SNS COLLEGE OF ALLIED HEALTH SCIENCE

Affiliated to The Tamil Nadu Dr MGR Medical University, Chennai

DEPARTMENT OF CARDIOPULMONARY PERFUSION CARE TECHNOLOGY

COURSE NAME: Anatomy

UNIT I

TOPIC: Introduction to Anatomy

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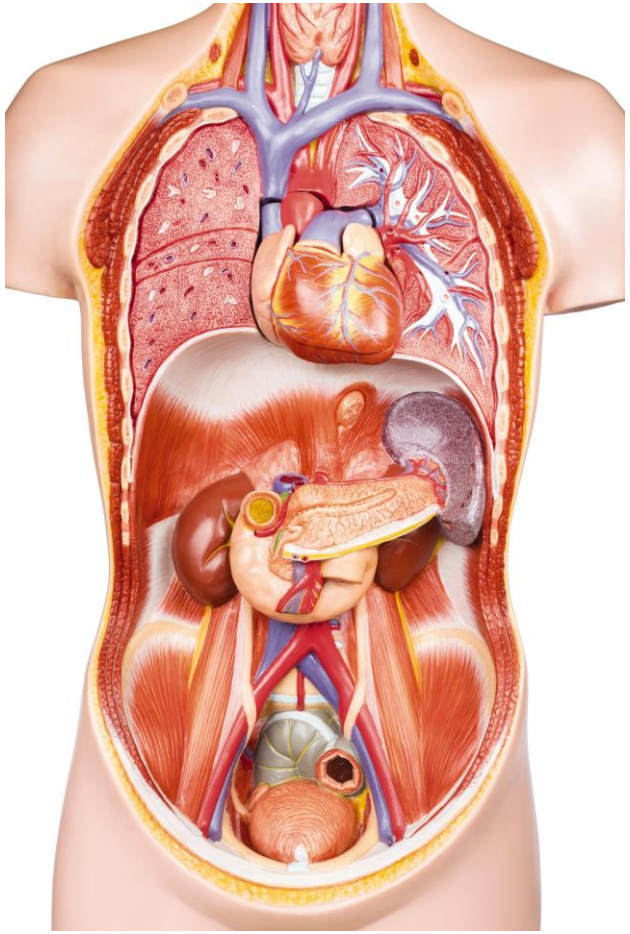
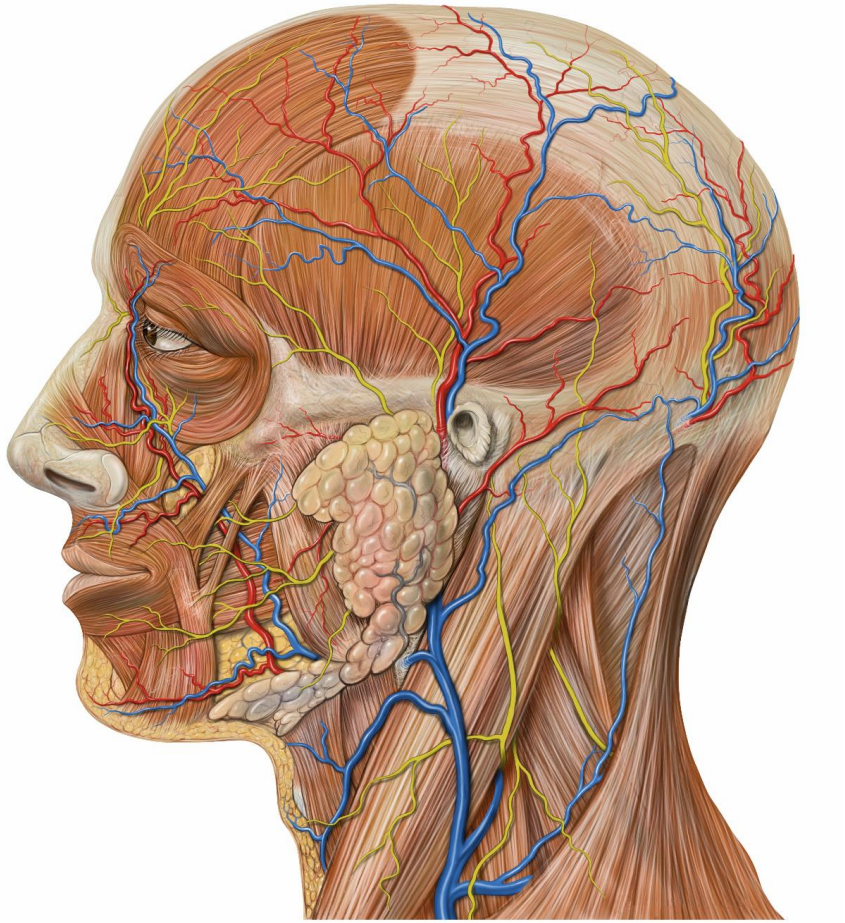
What is Anatomy?

- Scientific study of the structure of the human body
- Includes identification and description of body parts
- Foundation for all medical and health sciences
- Derived from Greek **"ana"** (up/apart) and **"tome"** (cutting)



Importance of Anatomy - Empathize Stage

- Essential to understand formation and function correlation (functional anatomy)
- **Guides healthcare:** diagnosis, surgery, treatments
- Learning anatomical terminology helps precise communication



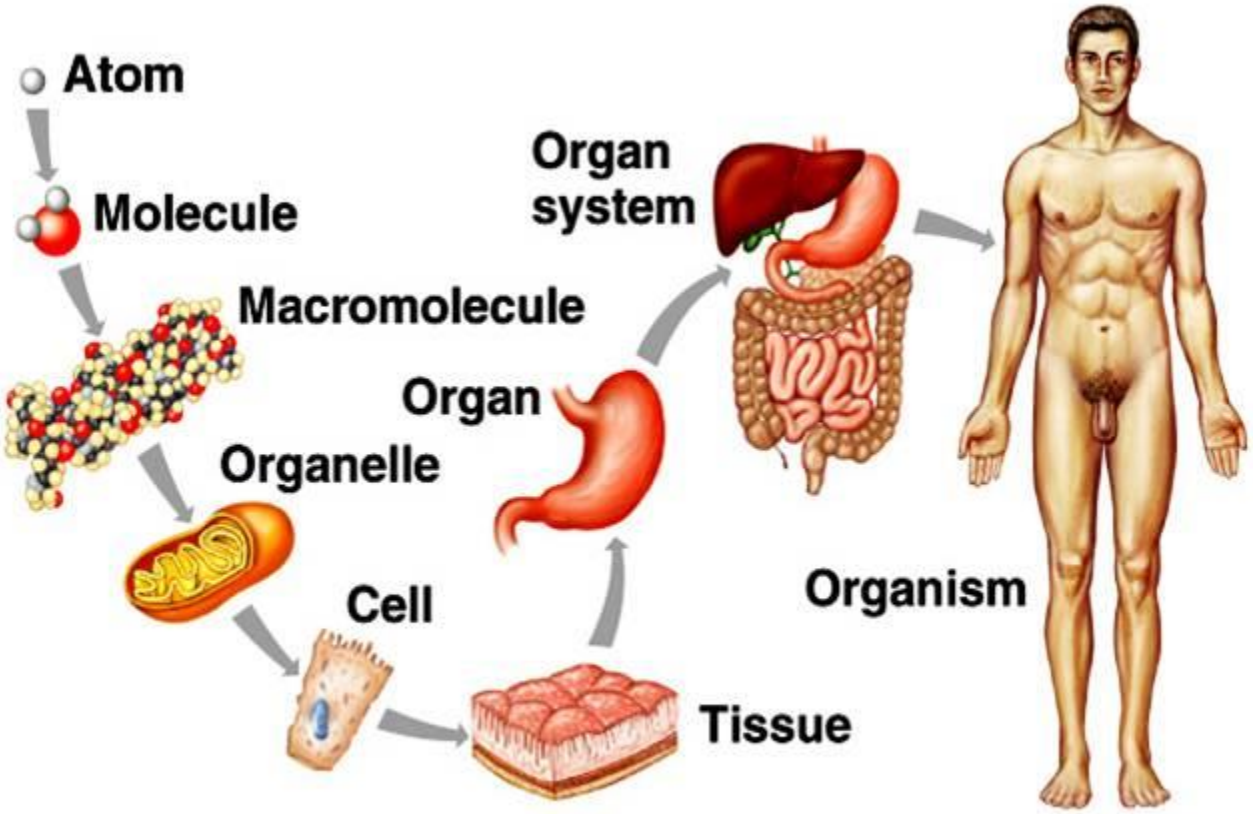
Levels of Organization in the Body

Hierarchy from simplest to complex:

Atoms → Molecules → Organelles →

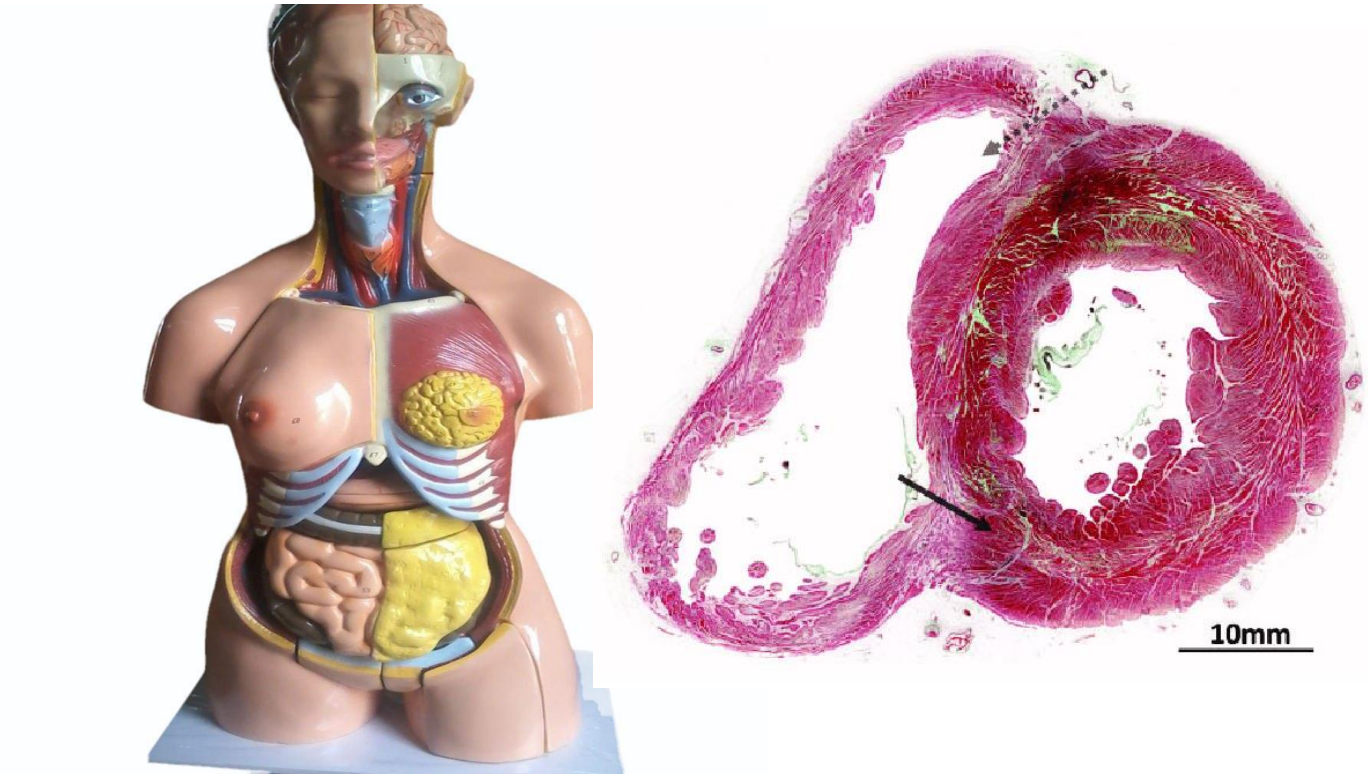
Cells → Tissues → Organs → Organ

Systems → Organism



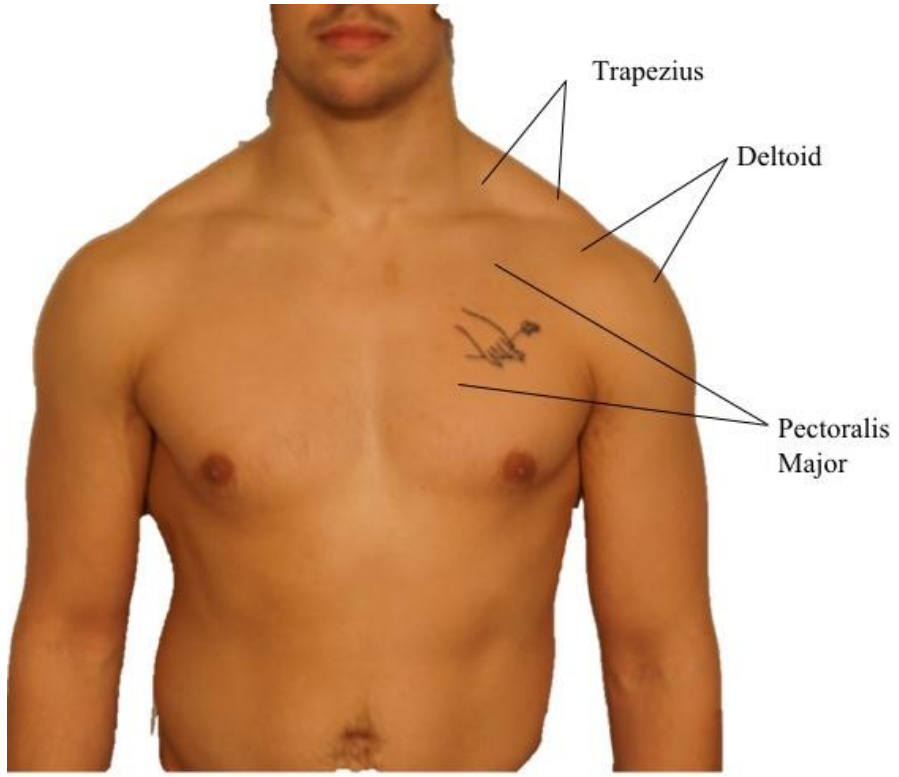
Main Classifications of Anatomy

- **Gross (Macroscopic) Anatomy:** Visible with naked eye
- **Microscopic Anatomy:** Requires microscope (Histology – study of tissues; Cytology – study of cells)
- **Other branches:** Developmental and Comparative anatomy



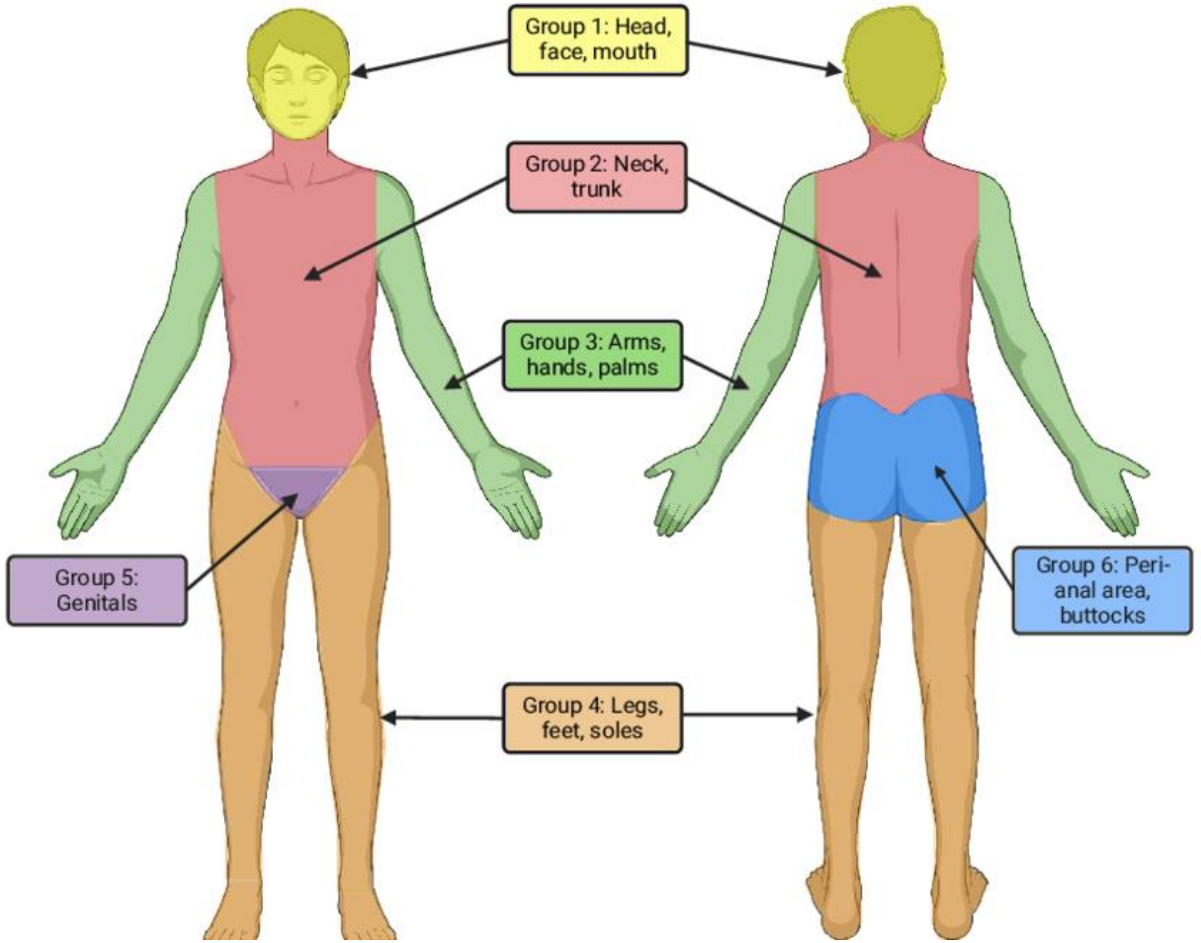
Cadaveric Anatomy (Gross Anatomy) – Define Stage

- Studied on dead embalmed (preserved) bodies, usually naked eye
- **Two main approaches:**
  - **Regional Anatomy:** Focus on body parts (e.g., upper limb, thorax, head and neck)
  - **Systemic Anatomy:** Focus on functional body systems (e.g., skeletal, muscular, nervous systems)
  - **Surface Anatomy:** External landmarks linked to internal structures



Regional Anatomy – Define Stage

- **Define:** Divides body into anatomical areas
- **Examples:** Upper limb, thorax, abdomen, head and neck, brain
- Useful for localized study and clinical application



Microscopic Anatomy Techniques - Define Stage

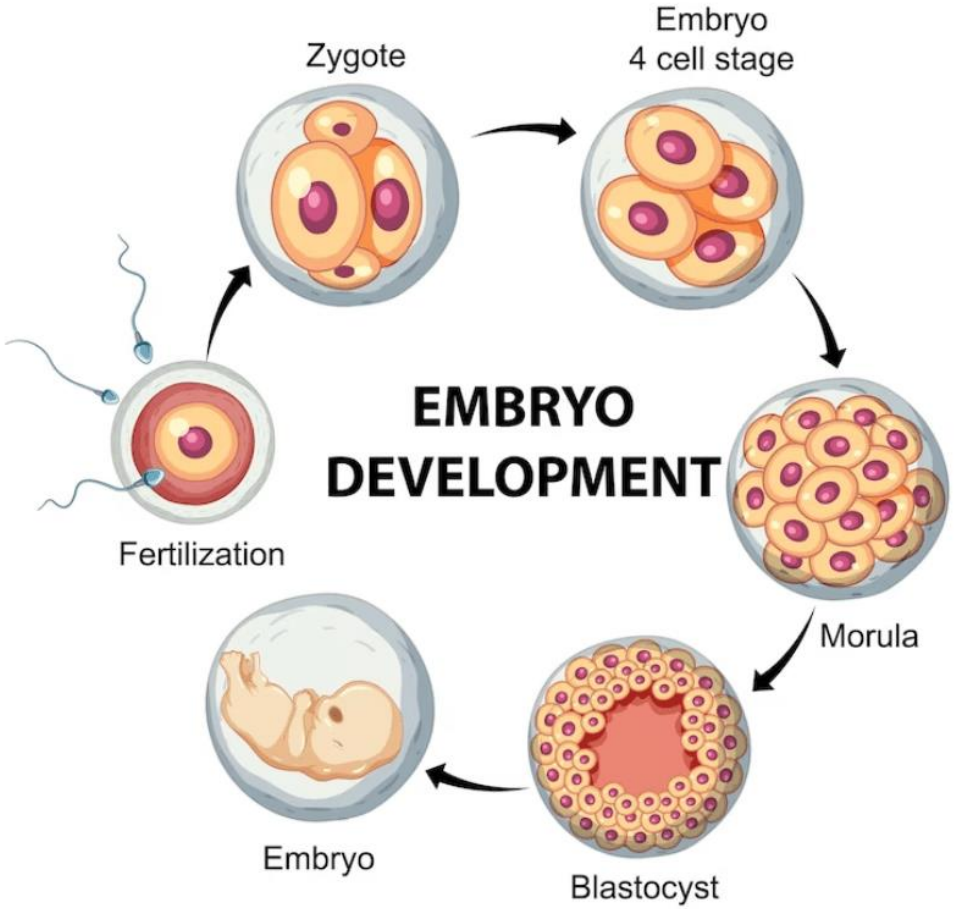
- **Define: Focuses on cellular and tissue levels beyond naked eye visibility**
- Histological preparation:
  - –Tissue sectioning into thin slices
  - –Staining techniques (e.g., hematoxylin and eosin) for contrast
- Use of light and electron microscopes for studying cellular detail

Living Anatomy – Prototype Stage

- **Prototype: Use practical examination techniques (palpation, auscultation)**
- Study of living body using various examination techniques: Inspection, palpation, percussion, auscultation
- Endoscopy (bronchoscopy, gastroscopy), radiography, electromyography
- Develop hands-on models for real-time body assessment
- Test design ideas through clinical palpation and functional observation

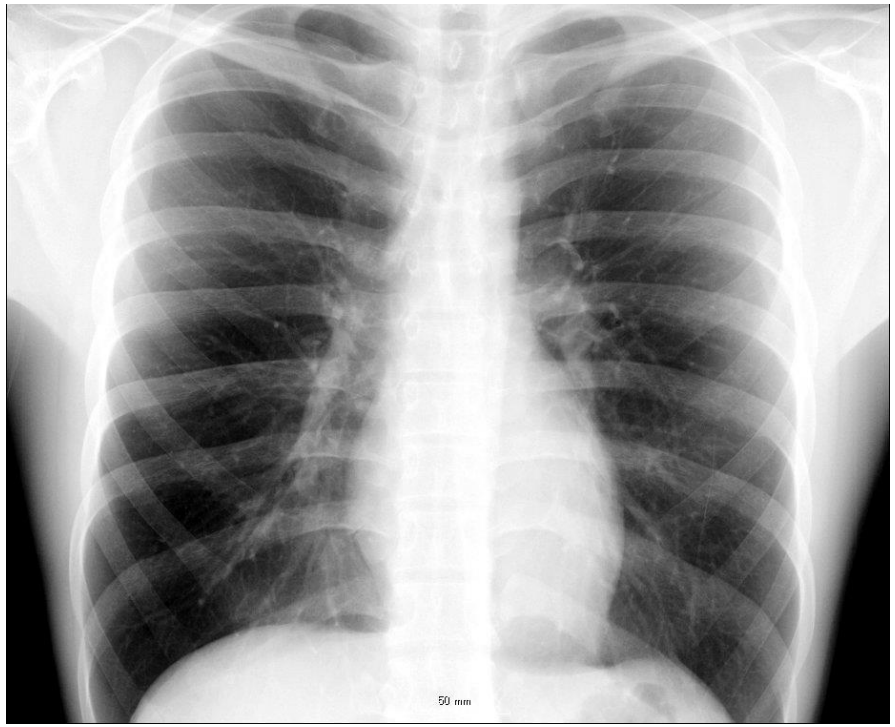
Embryology (Developmental Anatomy)

- **Developmental Anatomy:** Study of structural changes from conception to adulthood
- Evolutionary developmental history termed phylogeny
- Importance in understanding congenital anomalies



Radiographic and Imaging Anatomy - Prototype & Test

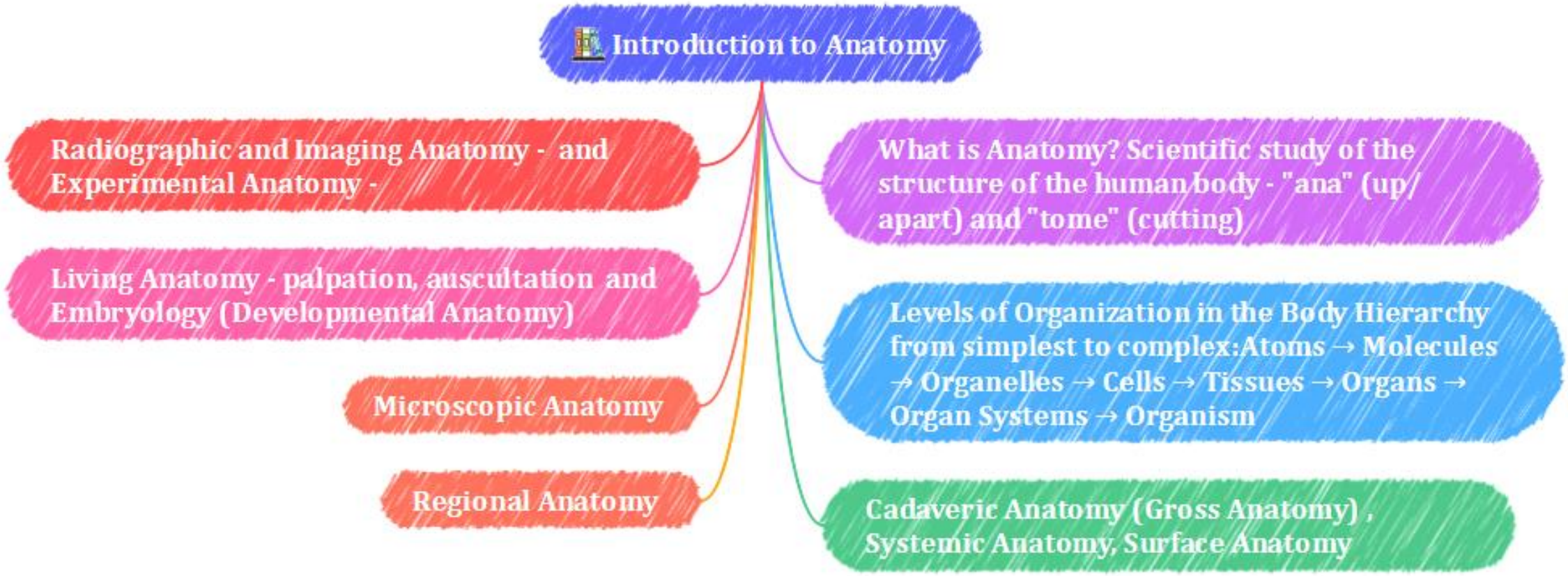
- Use of plain and contrast radiography, ultrasound, CT scans
- Helps visualize bones and deeper organs non-invasively
- Example: Chest X-ray showing clavicle, lung, heart
- Test: Compare images with physical anatomy knowledge



Applied (Clinical) and Experimental Anatomy - Test & Redefine

- **Applied anatomy** (Test): Use of anatomical knowledge in medical and surgical practice
- **Experimental anatomy**: Study of factors influencing structure and function
- Anatomy learning is a continuous, iterative design process

Summary


Introduction to Anatomy
Radiographic and Imaging Anatomy - and Experimental Anatomy -
Living Anatomy - palpation, auscultation and Embryology (Developmental Anatomy)
Microscopic Anatomy
Regional Anatomy
What is Anatomy? Scientific study of the structure of the human body - "ana" (up/ apart) and "tome" (cutting)
Levels of Organization in the Body Hierarchy from simplest to complex:Atoms → Molecules → Organelles → Cells → Tissues → Organs → Organ Systems → Organism
Cadaveric Anatomy (Gross Anatomy) , Systemic Anatomy, Surface Anatomy

References

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THANK YOU