



Lec.2

Anatomical Position

To accurately describe body parts and position, the body must be in standard position called anatomical position. In this position, a person stands erect with feet together and eyes forward. The palms face anteriorly with the thumbs pointed away from the body.

Directional terms

Direction terms allow medical personnel and anatomists to explain exactly where one body structure is in relation to another.

1. **Superior (cranial or cephalic):-** it is mean toward the head end or upper part of a structure or the body(above). The forehead is superior to the nose.
2. **Inferior (caudal):-** away from the head end or toward the lower part of a structure or the body; below The navel is inferior to the breastbone.
3. **Anterior (ventral):-**it is mean toward or at the front of the body; in front of. The breastbone is anterior to the spine.
4. **Posterior (dorsal):-** Toward or at the backside of the body; behind The heart is posterior to the breastbone.
5. **Medial:-** Toward or at the midline of the body; on the inner side of The heart is medial to the arm.
6. **Lateral:-** Away from the midline of the body; on the outer side of The arms are lateral to the chest.
7. **Intermediate:-** Between a more medial and a more lateral structure The collarbone is intermediate between the breastbone and the shoulder.
8. **Proximal:-** Close to the origin of the body part or the point of attachment of a limb to the body trunk The elbow is proximal to the wrist (meaning that the elbow is closer to the shoulder or attachment point of the arm than the wrist is).

9. **Distal**:- Farther from the origin of a body part or the point of attachment of a limb to the body trunk. The knee is distal to the thigh.
10. **Superficial (external)**:- Toward or at the body surface. The skin is superficial to the skeleton.
11. **Deep (internal)**:- Away from the body surface; more internal. The lungs are deep to the rib cage.

Anatomical Planes

Plane :- it is imaginary line caused by section or cut the body. Because the body is 3D , we can refer to three types of planes.

1. Sagittal plane

- Vertical plane divided body into right and left.
- Midsagittal (median) and parasagittal (away from medial line) are two type of sagittal depending on position of cut.

2- Frontal plane

- Vertical line that divided the body to anterior or posterior parts.

3- Transverse plane

- Horizontal plane which divided body into superior and inferior



Figure.1. The planes of the body-median, frontal, and transverse.

Body regions and cavities

The human body is divided into several major regions that can be identified externally. These are the head, neck, trunk, upper limbs, and lower limbs.



Head

- Skull:- it is encloses and protects the brain.
- Face:- is the front portion of the head that includes the eyes, nose, mouth, forehead, cheeks, and chin.

Neck

- a modified portion of the trunk, supports the head and attaches it to the remainder of the trunk.

Trunk

Trunk is consists of the neck, thorax, abdomen, and pelvis.

upper limb (extremity)

This region attached to trunk and it is consist of:- shoulder, armpit, arm (portion of the limb from the shoulder to the elbow), forearm (portion of the limb from the elbow to the wrist), Wrist and hand.

lower limb (extremity)

It is attached to the trunk and consists of :- Buttock, Groin, thigh (portion of the limb from the buttock to the knee), leg (portion of the limb from the knee to the ankle), Ankle and foot.

Body cavities

Body cavities are spaces within the body that house internal organs. Bones, muscles, and ligaments separate the various body cavities from one another. This cavities divided to two sets of internal body cavities, called the dorsal and ventral body cavities, that provide different degrees of protection to the organs within them.

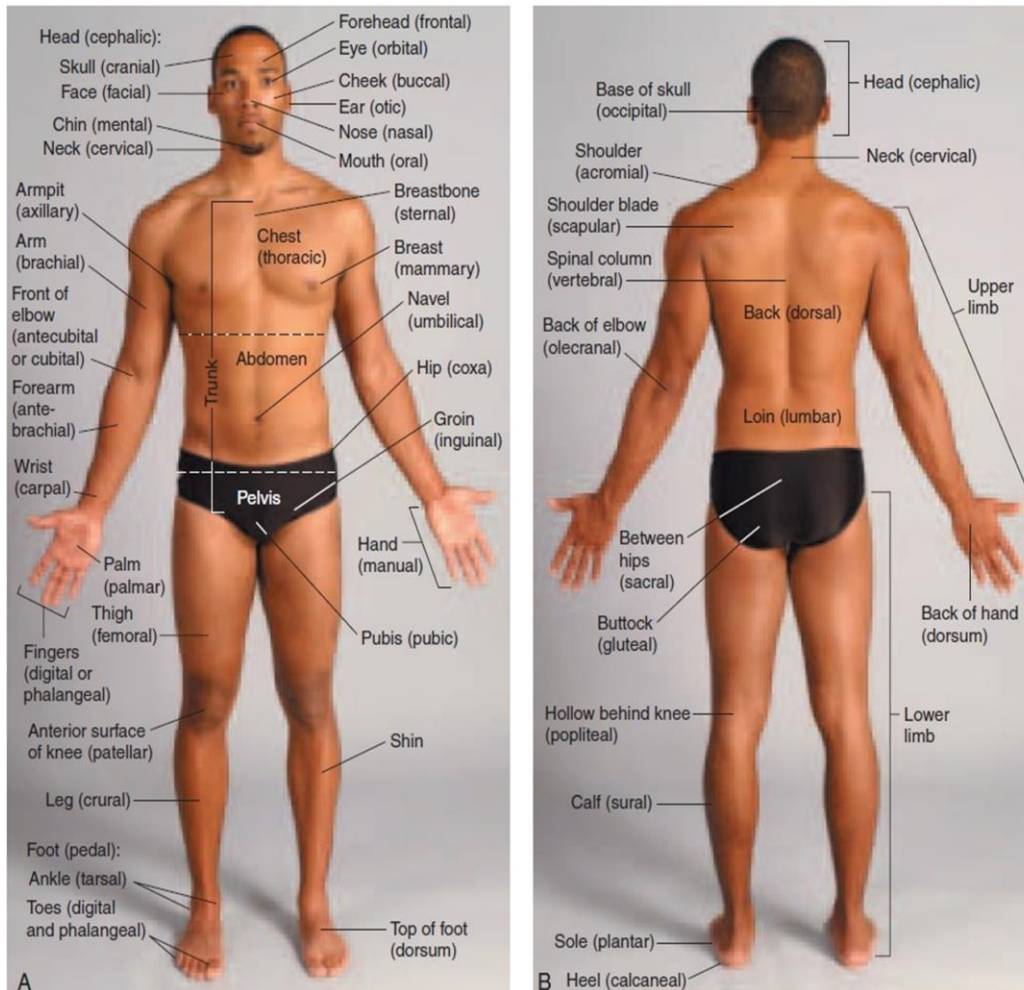


Figure.2. body region

1- Dorsal Body Cavity

located toward the back of the body:-

- A. **cranial cavity**:- is the space inside the bony skull. The brain is well protected because it occupies the cranial cavity.
- B. **spinal cavity**:- it extends from the cranial cavity to the end of the spinal cord. The spinal cord, which is a continuation of the brain, is protected by the bony vertebrae, which surround the spinal cavity and form the spine.

2- ventral body cavity

located toward the front of the body:-

- A. **Thoracic cavity:-** is subdivided into the pleural cavity (which holds the lungs) and pericardial cavity (which holds the heart).
- B. **Abdominopelvic cavity:-** is subdivided into abdominal cavity (which holds liver, gallbladder, stomach, pancreas, spleen, kidney, small, and large intestines) and the pelvic cavity (which holds the urinary bladder and reproductive organs).

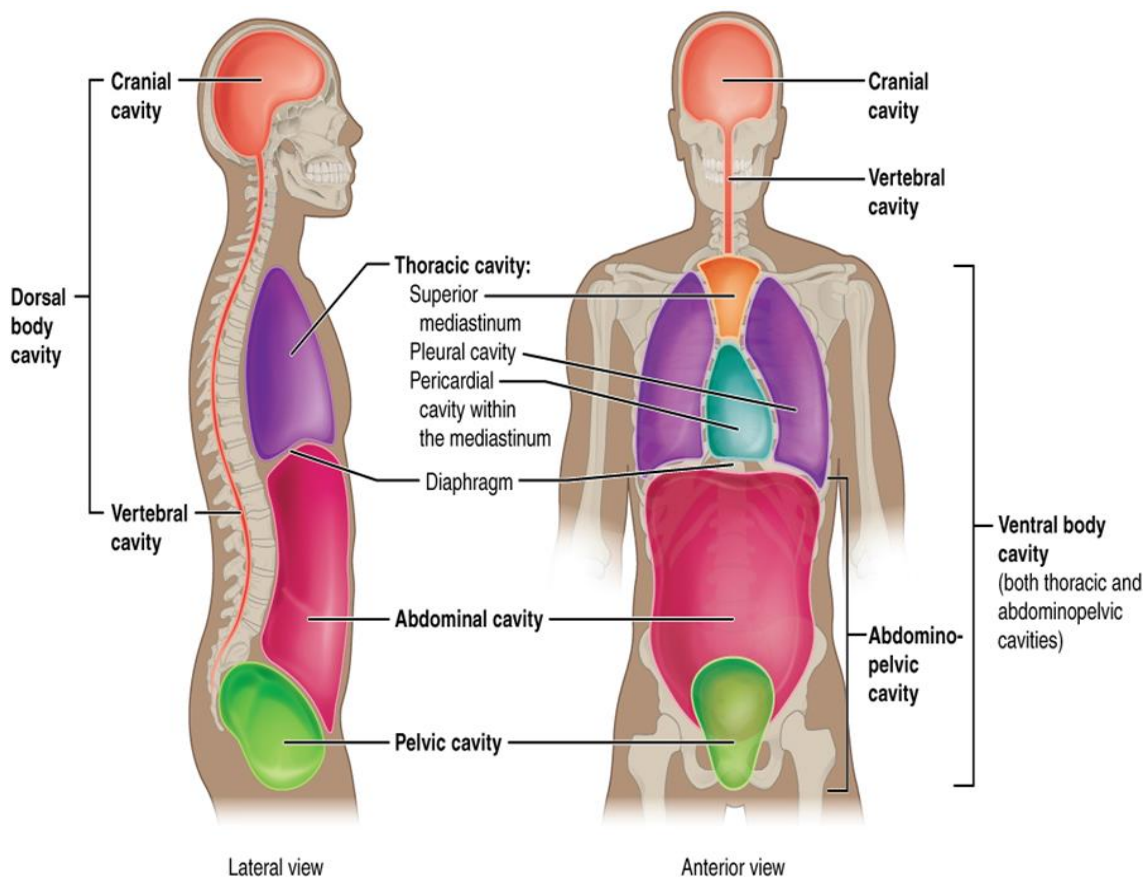


Figure.3. Body cavity