

SAP1

LANGUAGE OF ANATOMY AND PHYSIOLOGY

- Standard anatomical body position
- Directional terms
- Body planes
- Body cavities
- Regional terms

ANATOMICAL POSITION

- Standard anatomical body position:
- Body erect
- Feet slightly apart
- Palms facing forward
- Supine – lying face upward
- Prone – lying face downward



Directional Terms

Superior

Inferior

Anterior

Posterior

Superficial

Deep

Proximal

Distal

Medial

Lateral

(Anatomical Position)



TABLE 1.1**Orientation and Directional Terms**

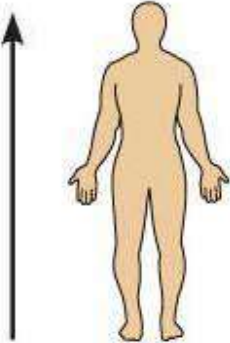
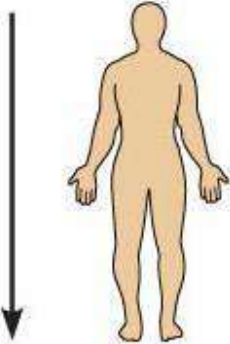
TERM	DEFINITION	EXAMPLE
Superior (cranial)	Toward the head end or upper part of a structure or the body; above	
Inferior (caudal)	Away from the head end or toward the lower part of a structure or the body; below	

TABLE 1.1**Orientation and Directional Terms**

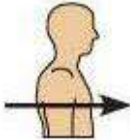
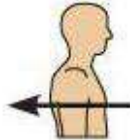
TERM	DEFINITION	EXAMPLE
Ventral (anterior)*	Toward or at the front of the body; in front of	
Dorsal (posterior)*	Toward or at the back of the body; behind	

TABLE 1.1**Orientation and Directional Terms** *(continued)*



TERM	DEFINITION	EXAMPLE
Superficial (external)	Toward or at the body surface	
Deep (internal)	Away from the body surface; more internal	

TABLE 1.1**Orientation and Directional Terms** *(continued)*

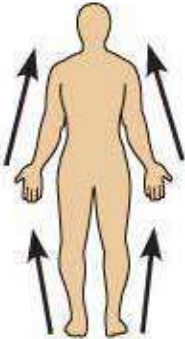
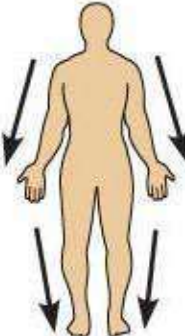
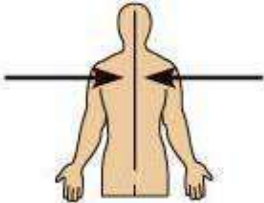
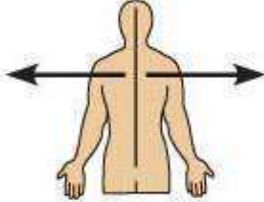

TERM	DEFINITION	EXAMPLE
Proximal	Closer to the origin of the body part or the point of attachment of a limb to the body trunk	
Distal	Farther from the origin of a body part or the point of attachment of a limb to the body trunk	

TABLE 1.1**Orientation and Directional Terms** *(continued)*

TERM	DEFINITION	EXAMPLE
Medial	Toward or at the midline of the body; on the inner side of	
Lateral	Away from the midline of the body; on the outer side of	
Intermediate	Between a more medial and a more lateral structure	

BODY PLANES

Plane: Flat surface along which body or structure is cut for anatomical study

BODY PLANES

- Sagittal plane

Divides a structure vertically into right and left parts

Produces a sagittal section

- Midsagittal (median) plane

Divides the body into right and left halves

Lies on midline

BODY PLANES

- Frontal (coronal) plane

Divides body vertically into anterior and posterior parts

- Transverse (horizontal) plane

Divides body horizontally into superior and inferior parts

Produces a cross section

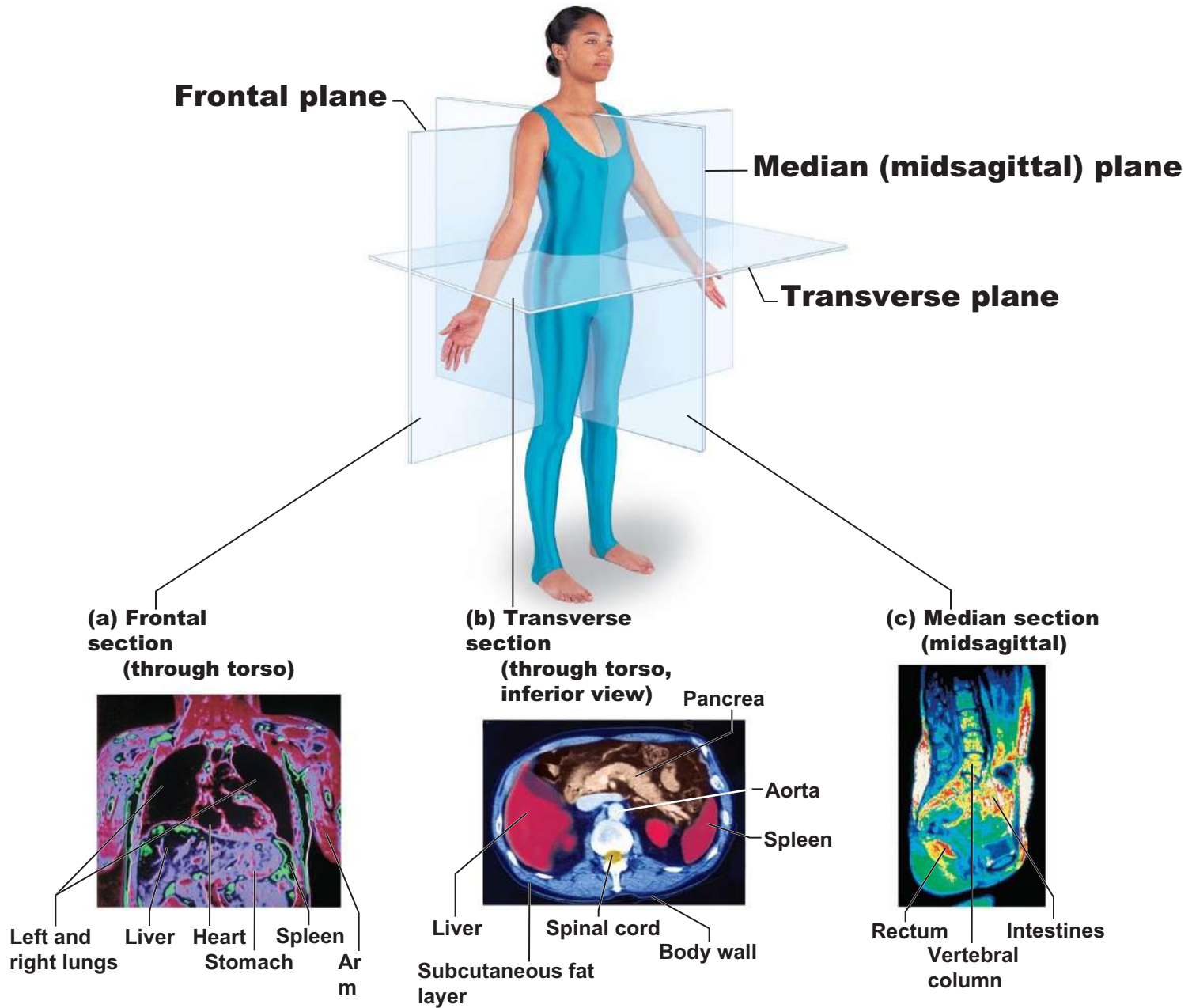


Figure 1.8

ANATOMICAL VARIABILITY

- Over 90% of all anatomical structures match textbook descriptions, but:

Nerves or blood vessels may be somewhat out of place

Small muscles may be missing

BODY CAVITIES

- Dorsal cavity

Protects nervous system

- Two subdivisions:

Cranial cavity

Encases brain

Spinal cavity

Encases spinal cord

BODY CAVITIES

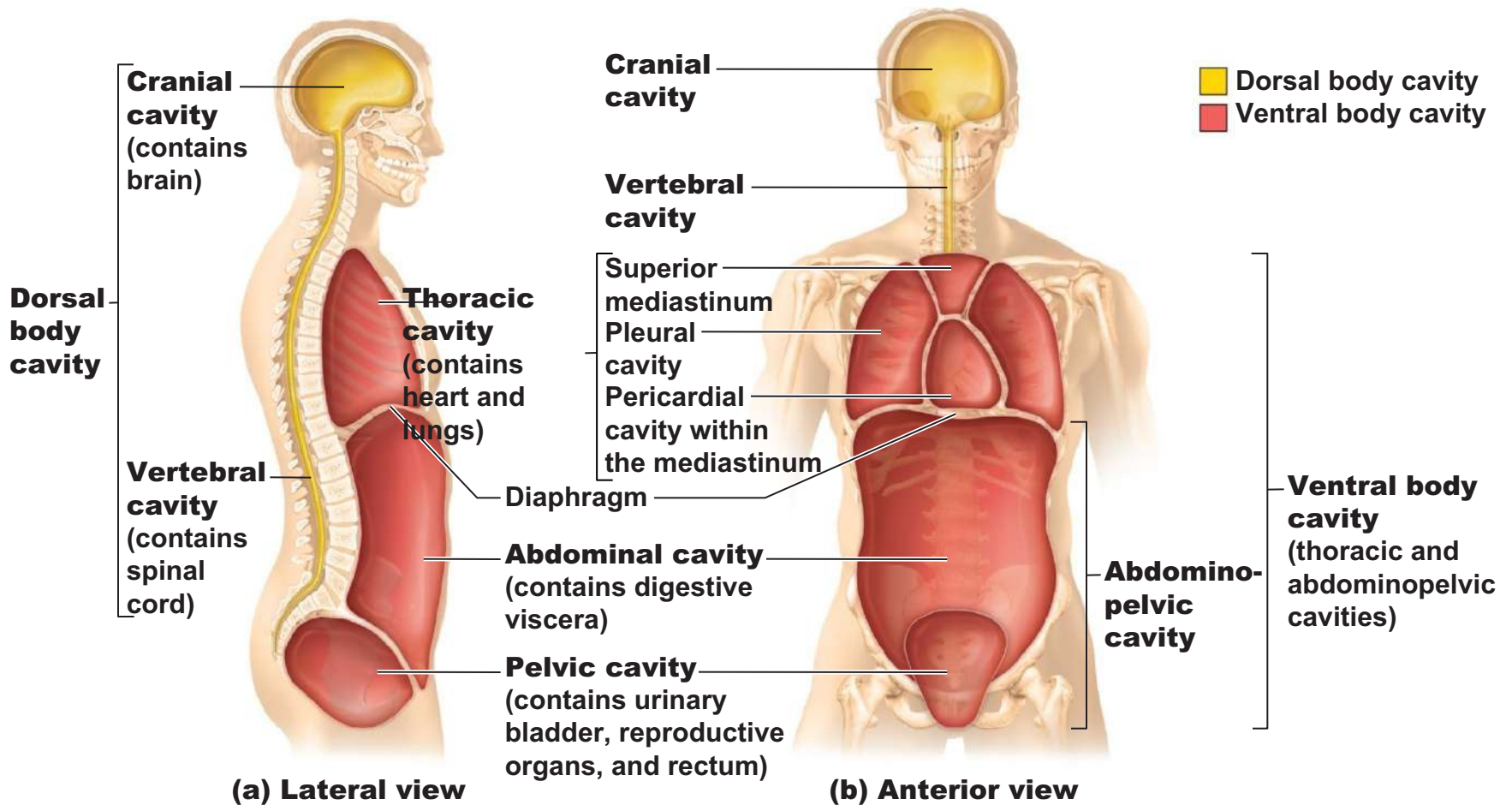
- Ventral cavity

Houses internal organs (viscera)

Two subdivisions (separated by diaphragm):

Thoracic cavity

Abdominopelvic cavity



VENTRAL BODY CAVITIES

- Thoracic cavity subdivisions:

 - Two pleural cavities

 - Each houses a lung

- Mediastinum

 - Contains pericardial cavity

 - Surrounds thoracic organs

- Pericardial cavity

 - Encloses heart

VENTRAL BODY CAVITIES

- Abdominopelvic cavity subdivisions:

 - Abdominal cavity

 - Contains stomach, intestines, spleen, and liver

 - Pelvic cavity

 - Contains urinary bladder, reproductive organs, and rectum

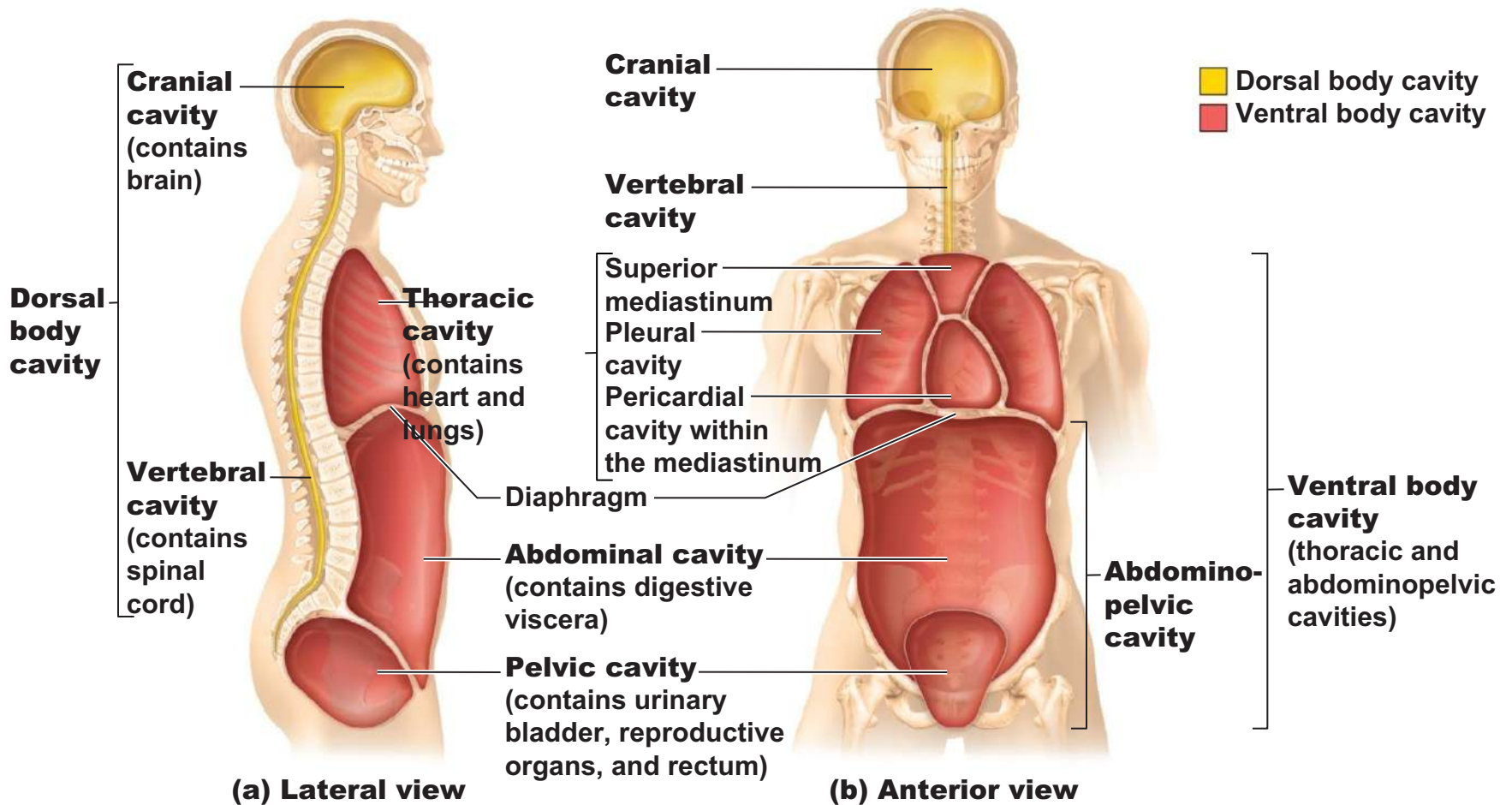


Figure 1.9a-b

SEROUS MEMBRANE (SEROSEA)

- Thin, double-layered membrane separated by serous fluid

Allows organs to slide easily across cavity walls and one another without friction

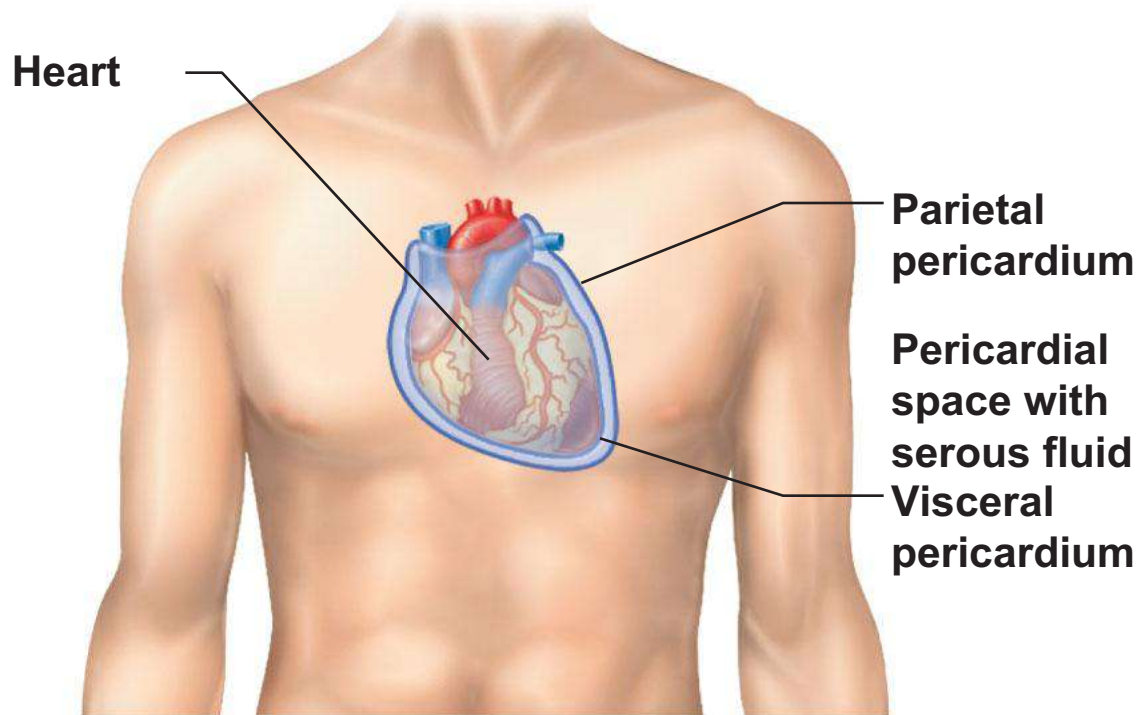
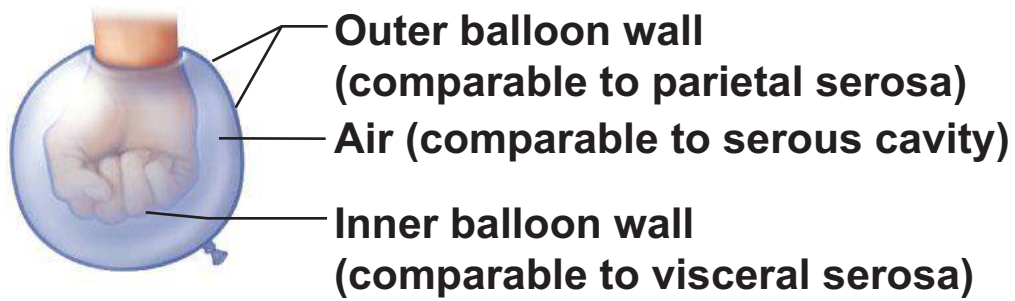
Extremely important when mobile organs such as pumping heart and churning stomach are involved

- Parietal serosa lines internal body walls
- Visceral serosa covers the internal organs

SEROUS MEMBRANES

Specific names of serous membranes depend on their locations:

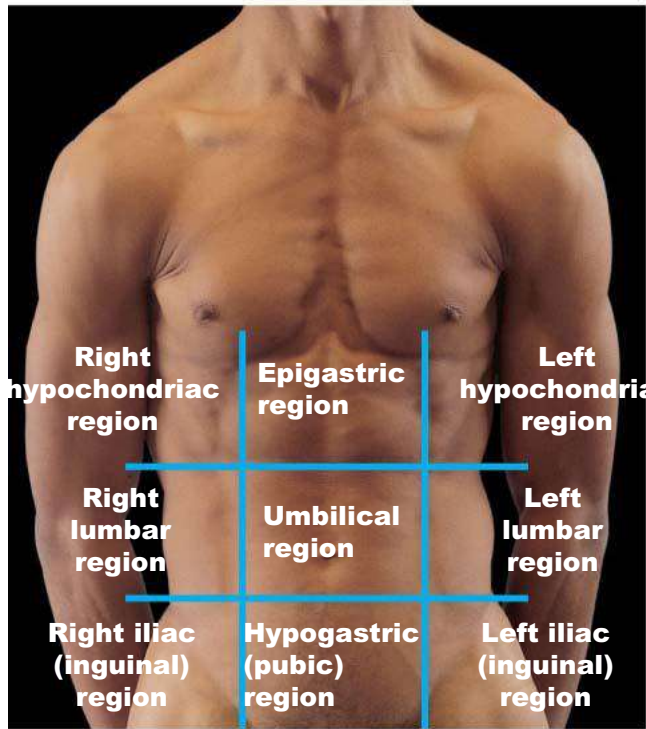
- **PERICARDIUM** is serosa lining around the heart
- **PLEURA** is serosa lining the lungs
- **PERITONEUM** is serosa lining abdominal cavities and covering its organs
 1. *mesenteries* are double layers of peritoneum that anchor organs to the body wall
 2. Organs, like the kidneys, covered by only one layer of peritoneum are called *retroperitoneal*



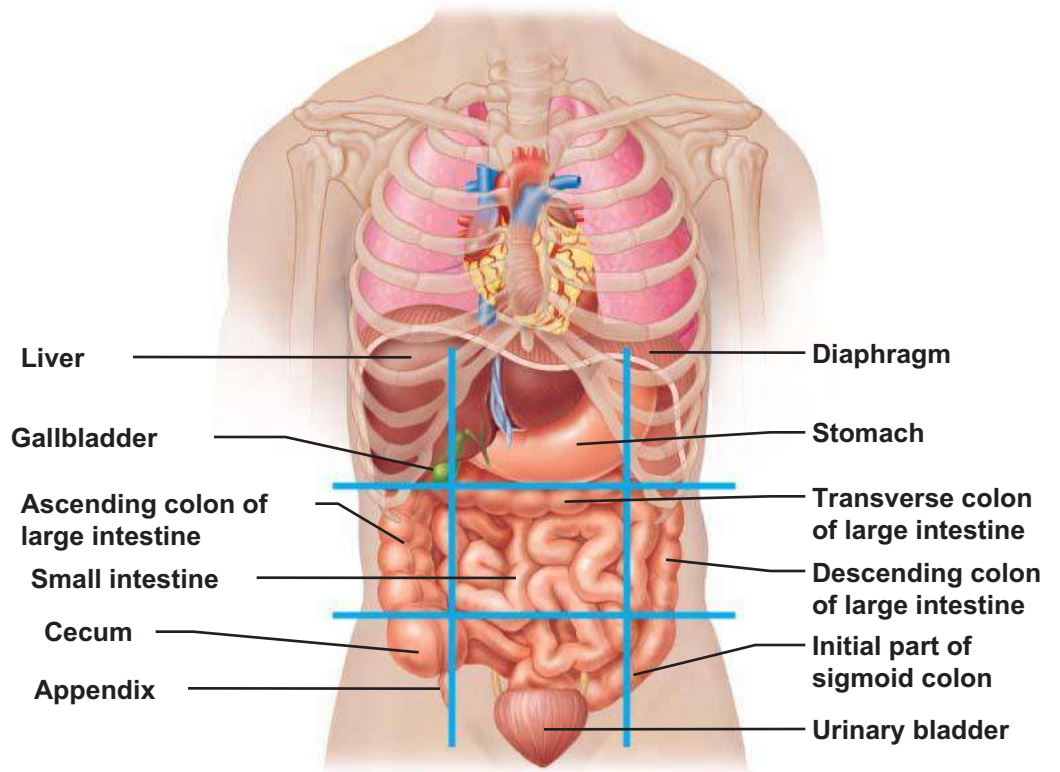
(b) The serosae associated with the heart.

ABDOMINOPELVIC REGIONS

- Nine divisions used primarily by anatomists



(a) Nine regions delineated by four planes



(b) Anterior view of the nine regions showing the superficial organs

ABDOMINOPELVIC QUADRANTS

- Divisions used primarily by medical personnel

**Right upper
quadrant
(RUQ)**

**Left upper
quadrant
(LUQ)**

**Right lower
quadrant
(RLQ)**

**Left lower
quadrant
(LLQ)**

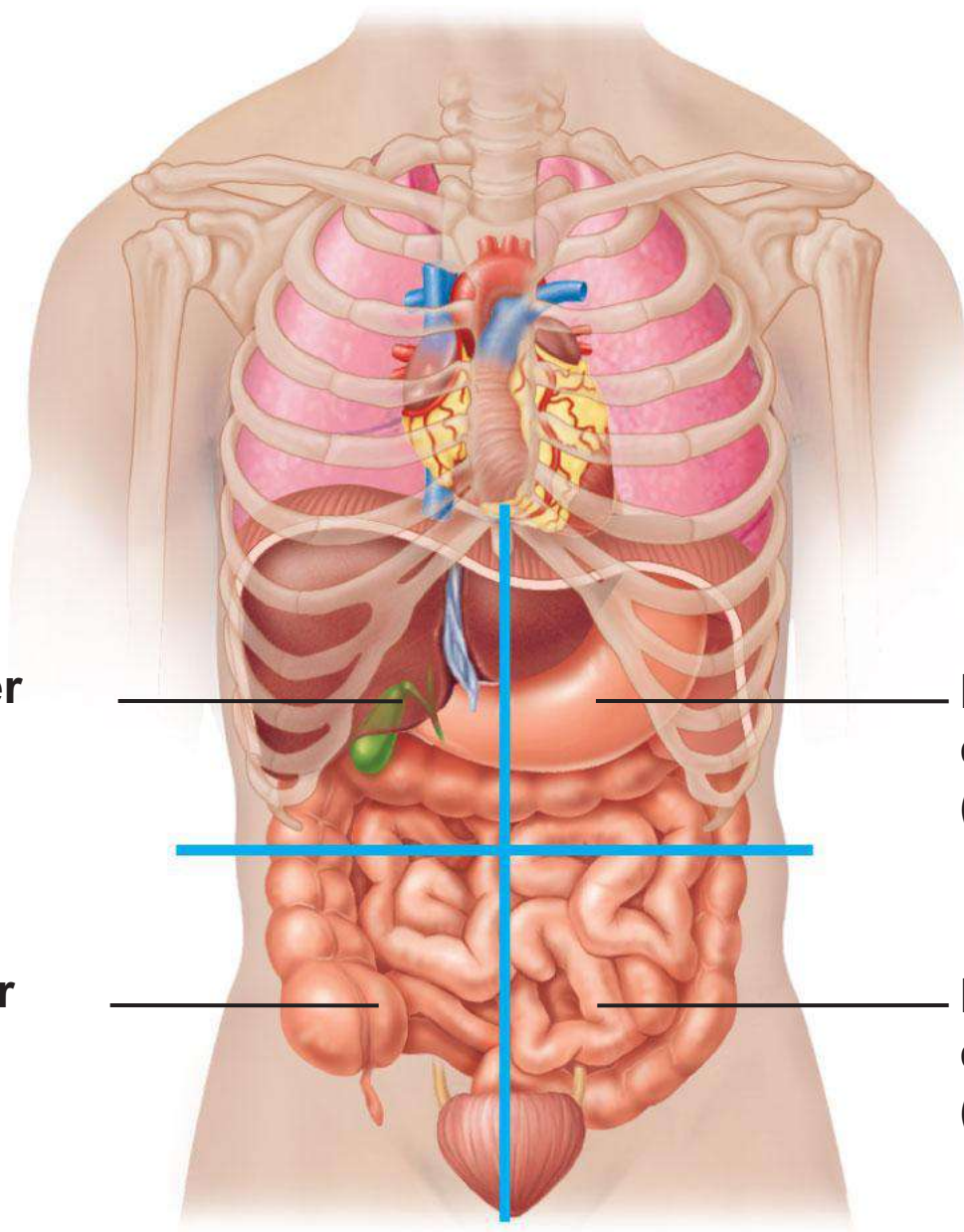


Figure 1.11

OTHER BODY CAVITIES

- Oral and digestive cavities
- Nasal cavity
- Orbital cavities
- Middle ear cavities
- Synovial cavities

REGIONAL TERMS

- Two major divisions of body:

Axial

Head, neck, and trunk

Appendicular

Limbs

Regional terms designate specific areas:

Cephalic

Frontal

Orbital

Nasal

Oral

Mental

Cervical

Thoracic

Axillary

Mammary

Sternal

Abdominal

Umbilical

Pelvic

Inguinal
(groin)

Pubic
(genital)

- Thorax
- Abdomen
- Back
(Dorsum)

Upper limb

Acromial

Brachial (arm)

Antecubital

Antebrachial
(forearm)

Carpal (wrist)

Manus (hand)

Palmar

Pollex

Digital

Lower limb

Coxal (hip)

Femoral (thigh)

Patellar

Crural (leg)

Fibular or peroneal

Pedal (foot)

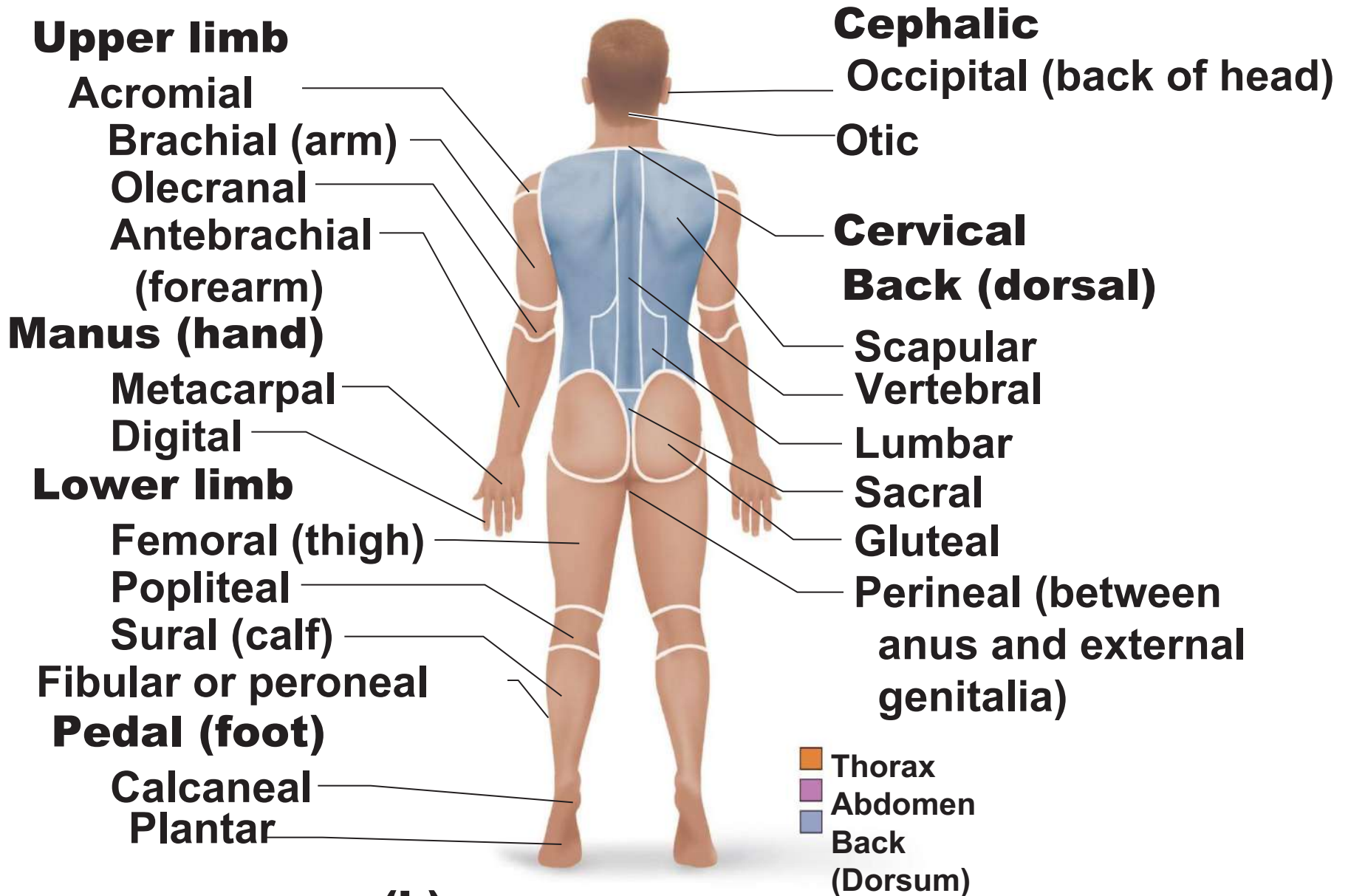
Tarsal (ankle)

Metatarsal

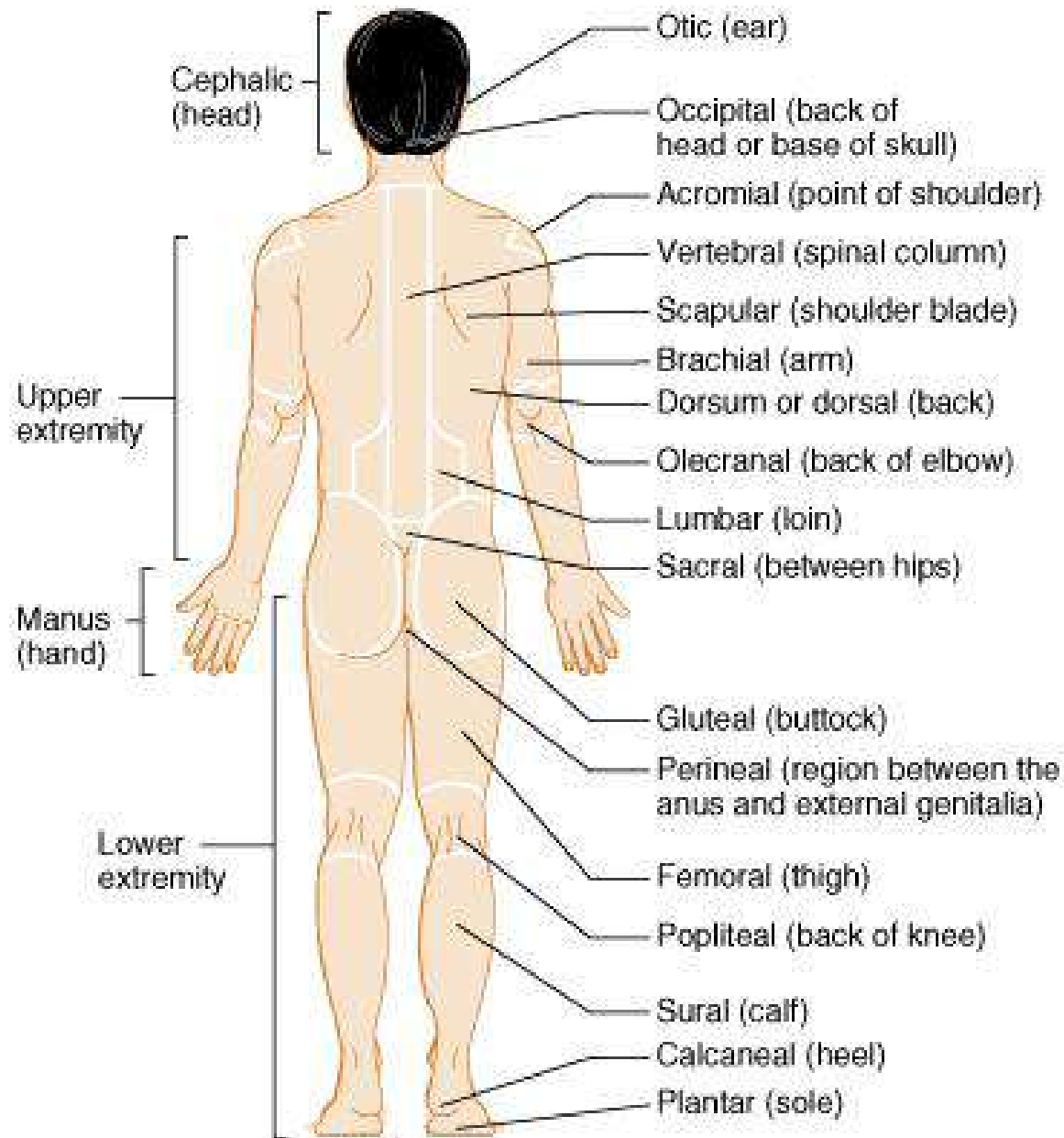
Digital

Hallux

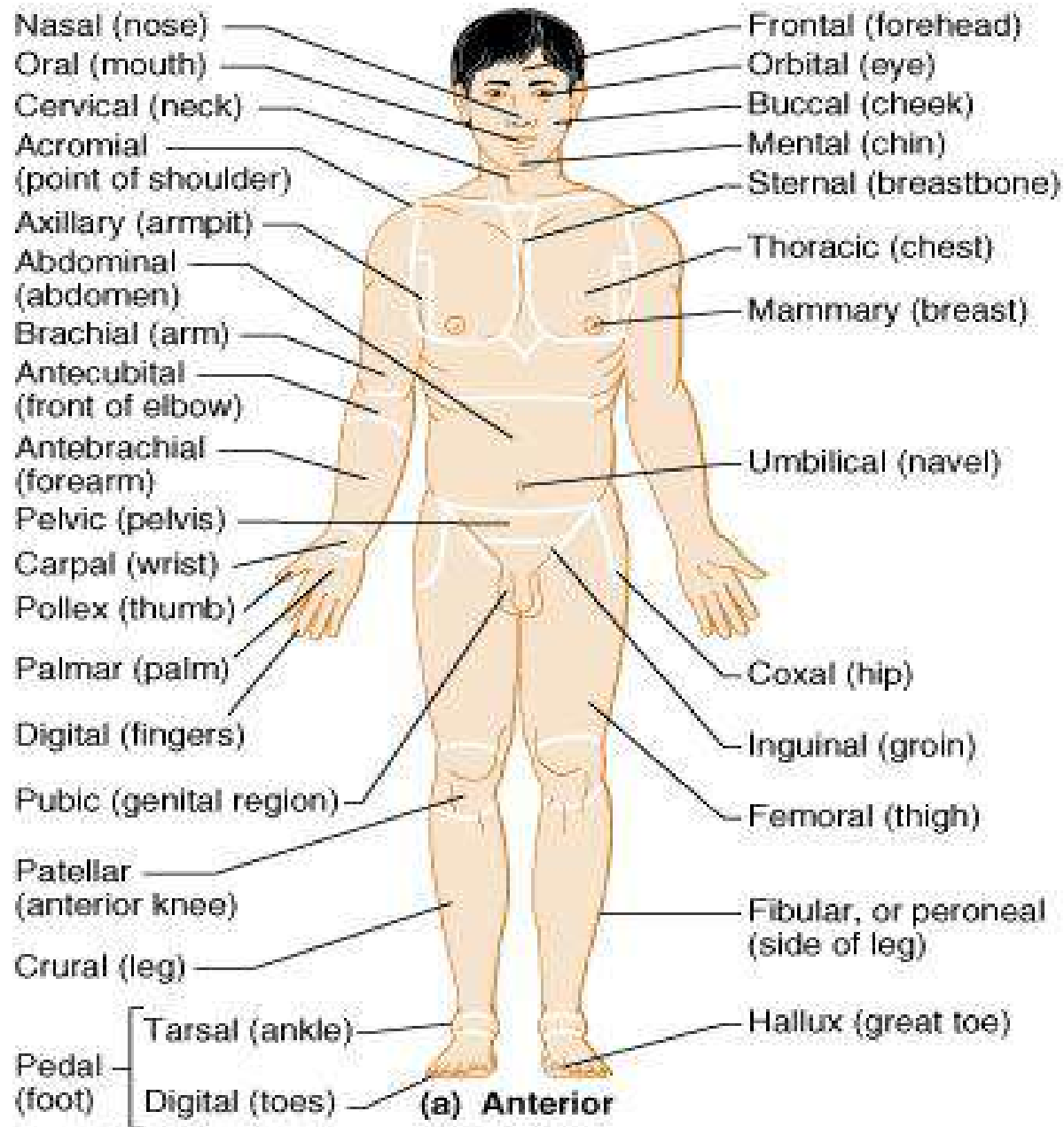
(a) Anterior/Ventral



(b)
Posterior/Dorsal



(b) Posterior



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