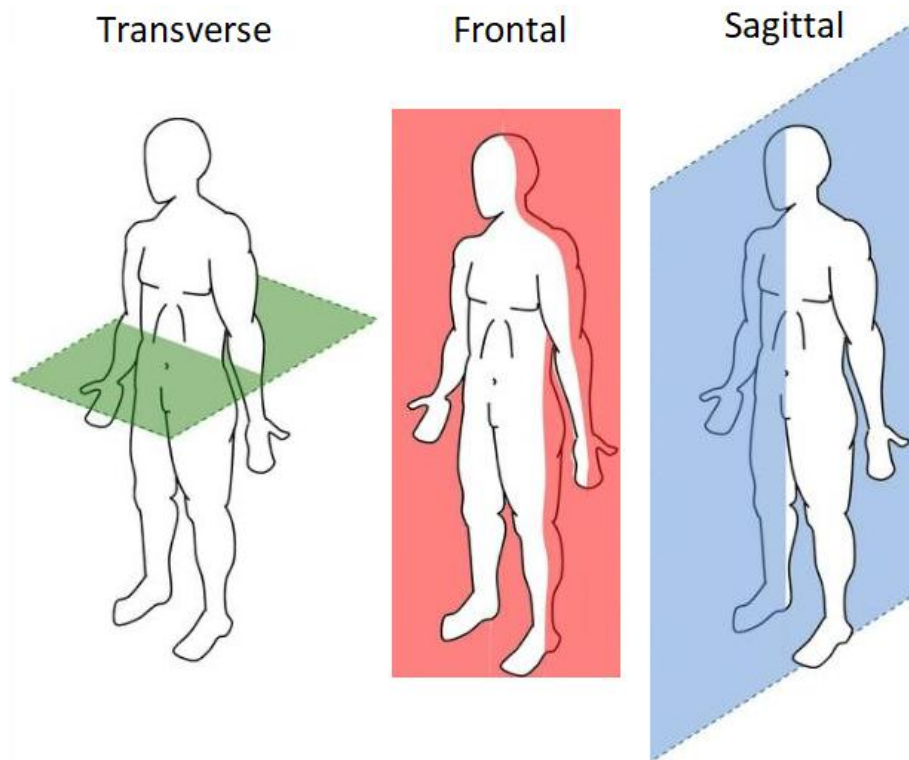


- **Anterior (Ventral):** Toward the front of the body.
- **Posterior (Dorsal):** Toward the back of the body.
- **Superior (Cranial):** Closer to the head or higher than another structure.
- **Inferior (Caudal):** Closer to the feet or lower than another structure.
- **Medial:** Nearer to the midline of the body.
- **Lateral:** Farther from the midline of the body.
- **Proximal:** Closer to the point of attachment or origin, typically used for limbs.
- **Distal:** Farther from the point of attachment or origin, typically used for limbs.
- **Superficial:** Closer to the surface of the body.
- **Deep:** Farther from the surface of the body.

3. Body Planes:

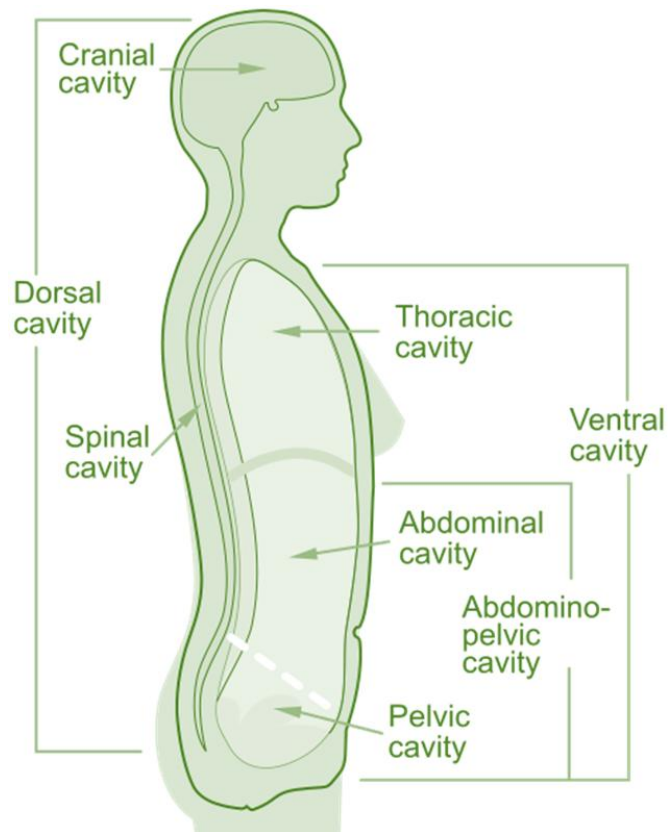
- Imaginary flat surfaces that divide the body or organs into sections:
 - **Sagittal Plane:** A vertical plane that divides the body into left and right sections.
 - **Midsagittal (Median) Plane:** Specifically divides the body into equal left and right halves.

- **Coronal (Frontal) Plane:** A vertical plane that divides the body into anterior and posterior (front and back) sections.
- **Transverse (Horizontal) Plane:** A horizontal plane that divides the body into superior and inferior (top and bottom) sections.



4. Body Cavities:

- Spaces within the body that house and protect internal organs:
 - **Dorsal Cavity:** Contains the cranial cavity (housing the brain) and the spinal cavity (housing the spinal cord).
 - **Ventral Cavity:** Divided into the thoracic cavity (containing the heart and lungs) and the abdominopelvic cavity (containing the digestive, urinary, and reproductive organs). The thoracic and abdominopelvic cavities are separated by the diaphragm.



5. Body Regions:

- Specific areas of the body used for descriptive purposes:
 - **Axial Region:** Includes the head, neck, and trunk.
 - **Appendicular Region:** Includes the limbs or extremities (arms and legs).



Easy Short Notes Designed to Help You Score Better

FirstHope

Education Alexis Media

3.7★

94 reviews

50K+

Downloads

3+

Rated for 3+ ⓘ

Install



Share



Add to wishlist



Android Users:



[Download on Google Play](#)

iOS Users (Org Code- **DYFFUX**):



[Download on App Store](#)

Connect With FirstHope

[Visit Our Official Website ↗](#)

[Watch Free Videos on YouTube ↗](#)

[Join Our WhatsApp Community ↗](#)

[Join Our Telegram Channel ↗](#)

[Complete Notes on FirstHope App – Download Now \(Click Here\)](#)