Introduction to

Human Anatomy

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Human Anatomy

Fall Semester

Week 2

Outlines

- Definitions
- Types of anatomy
- History of anatomy
- Benefits of studying human anatomy
- Anatomy VS Physiology
- Human Organ Systems

Anatomy

The word "**anatomy**" comes from the Greek words "**ana**," meaning "**up**," and "**tome**," meaning "a cutting." Traditionally, studies of anatomy have involved cutting up, or dissecting, organisms.

Historically

The first documented scientific dissections on the human body are carried out as early as the third century B.C. in Alexandria.

At that time, anatomists explore anatomy through dissections of animals, primarily pigs and monkeys.

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Benefits of studying Human Anatomy

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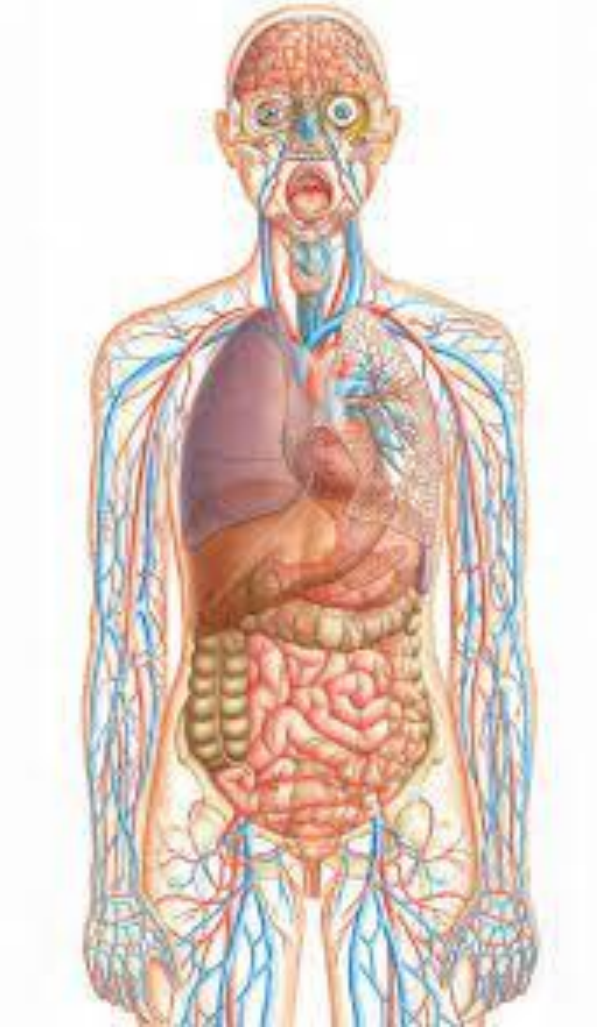
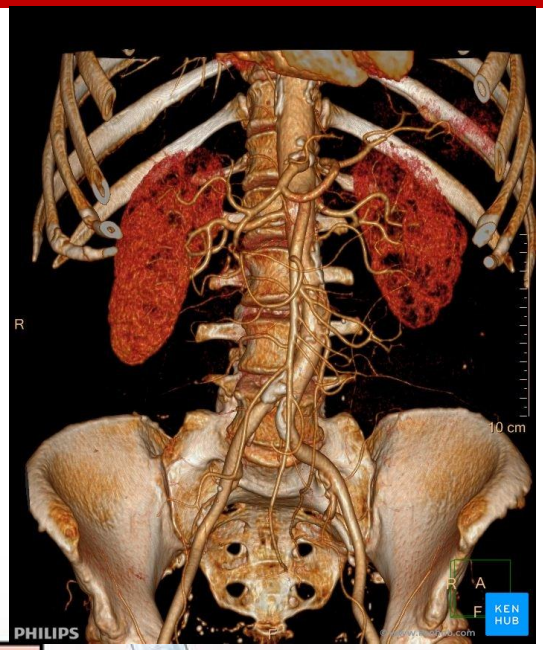
1.Understanding Body Systems:

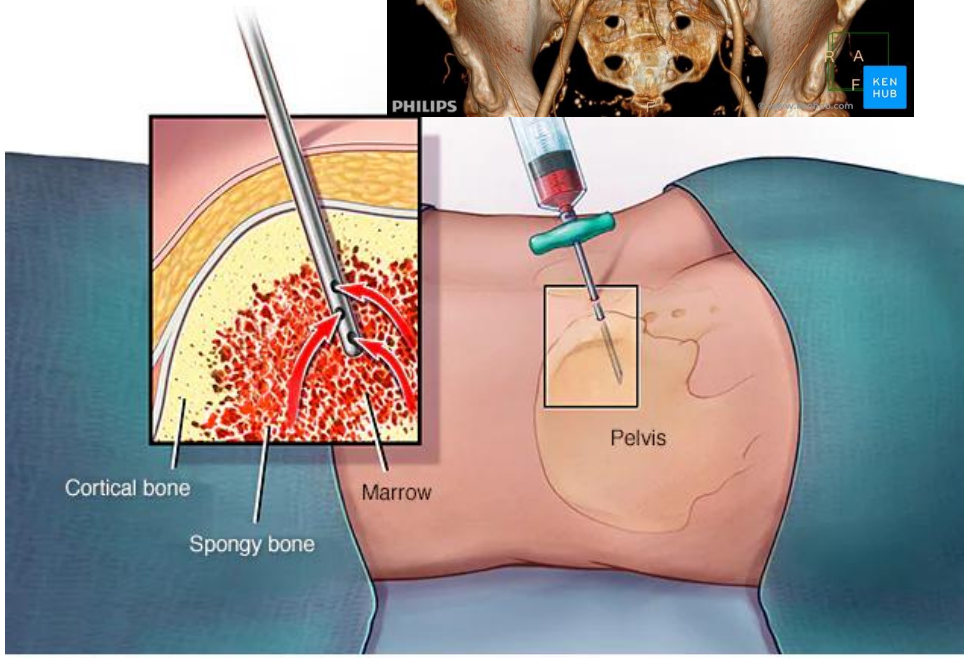
Knowledge of anatomy helps students understand how different systems (e.g., circulatory, respiratory, digestive) function and interact, which is essential for interpreting lab results.



2. Accurate Image Interpretation

Anatomy enables radiology students to identify normal structures on X-rays, CT scans, MRI, and ultrasound, making it easier to detect abnormalities and pathologies.





3.Clinical Relevance:

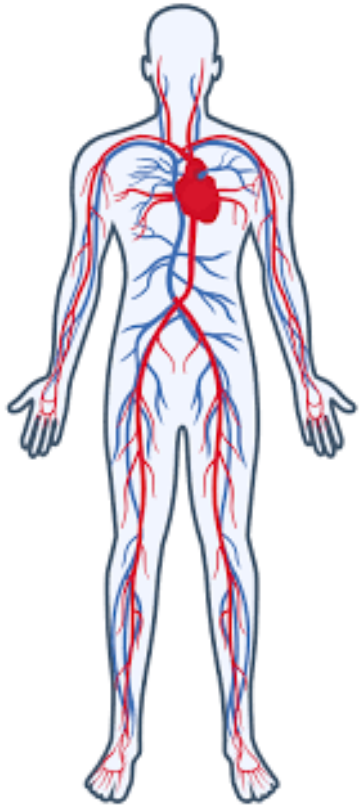
Understanding anatomy helps students grasp the clinical significance of their work, enhancing their ability to support diagnosis and treatment decisions.

4. Safe Administration of Anesthesia

Anatomy is critical for identifying airways, blood vessels, nerves, and muscles, ensuring safe and accurate administration of anesthesia.

5.Collaboration with Healthcare Professionals: A solid foundation in anatomy facilitates effective communication and collaboration with doctors, nurses, and other healthcare providers.

6.Ethical Practice: Understanding human anatomy fosters a respect for the human body, guiding ethical practices in laboratory work and patient interactions.



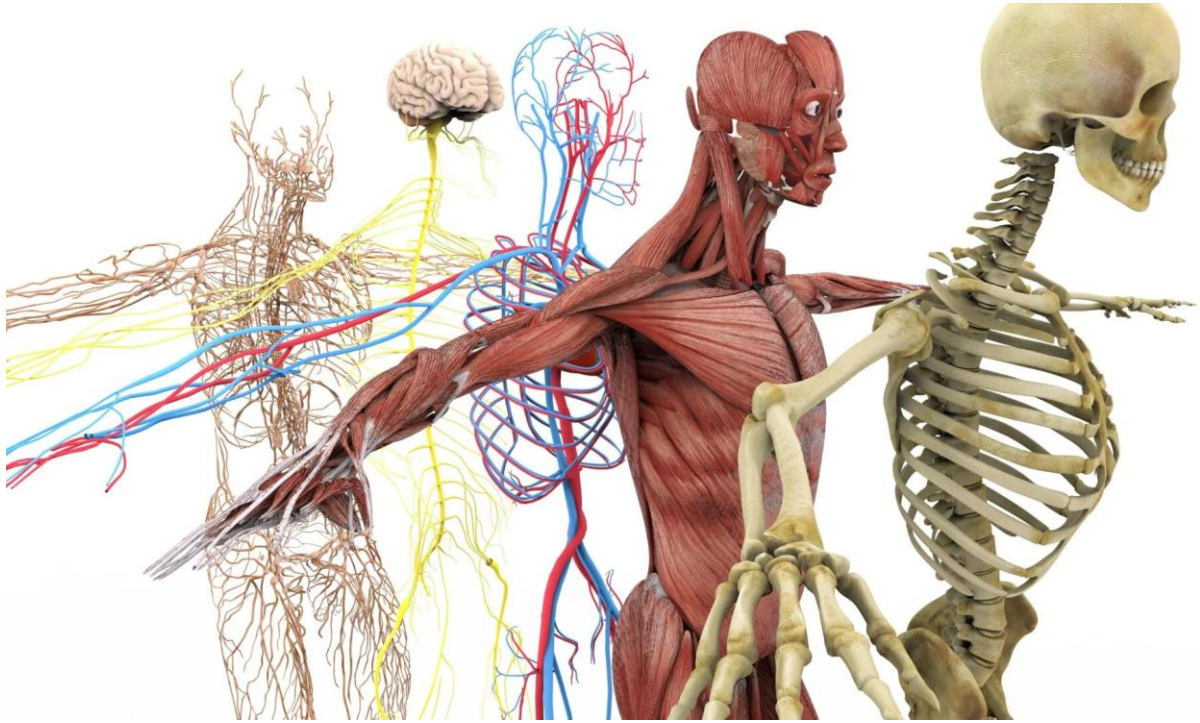
Types of Anatomy

1. Human Anatomy
2. Microscopic Anatomy
3. Gross Anatomy
4. Phytotomy
5. Zootomy
6. Embryology
7. Comparative Anatomy

Types of Anatomy

1. Human Anatomy

Human anatomy is the study of the structures of the human body. An understanding of anatomy is key to the practice of medicine and other areas of health.



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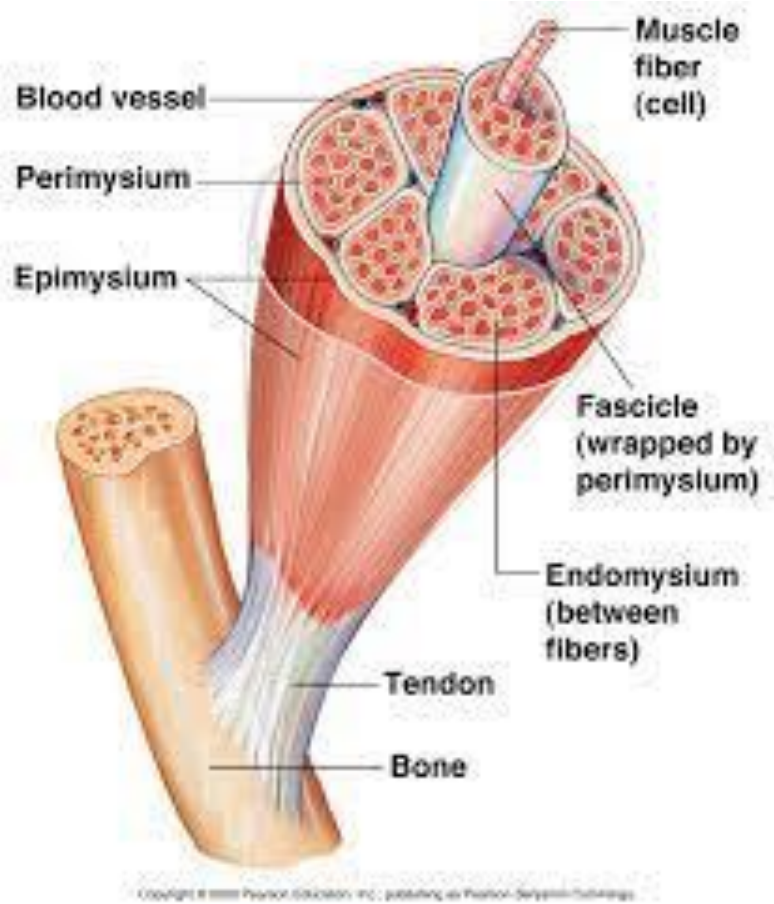
Types of Anatomy

2 Microscopic Anatomy

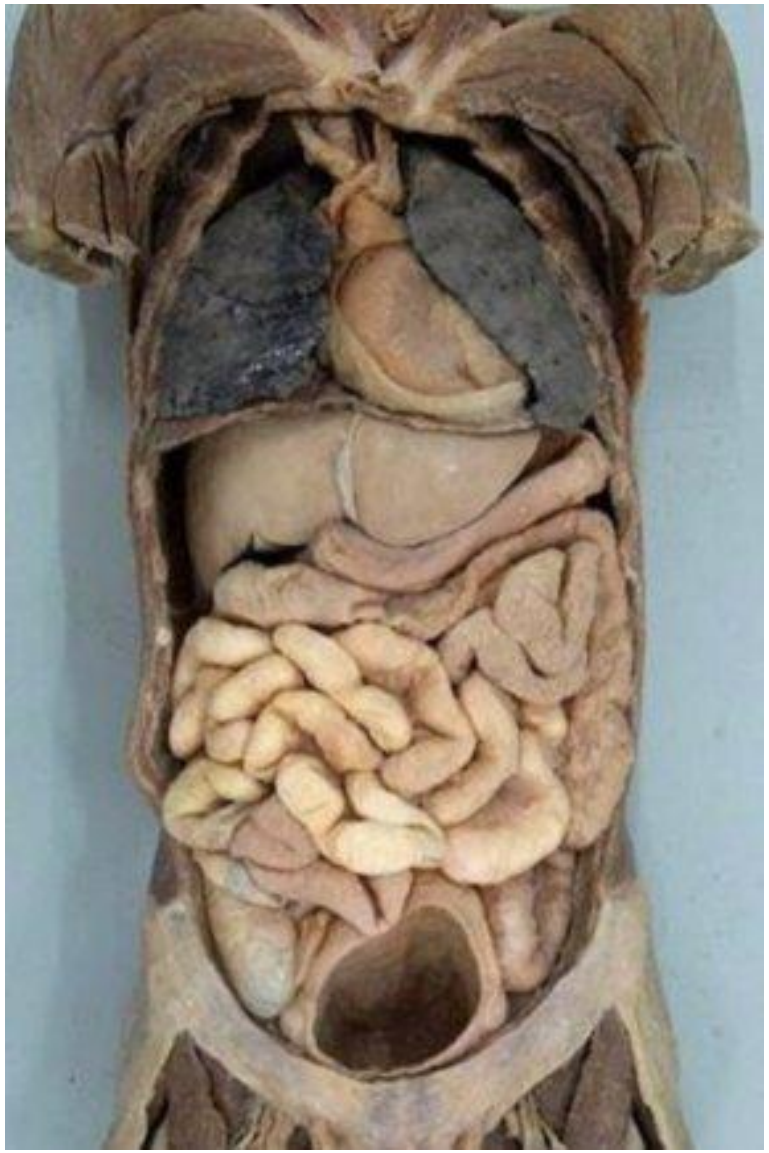
Microscopic anatomy (micro; small) is a branch of anatomy that relies on the use of microscopes to examine the smallest structures of the body; tissues, cells, and molecules



Types of Anatomy

3.Gross Anatomy

The study of the organs, parts, and structures of a body that are visible to the eye.



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Types of Anatomy

3.Gross Anatomy

Gross anatomy is the study of the structures of the body that can be seen with the naked eye. It encompasses the examination of organs, tissues, and systems, typically through dissection and observation.

Types of Anatomy

3.Gross Anatomy

Major Divisions

1.Systemic Anatomy: Focuses on specific organ systems (e.g., muscular, nervous, cardiovascular).

2.Regional Anatomy: Examines specific regions of the body (e.g., head and neck, thorax).

3.Surface Anatomy: Involves the study of external features to understand internal structures.

Types of Anatomy

3.Gross Anatomy

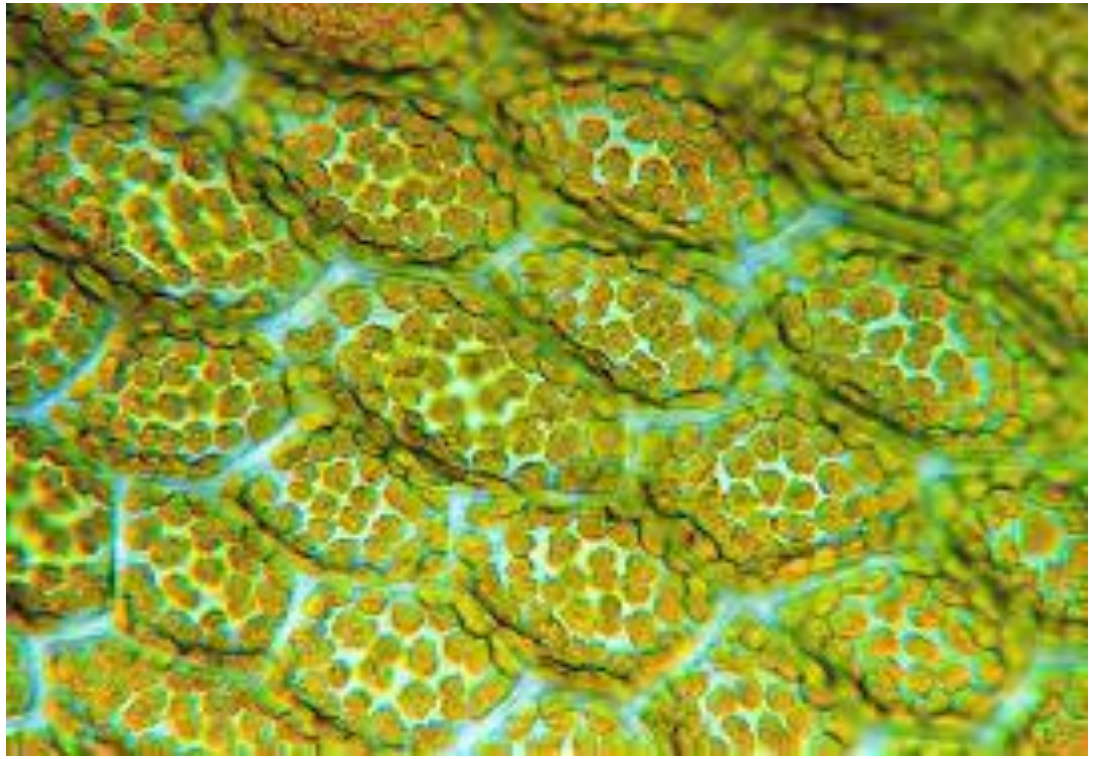
Techniques

1. **Dissection**: A hands-on method for studying anatomy by cutting and examining organs and tissues.
2. **Imaging**: Techniques like X-rays, MRI, and CT scans help visualize internal structures non-invasively.

Types of Anatomy

4.Phytotomy

Plant anatomy or phytotomy is the general term for the study of the internal structure of plants.



Types of Anatomy

5. Zootomy

the branch of zoology concerned with the dissection and anatomy of animals.

Types of Anatomy

6.Embryology

the branch of biology and medicine concerned with the study of embryos and their development.

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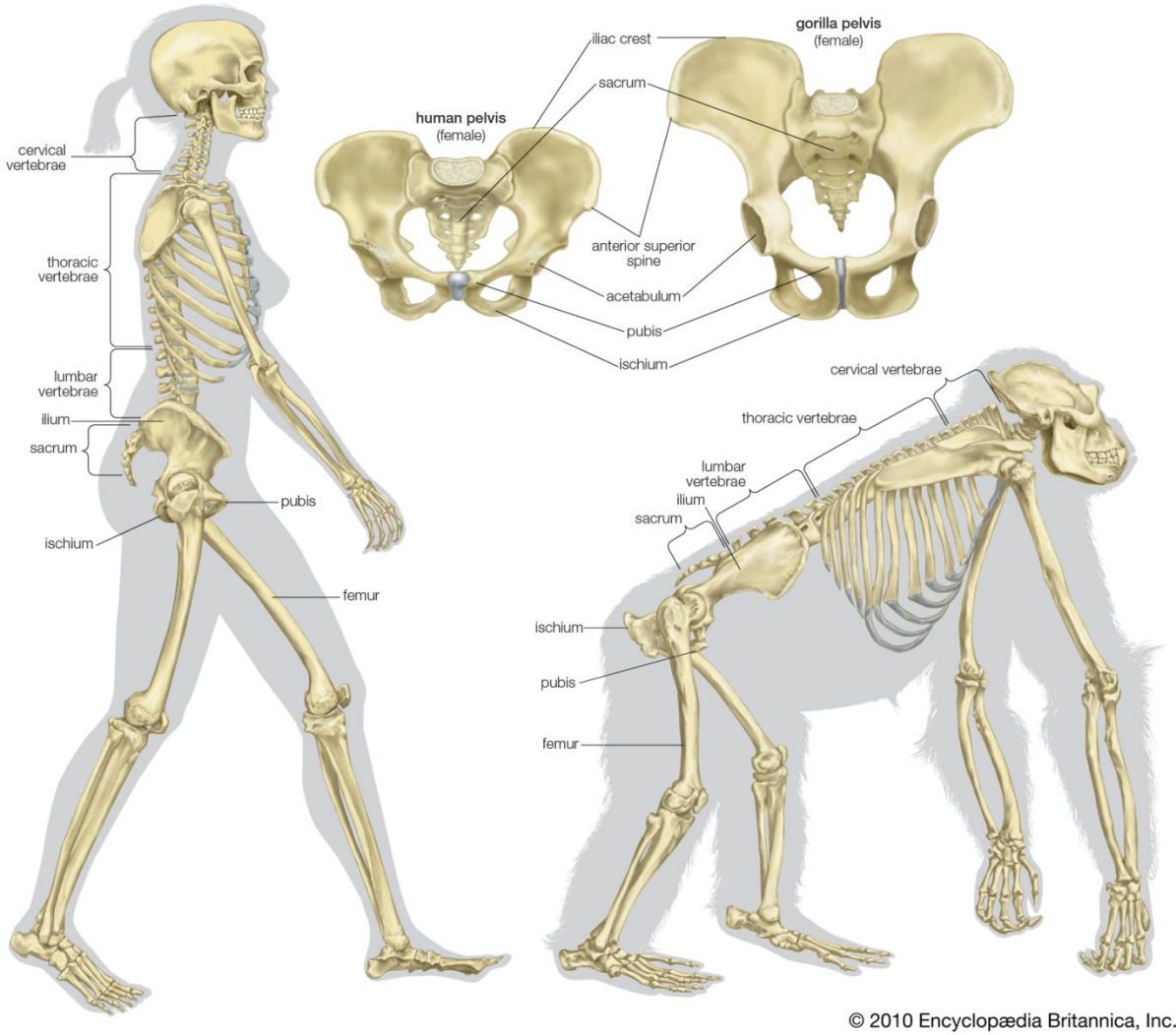
Types of Anatomy

7.Comparative anatomy

Comparative anatomy allows to compare the anatomical characters of series of species, and thus to compare their shapes and structures.



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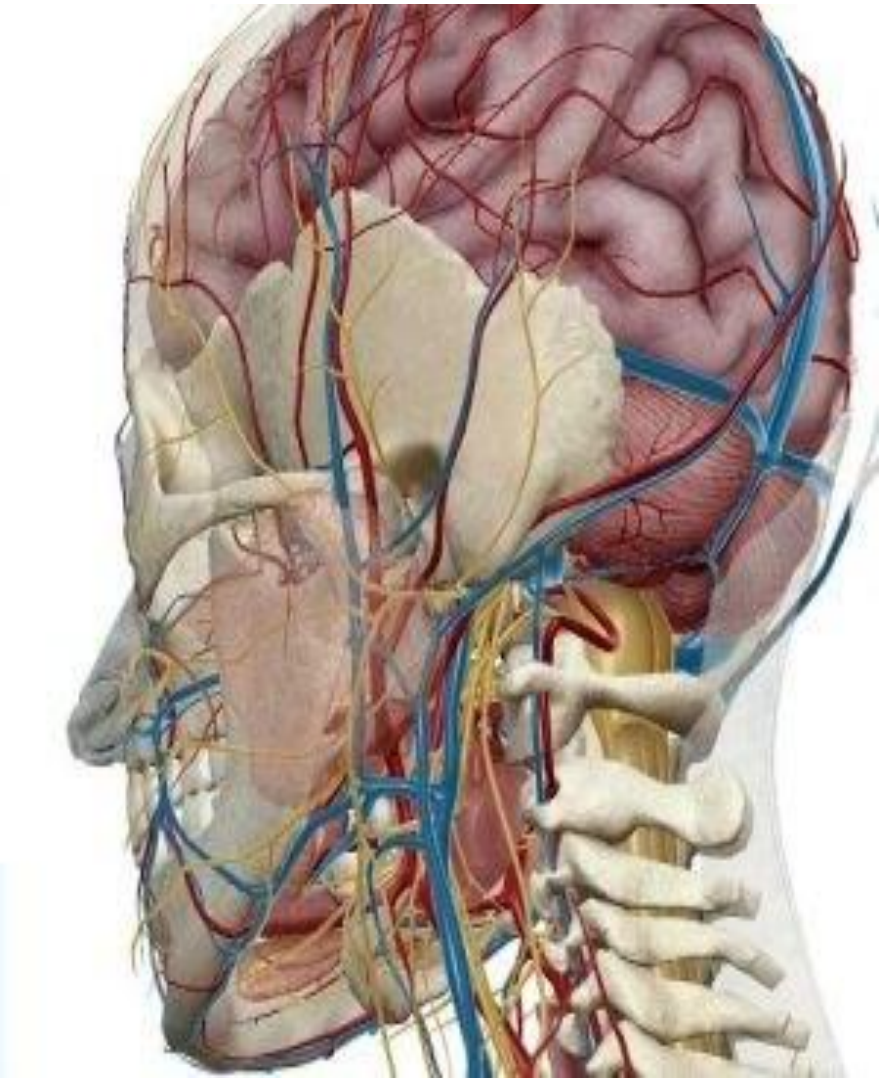
Physiology

Physiology is the study of how the human body works. It describes the chemistry and physics behind basic body functions, from how molecules behave in cells to how systems of organs work together. It helps us understand what happens in a healthy body in everyday life and what goes wrong when someone gets sick.

Physiology vs. Anatomy

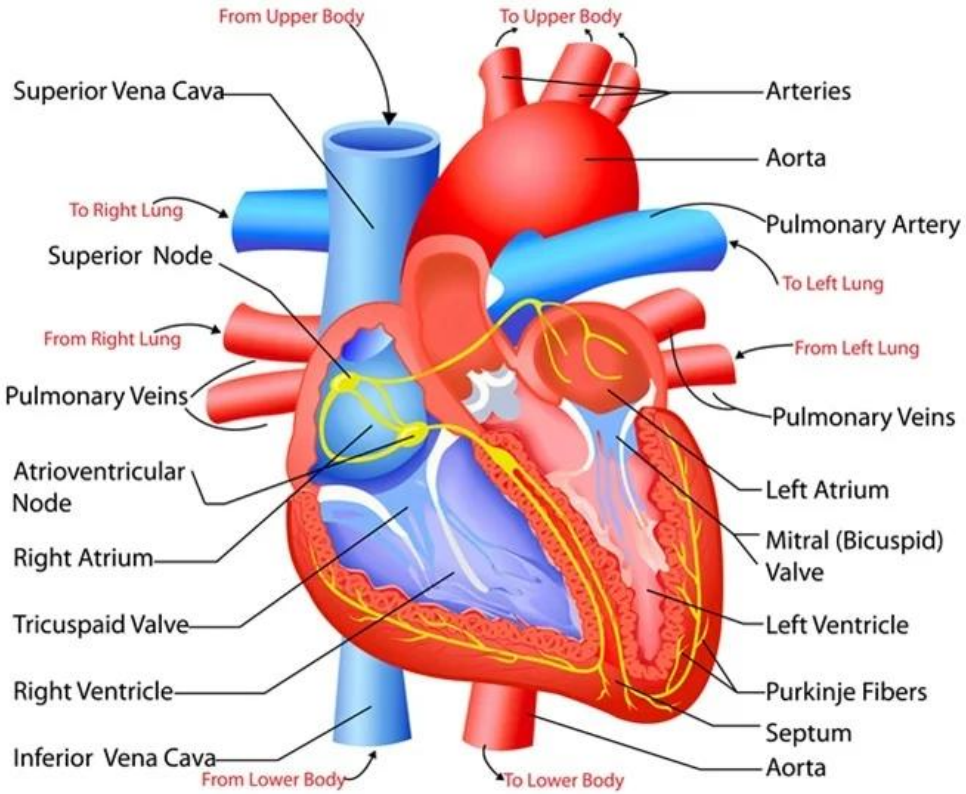
Anatomy refers to the internal and external structures of the body and their physical relationships, whereas physiology refers to the study of the functions of those structures.



Physiology vs. Anatomy

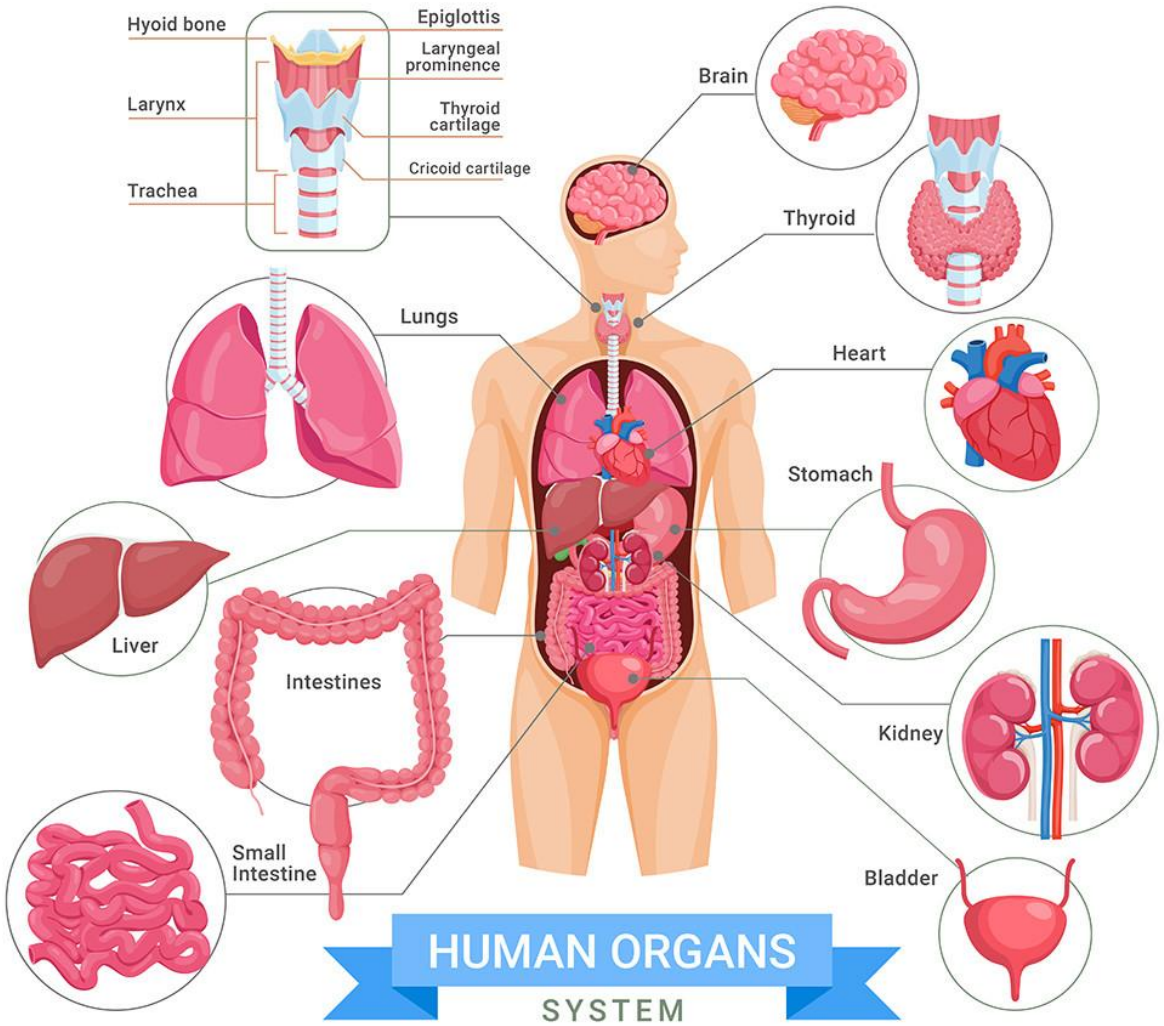
Anatomy and physiology are interconnected; understanding the structure of an organ helps explain how it functions, and knowing how an organ functions can give insights into its structure.

For example, the anatomy of the heart (four chambers, valves) directly relates to its physiological role in pumping blood.



Human Organ Systems

1. Integumentary System
2. Skeletal System
3. Muscular System
4. Nervous System
5. Endocrine System
6. Cardiovascular (Circulatory) System
7. Lymphatic (Immune) System
8. Respiratory System
9. Digestive System
10. Urinary (Excretory) System
11. Reproductive System




QUESTIONS?
COMMENTS?
CONCERNS?