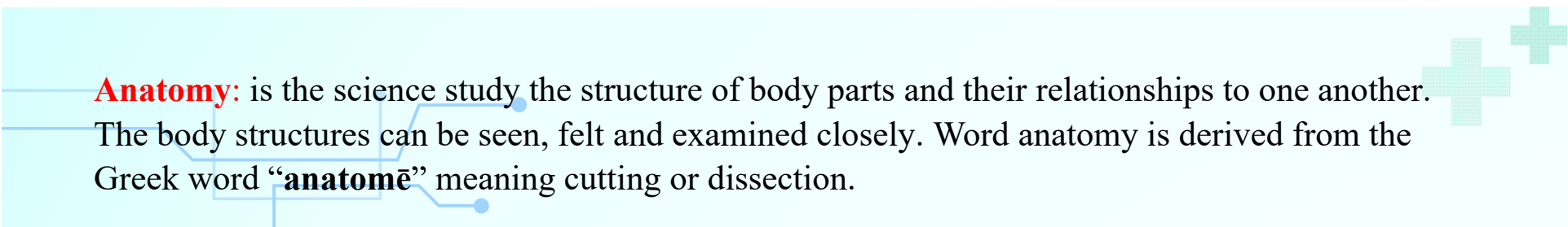


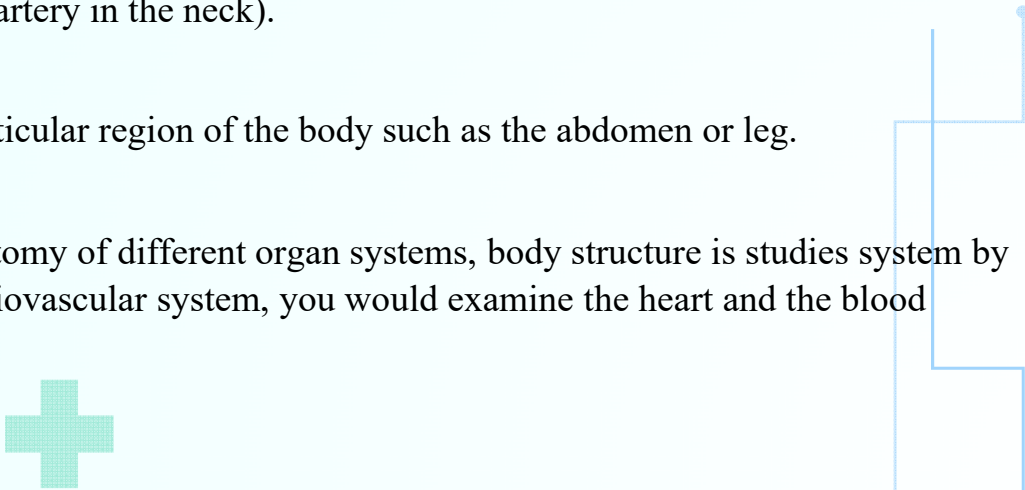
Assist. Lec.: Safa Jalil Al-Yassiri
Introduction of anatomy
Department of occupational Therapy
Techniques



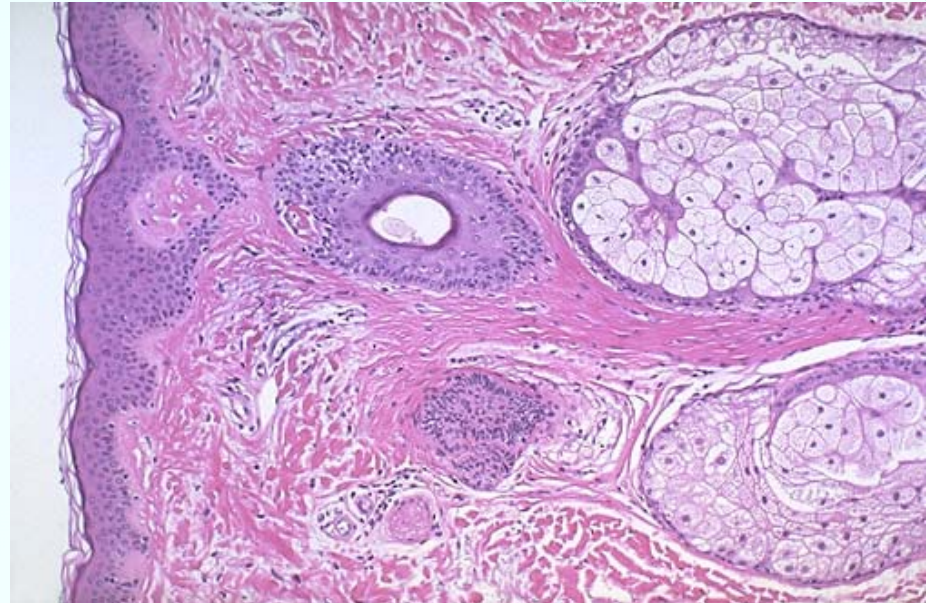


Anatomy: is the science study the structure of body parts and their relationships to one another. The body structures can be seen, felt and examined closely. Word anatomy is derived from the Greek word “**anatomē**” meaning cutting or dissection.

Types of Anatomy:

1. **Macroscopic anatomy (Gross Anatomy):** is the study of large body structures visible to the naked eye such as heart, lung and kidney, and can be further broken down into :
 - **Surface anatomy (superficial anatomy):** provides surface landmarks of important anatomic structures, many of which are located some distance beneath the skin without dissection. For example, blood vessels (radial artery in the wrist or the carotid artery in the neck).
 - **Regional anatomy:** focuses on in a particular region of the body such as the abdomen or leg.
 - **Systemic anatomy:** focuses on the anatomy of different organ systems, body structure is studies system by system, such as when studying the cardiovascular system, you would examine the heart and the blood vessels.
- 

2. Microscopic Anatomy: deals with structures too small to be seen with the naked eye, is the study of cells (cytology) and tissues (histology) by a microscope.



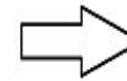
Some specialized branches of anatomy are used primarily for medical diagnosis and scientific researches:

- ☐ **Pathological anatomy:** study the structure changes caused by diseases.
- ☐ **Radiographic anatomy:** studies internal structures as visualized by x-ray images or magnetic resonance imaging (MRI).

Anatomical terms: the anatomical terms describe the body position, plans, direction and regions.

- **Anatomical position:** Description of any region or part of the human body and the relation to another. Assume that it is in a standard position of reference called the anatomical position, which is characterized by:
 - ❑ A person is standing erect and facing forward.
 - ❑ The upper limbs are by the sides, the palms of the hands are directed forward (anterior).
 - ❑ The lower limbs are together.
 - ❑ The soles of the feet are on the ground, and the toes are pointing forward.

The Anatomical Position



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Two terms describe a reclining body. If the body is lying facedown, it is in the prone position. If the body is lying face up, it is in the supine position.

Terms for reclining body

1. **Supine position**-Body

is lying face up

Supine



2. **Prone position**-Body is

lying face down

Prone

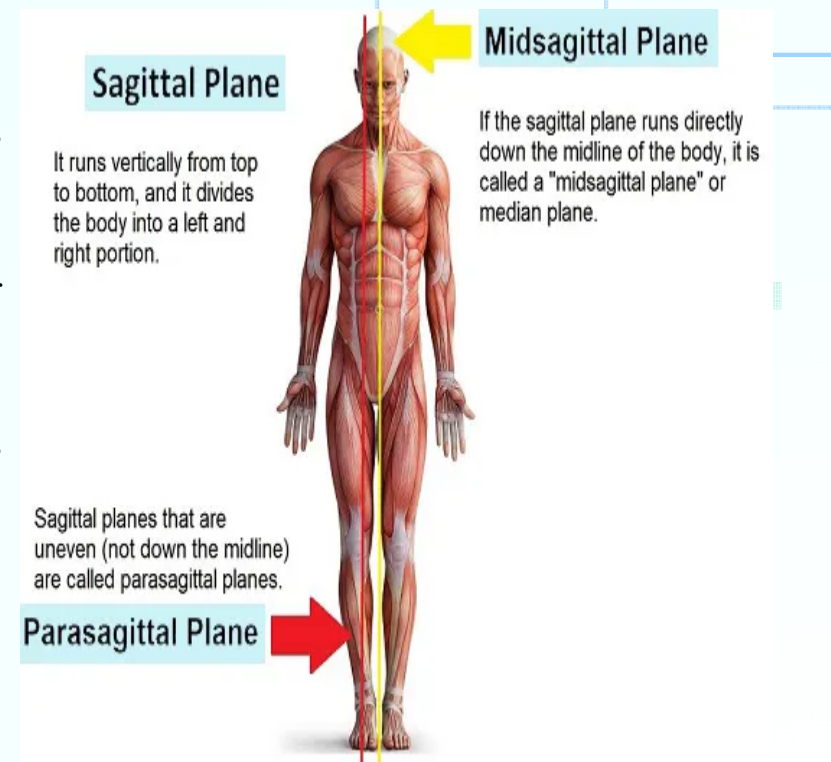


Terms related to anatomical planes :

A plane is an imaginary flat surface that separates two portions of the body or an organ: These planes are:

a. **Sagittal or longitudinal plane:** is a vertical plane that divides the body or an organ into right and left sides.

- **Midsagittal:** plane passes through the midline of the body or an organ and divides it into equal right and left sides.
- **parasagittal plane:** plane pass parallel the midline and divides the body or an organ into unequal right and left sides.

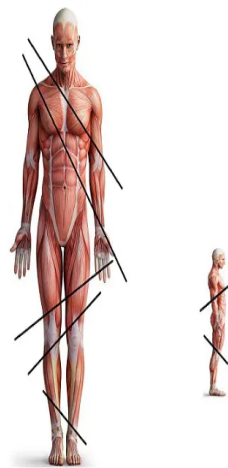


b. Frontal (coronal): divides the body or an organ into anterior (front) and posterior (back) portions.

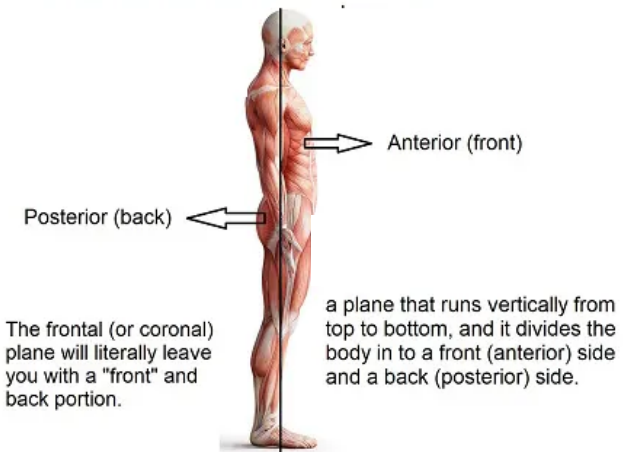
c. Transverse (cross-sectional or horizontal) plane: divides the body or an organ into superior (upper) and inferior (lower) portion

d. oblique plane: contrast to these planes by passes through the body or an organ at an oblique angle.

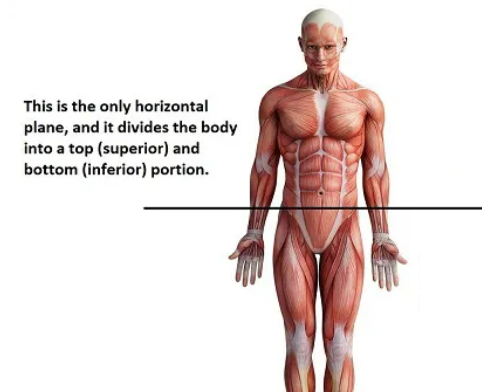
Oblique Planes



Frontal (or Coronal) Plane

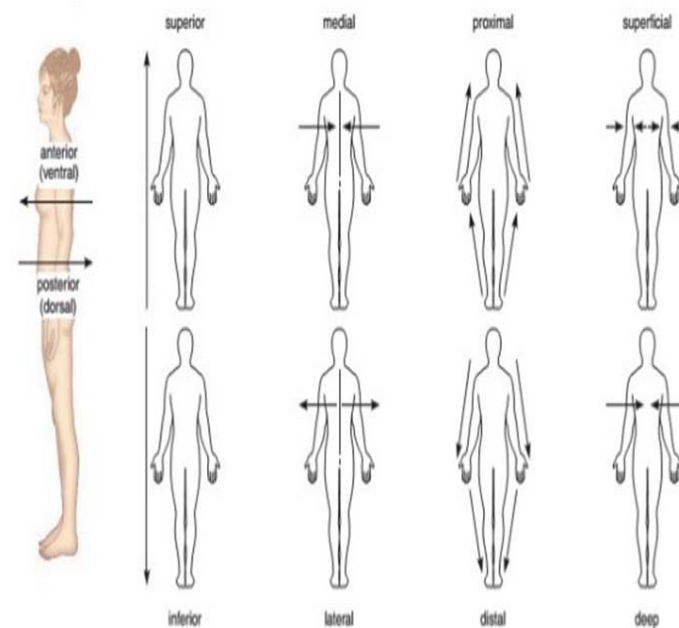


Transverse (or Horizontal) Plane

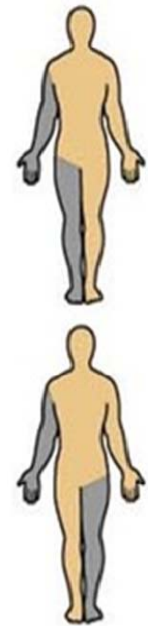
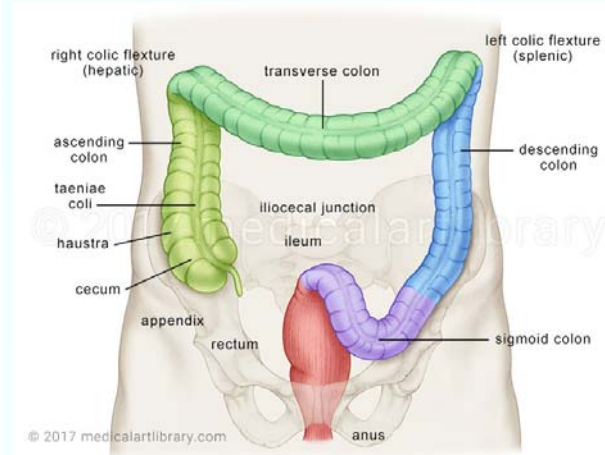


Terms related to anatomical directions: allow us to explain where on body part structure is in relation to another. Several directional terms are grouped in pairs that have opposite meanings, such as anterior (front) and posterior (back).

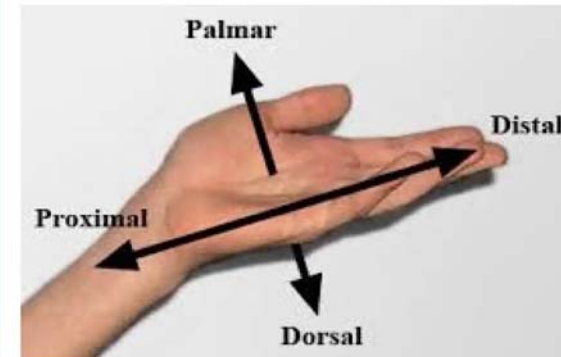
Direction terms	Definition	Example
Superior (cephalic or cranial))	Structure nearer the head, or above .	the skull is superior to the scapulae
Inferior (caudal)	Structure further from the head, or lower	The stomach is inferior to the lungs.
Anterior (ventral)	Toward the front	The sternum is anterior to the vertebrae
Posterior (dorsal)	Toward the back	The esophagus is posterior to the trachea.
Proximal	Closure to the origin of the body part.	The elbow is proximal to the wrist.
Distal	Farther from the origin of the body part	The palm is distal to the elbow
Medial	Toward the midline of the body.	The ulna is medial to the radius.
Lateral	Away from the midline of the body	The arms are lateral to the chest



Direction terms	Definition	Example
Ipsilateral	The same side of the body	the right arm to the right leg is ipsilateral
Contralateral	The opposite side of the body	the right arm to the left leg is contralateral
Unilateral	Involve one side of the body	Gall bladder or appendix is unilateral
Bilateral	Involve two sides of the body	The kidney is bilateral
Intermediate	Between two structures.	The transverse colon is intermediate to the ascending and descending colons.
Superficial	Toward the body surface.	The ribs are superficial to the lungs.
Deep	Away from the surface of the body.	Heart deep in the chest
Internal	within, or interior to	The brain internal the skull.
External	outside, or exterior to	The abdominal wall muscles are external to the organs they protect



Direction terms	Definition
Palmar	Anterior surface of hand.
Dorsal surface of hand (dorsum)	Posterior surface of hand
Plantar	Inferior surface of foot (sole)
Dorsal surface of foot (dorsum)	Superior surface of foot.

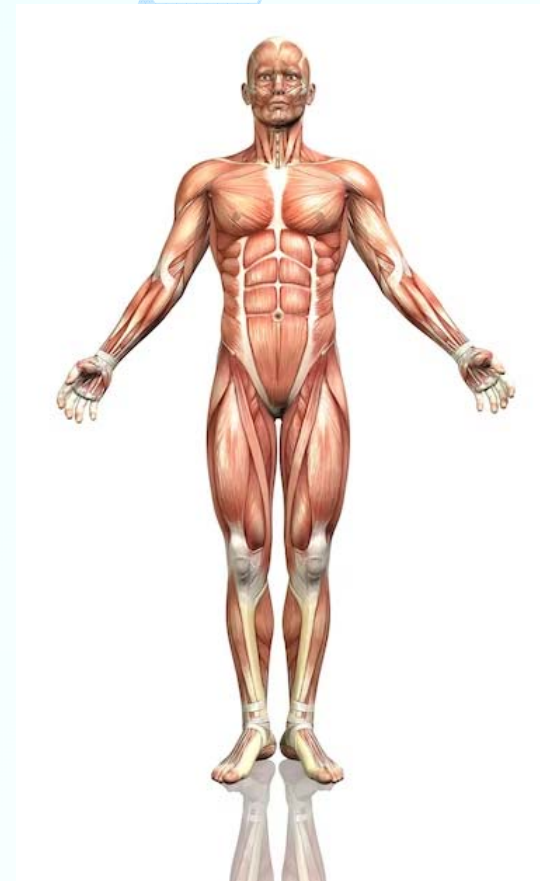


anatomical regions: Areas of the human body defined by the landmarks provided by evident structures that are easily palpable or visible.

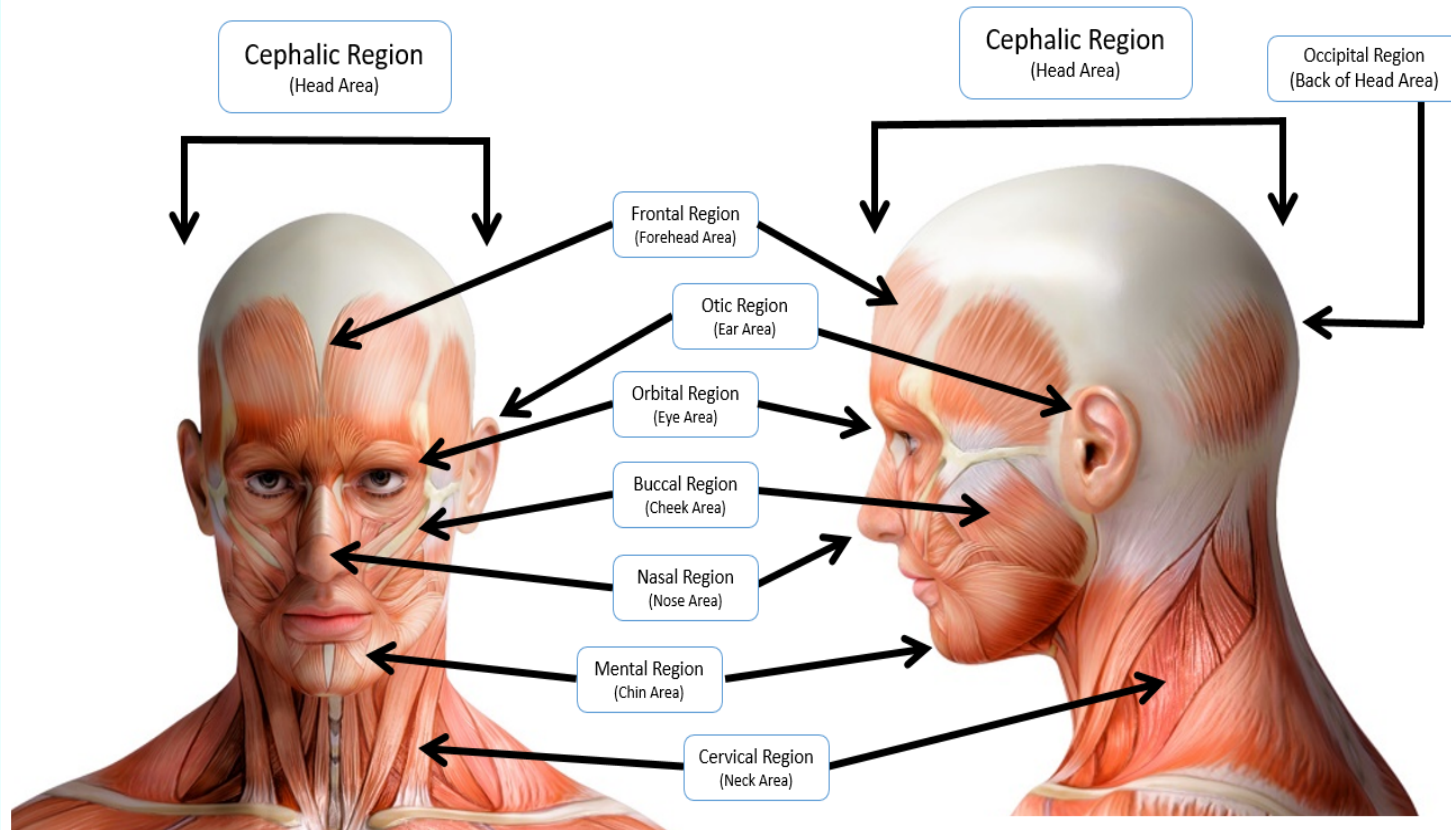
What are the five regions of the body?

The five regions of the body include the head , neck, trunk , upper and lower extremities.

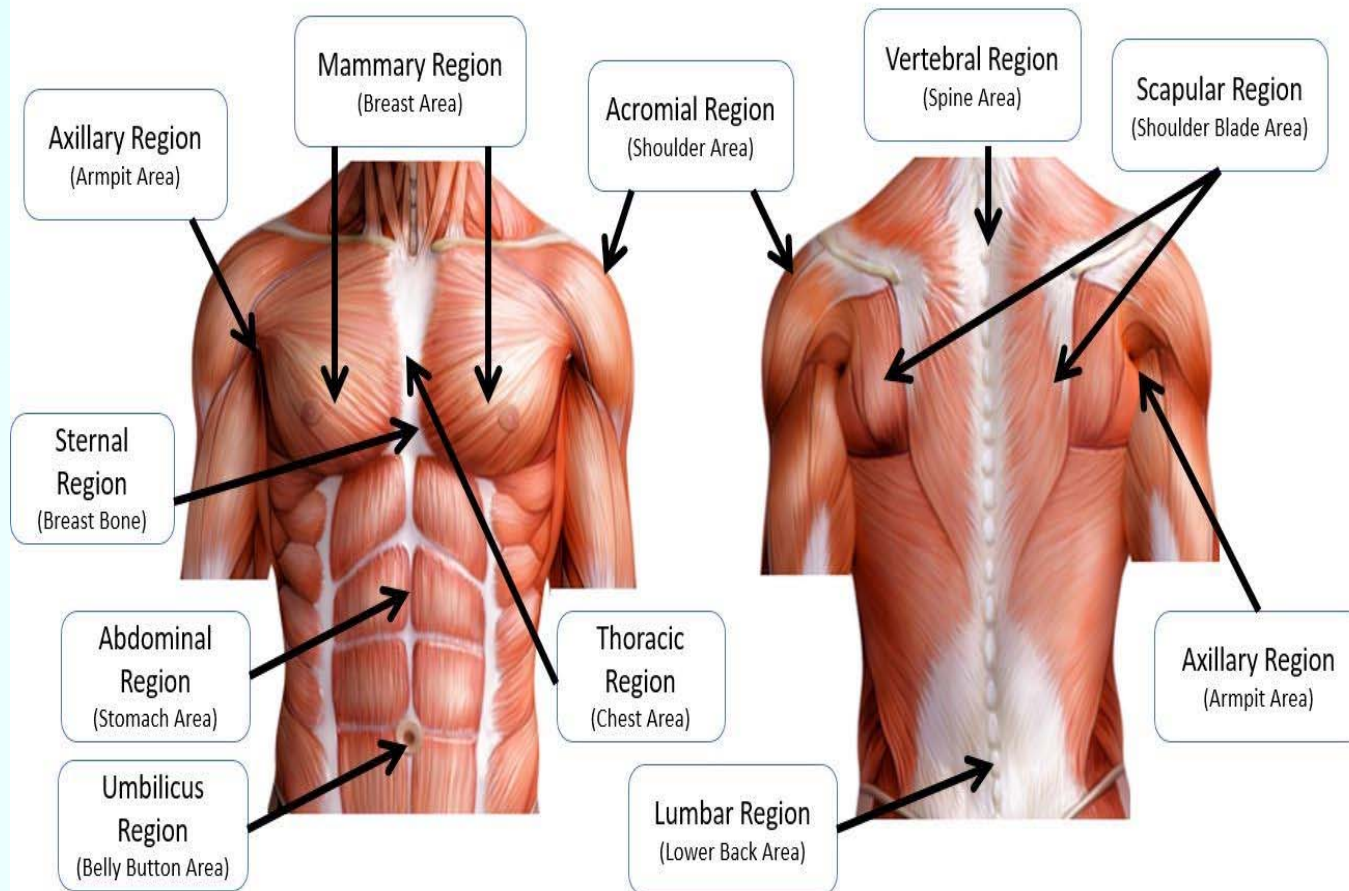
- The head region consists of the skull and face.
- The neck supports the head and attaches it to the trunk
- The trunk, consists of the chest, abdomen, and pelvis.
- The upper extremities include of the shoulder, armpit, arm, forearm, wrist, and hand.
- the lower extremities consist of the buttock, thigh, and foot.



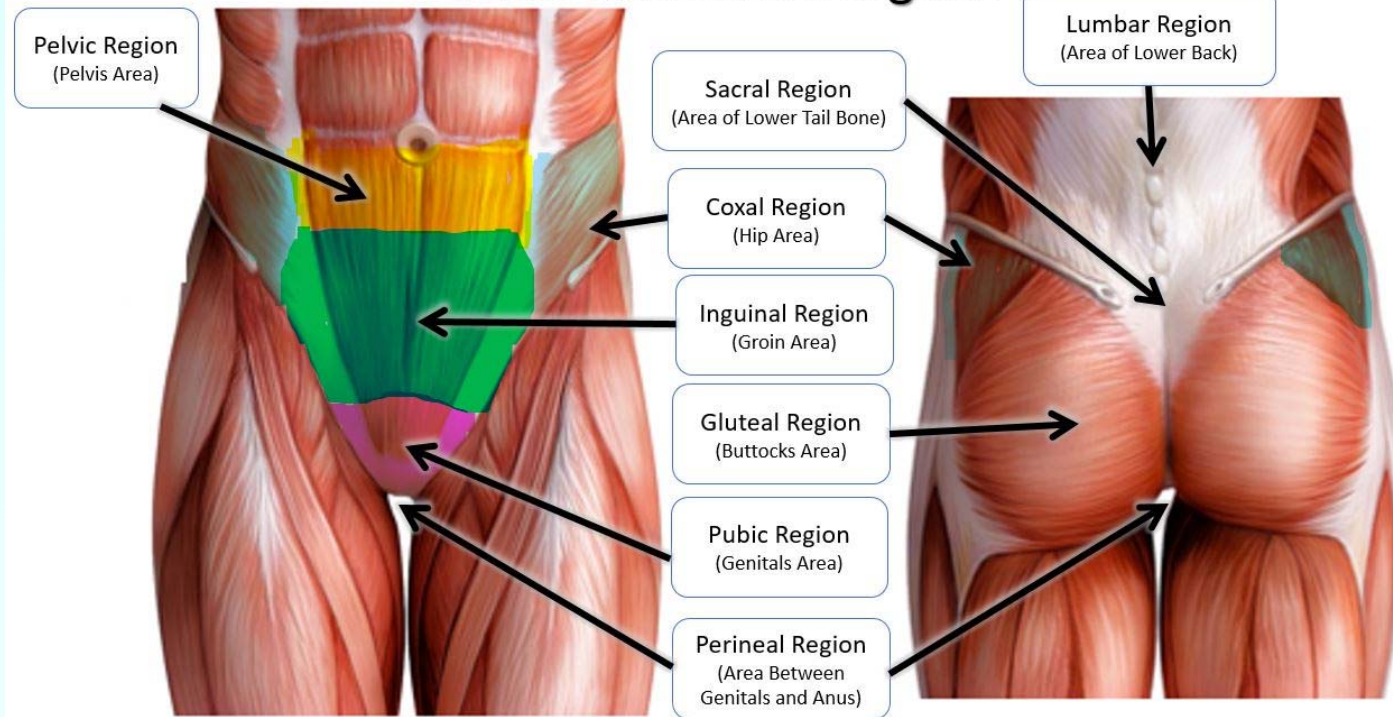
Head and Neck Anatomical Regions



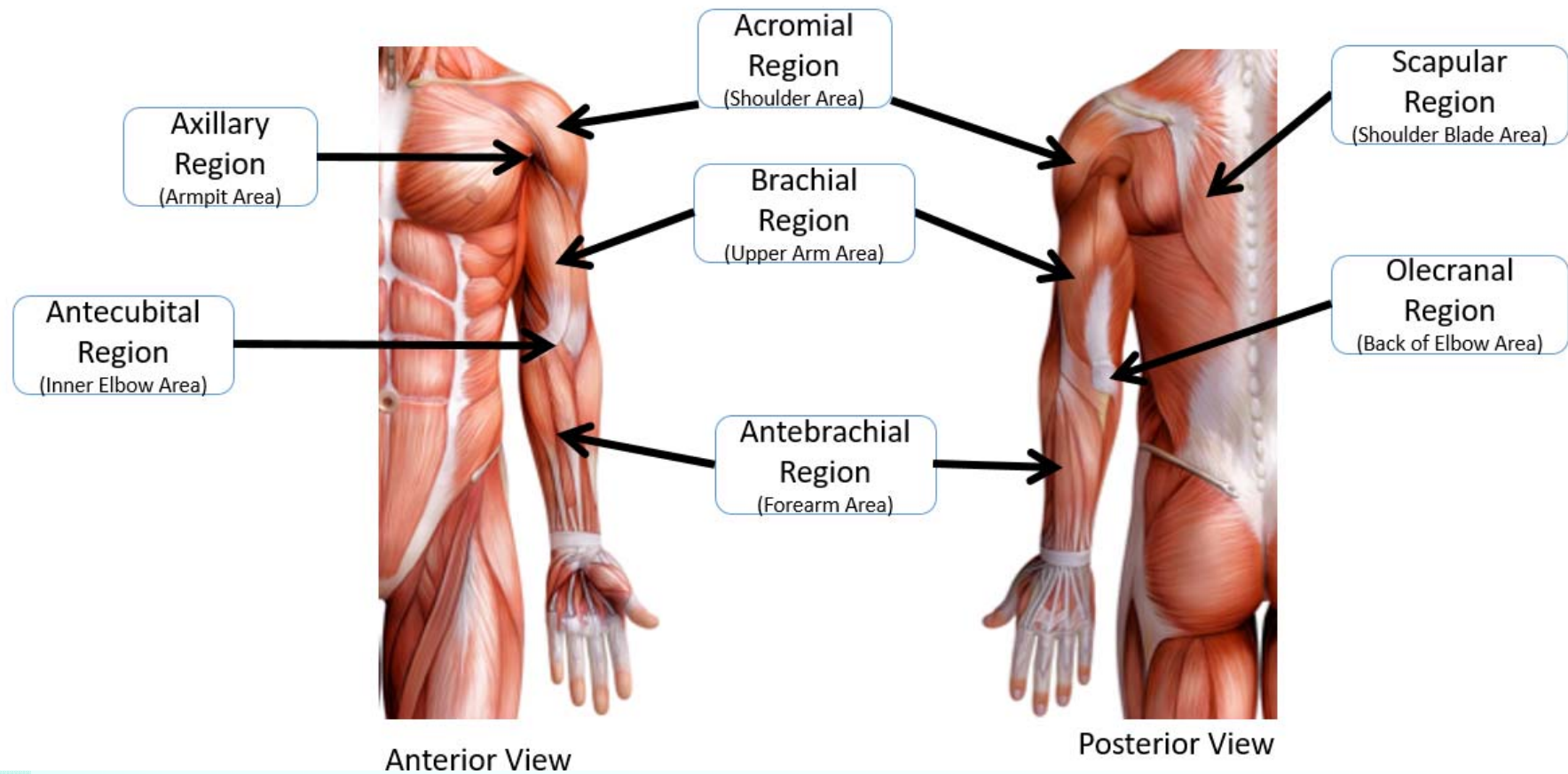
Thorax Anatomical Regions



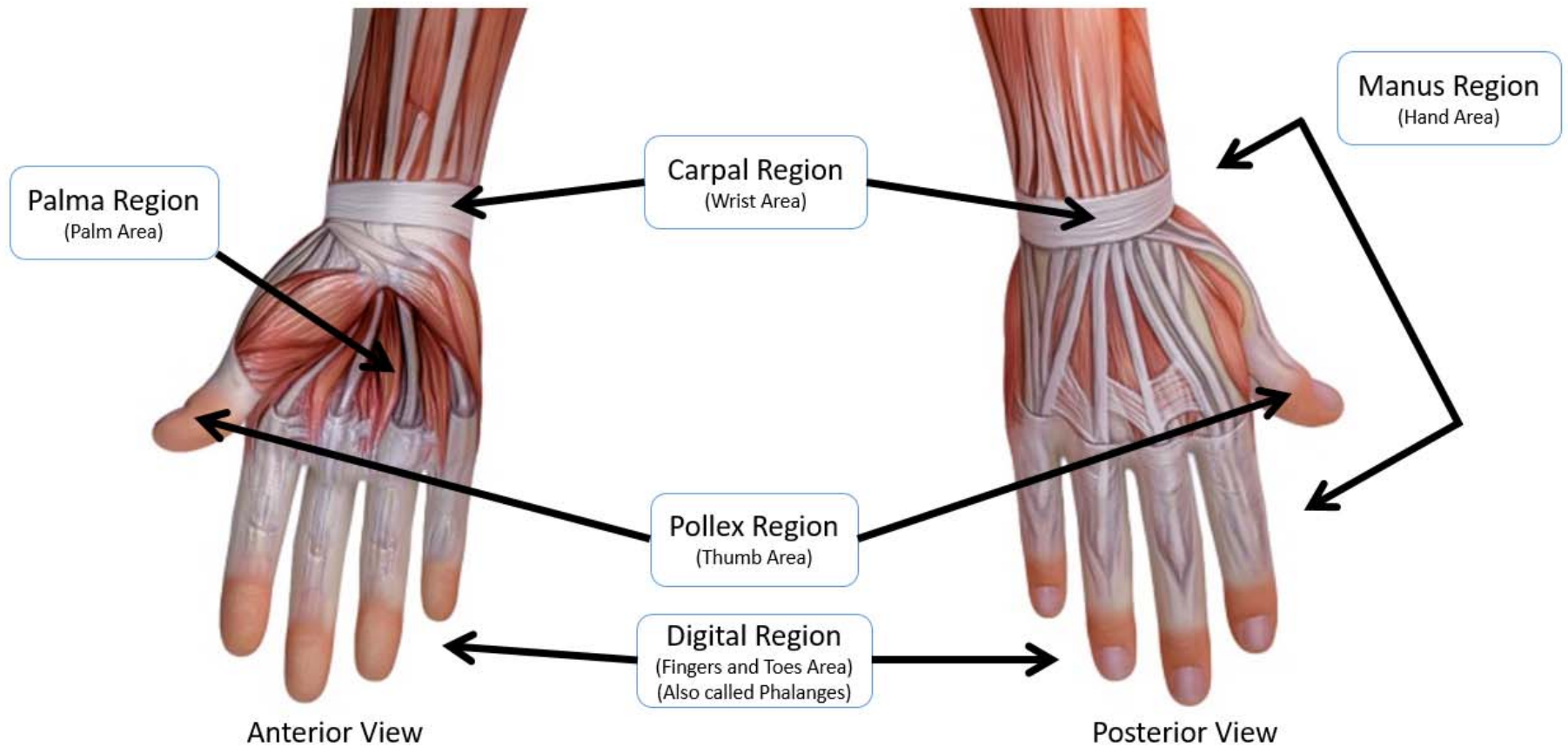
Pelvic Anatomical Regions



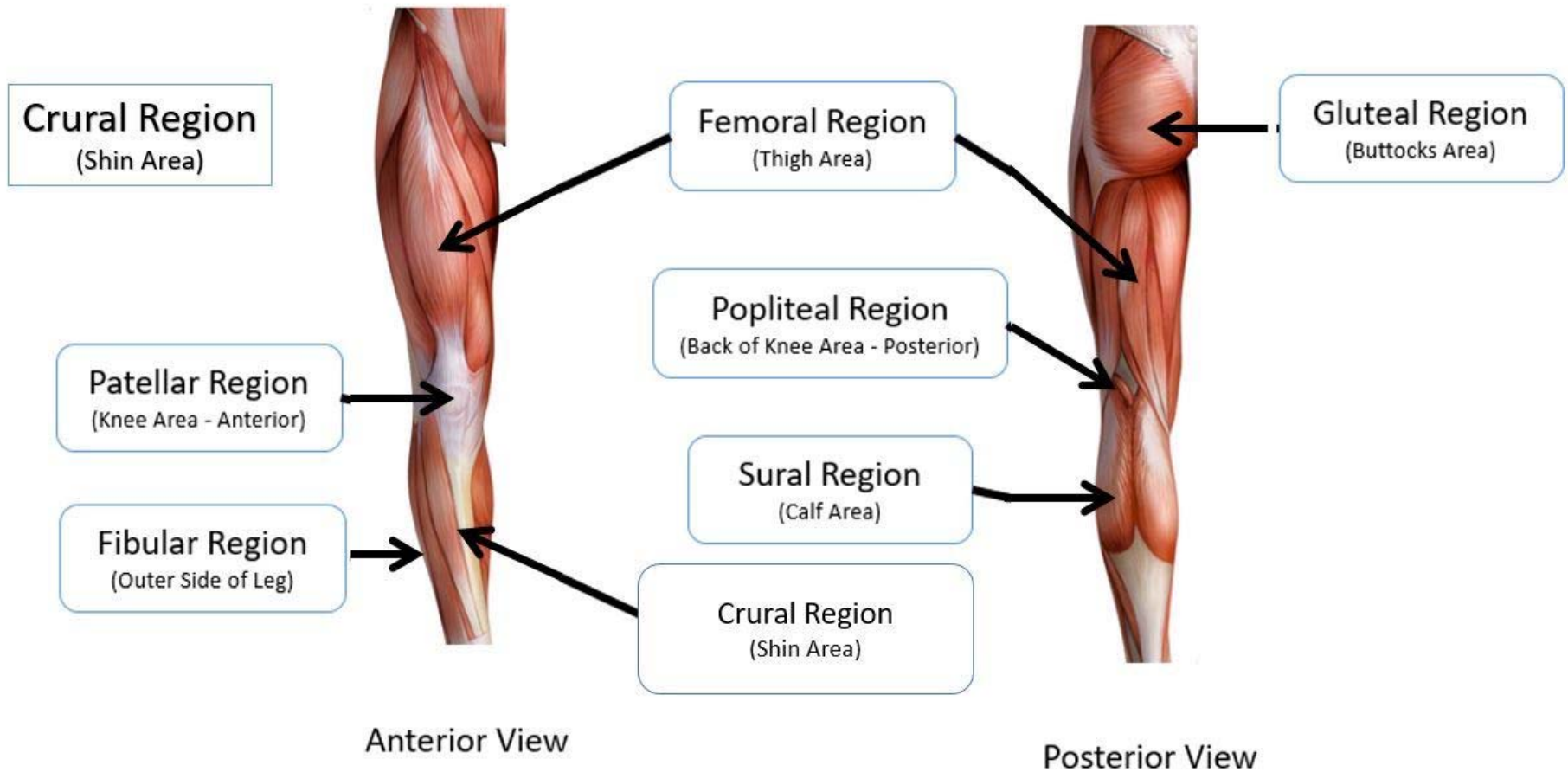
Arm Anatomical Regions



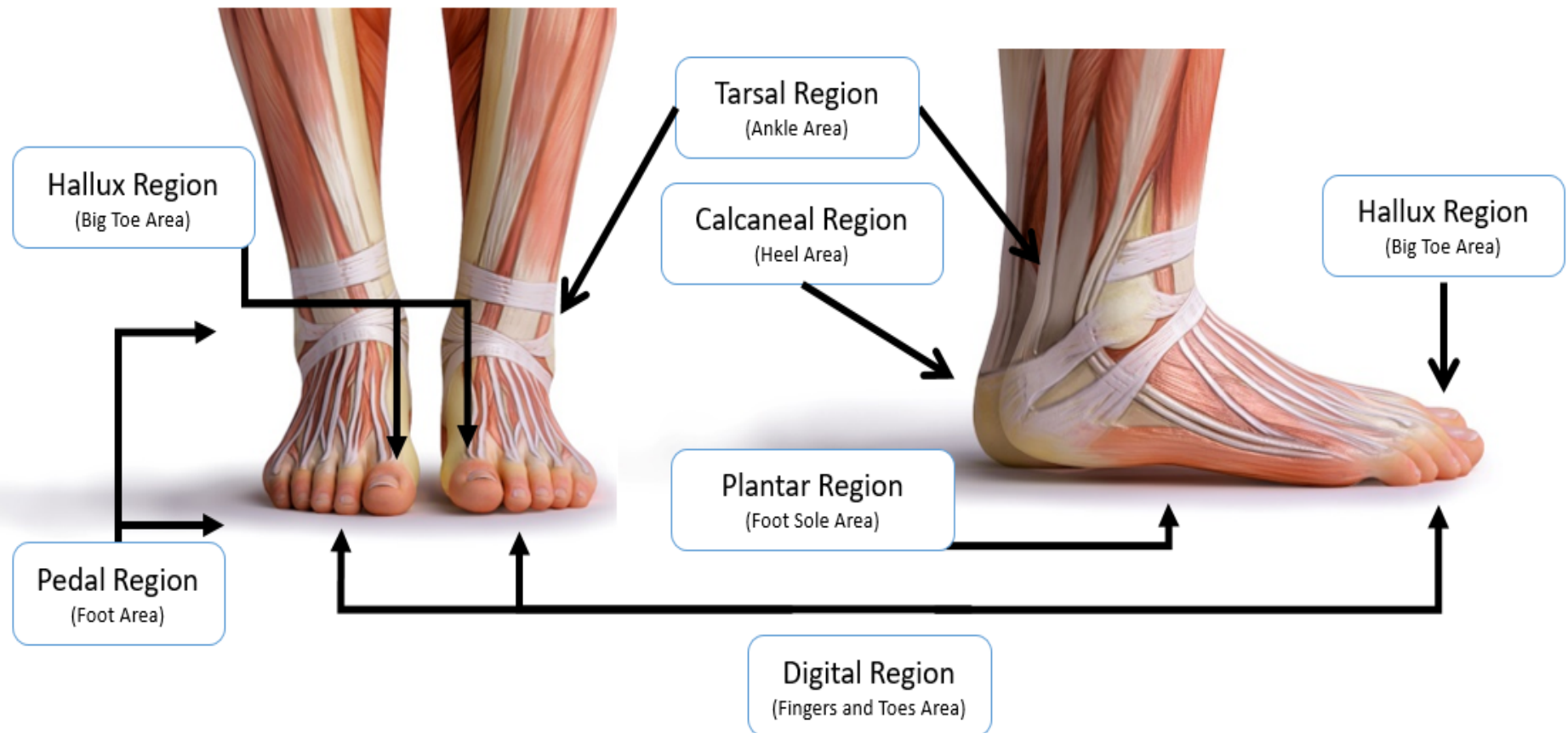
Hand Anatomical Regions



Leg Anatomical Regions



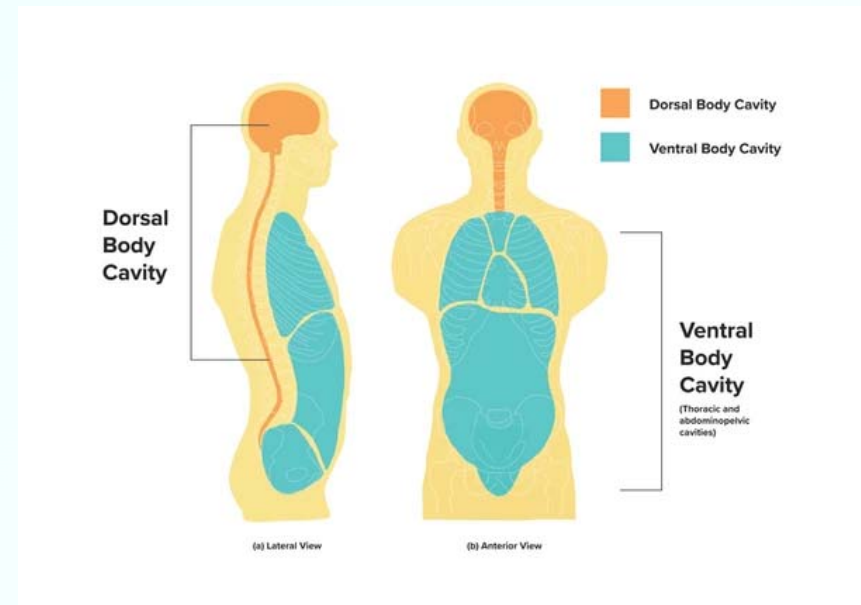
Foot Anatomical Regions



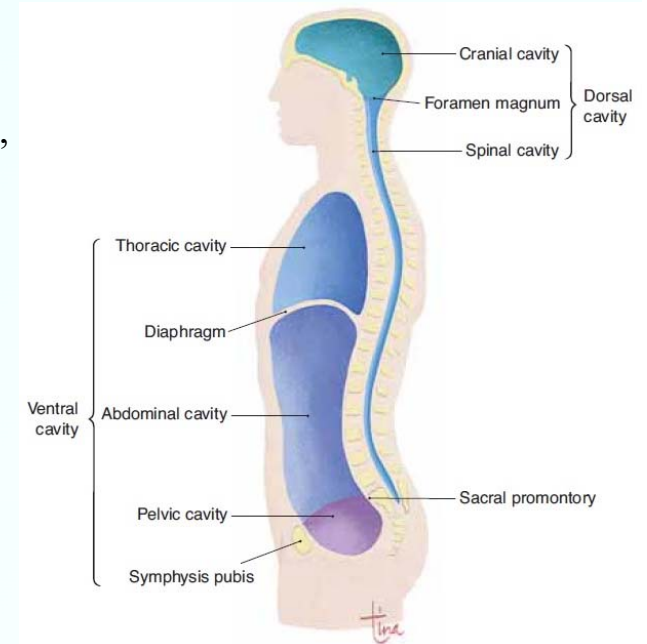
Body Cavities:

Body cavities are spaces that enclose internal organs. Bones, muscles, ligaments, and other structures separate the various body cavities from one another. The body has two major cavities: the dorsal cavity (posterior) and the ventral cavity (anterior)

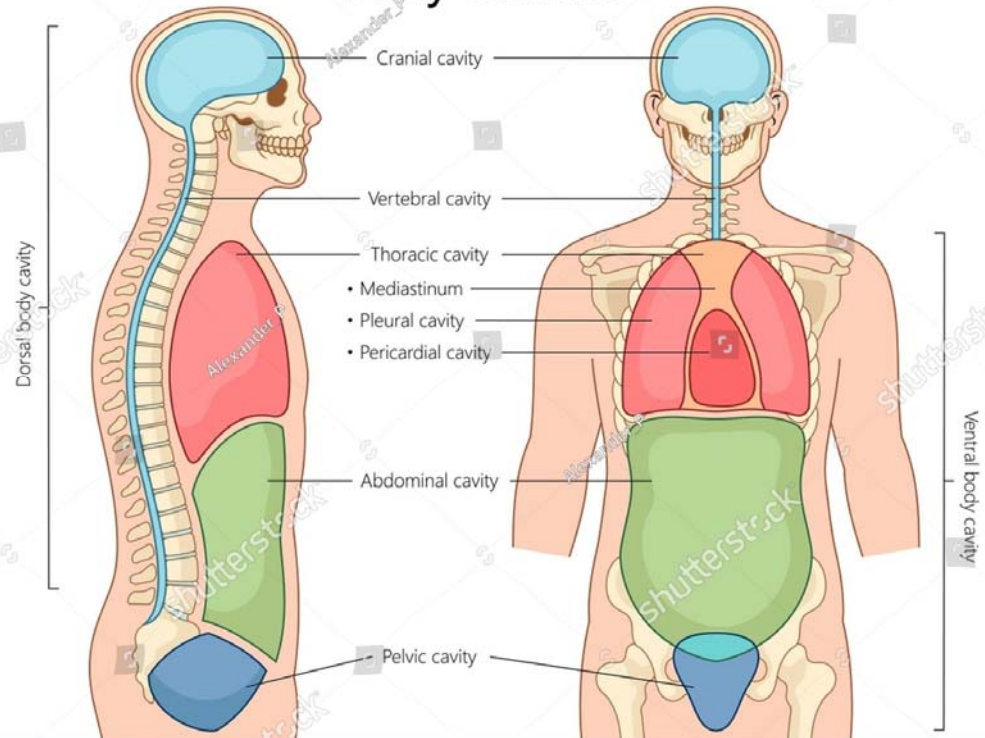
1. **Dorsal Cavity:** contains the central nervous system, and consists of the cranial cavity and the vertebral or spinal cavity. The dorsal cavity is a continuous one; that is, no wall or boundary separates its subdivisions.
 - **The cranial cavity** is formed by the skull and contains the brain.
 - **The spinal cavity** is formed by the backbone (spine) and contains the spinal cord.



2. **Ventral Cavity:** consists of two compartments, the thoracic cavity and the abdominopelvic cavity, which are separated by the diaphragm.
- Within the **thoracic cavity** are the pericardial cavity that surrounds the heart, and pleural cavities, one around each lung. The central part of the thoracic cavity is an anatomical region called the mediastinum.
 - The **abdominopelvic cavity** is the largest cavity in the body. No membrane physically divides the abdominopelvic cavity. The abdominopelvic cavity houses both the **abdominal cavity** and the **pelvic cavity**.
 - **The abdominal cavity:** houses the digestive organs (stomach, liver, gallbladder, and small and large intestines).
 - **The pelvic cavity:** is inferior to the abdominal cavity. It contains the male or female reproductive organs, urinary system organs (urinary bladder, ureters, urethra), rectum, and anus.

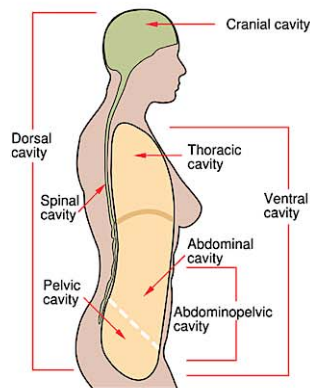


Body Cavities



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Body Cavities

Dorsal Cavity

Ventral Cavity

• Cavity in the **BACK** of the body

• Cavity in the **FRONT** of the body

Cranial Cavity

• Brain

Spinal Cavity

• Spinal Cord

Thoracic Cavity

Mediastinum

• Trachea, Esophagus

Pleural Cavities

• Lungs

Pericardial Cavity

• Heart, Great Vessels

Abdominopelvic Cavity

Abdominal

• Liver
• Stomach
• Pancreas
• Intestines

Pelvic

• Bladder
• Reprod. Organs