Ana-tomy

Leonardo da Vinci, Copulation, c. 1493, pen and ink. The Royal Collection, Buckingham Palace, London

The term **Anatomy** comes from Late 1300's:

Anatomia (Latin) and Anatome (Greek)

ana meaning "up"

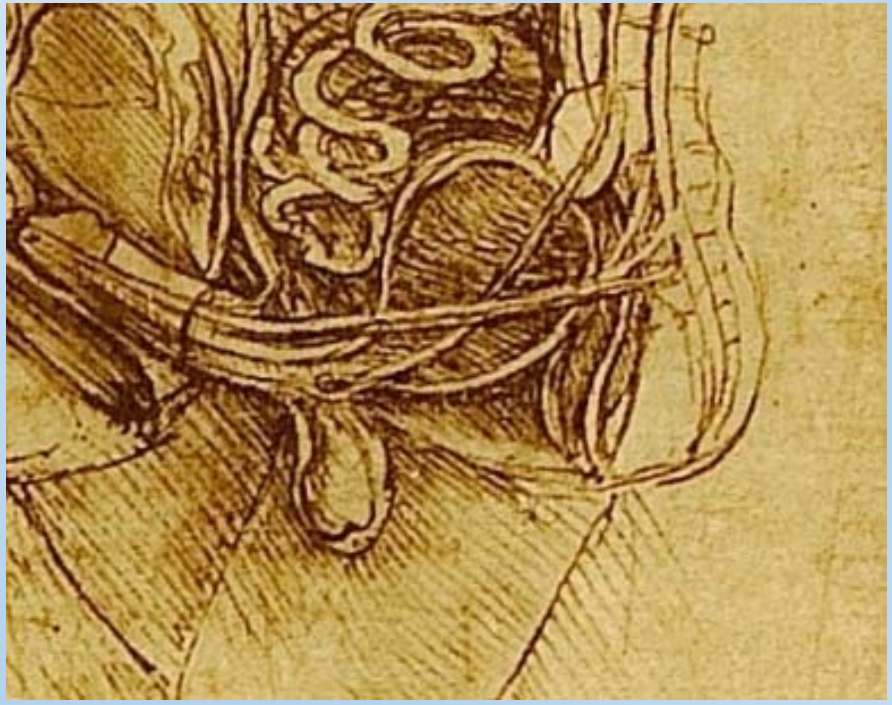
tomos (or temnein) which means "to cut"

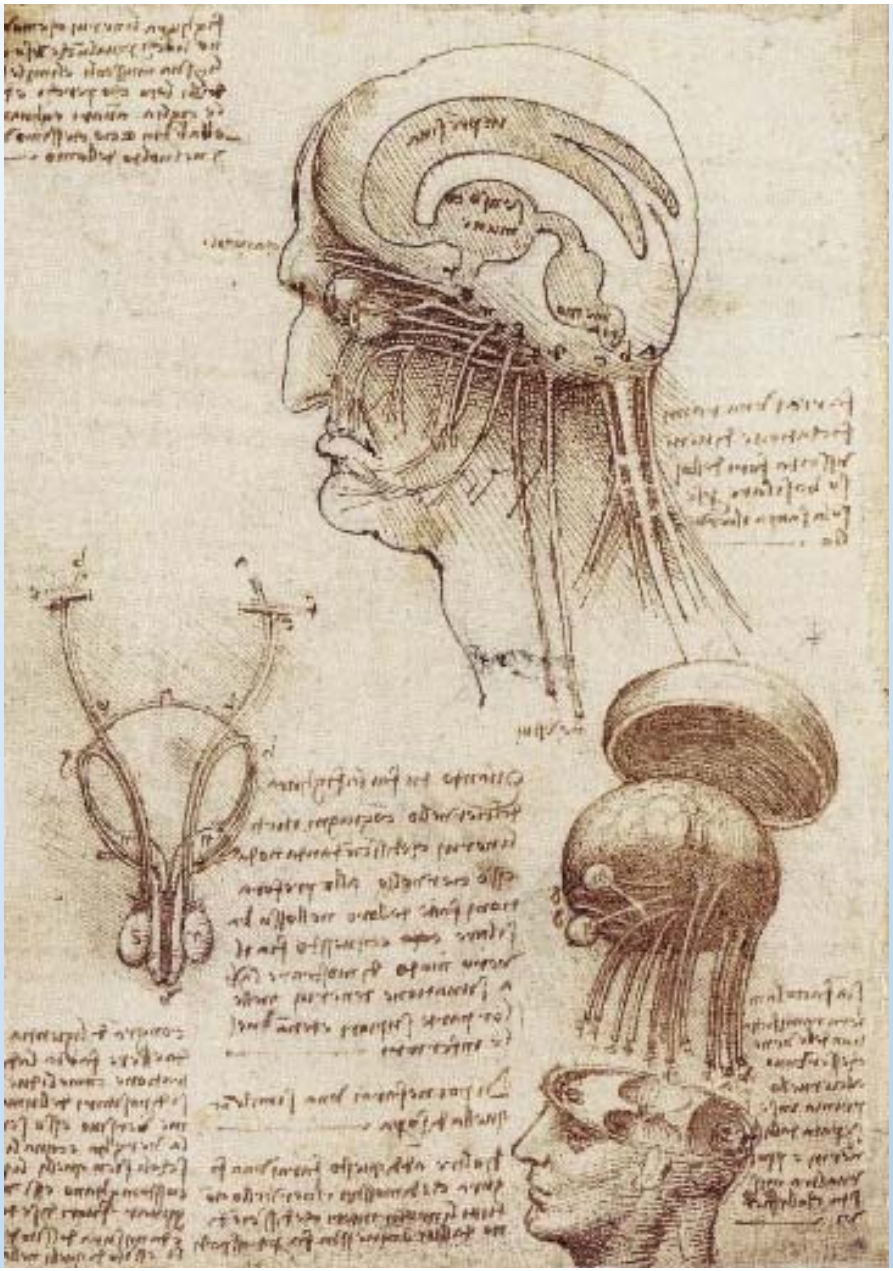
Together this gives "a cutting up" (Dissection).

Now, Anatomy is considered the "Study or knowledge of the structure (form) and its relationship with the function of the human body".

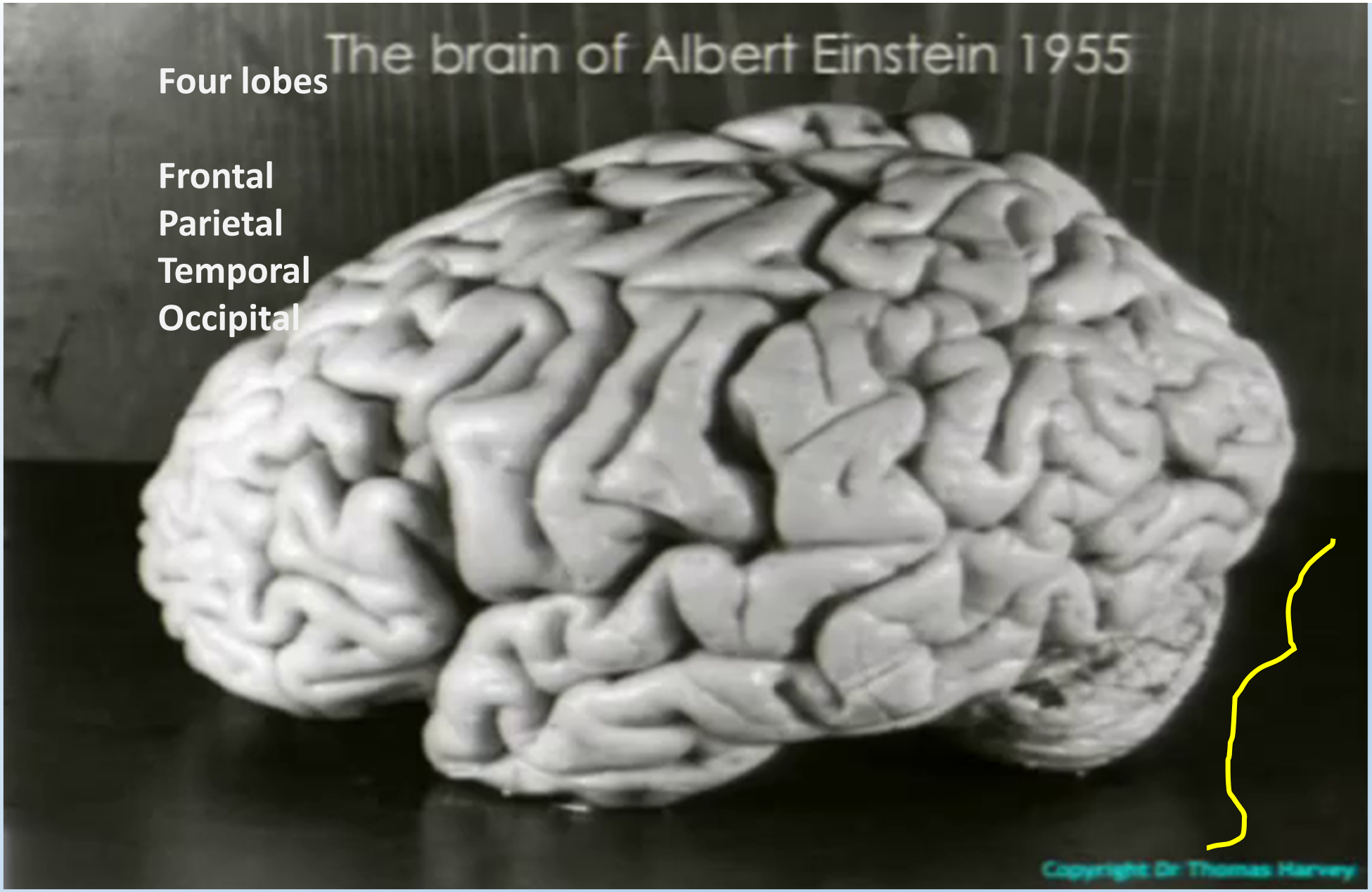
We all know that the brain is the physical instrument of mind.

But this was not obviously.

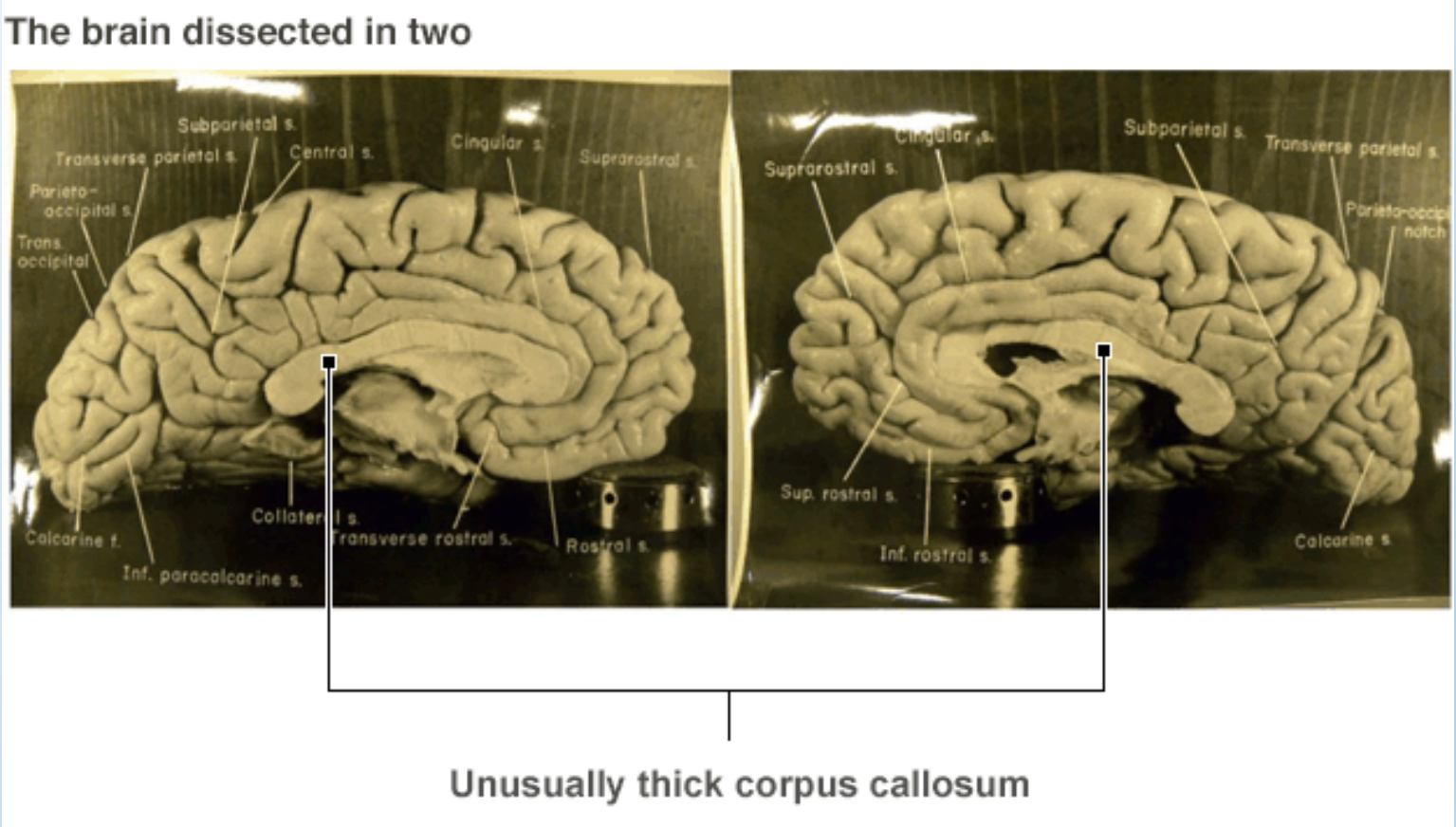




In the age of the Renaissance , people did not regard brain sulcus and gyrus as important ~


The brain of Albert Einstein 1955
Four lobes
Frontal
Parietal
Temporal
Occipital
Copyright Dr Thomas Harvey

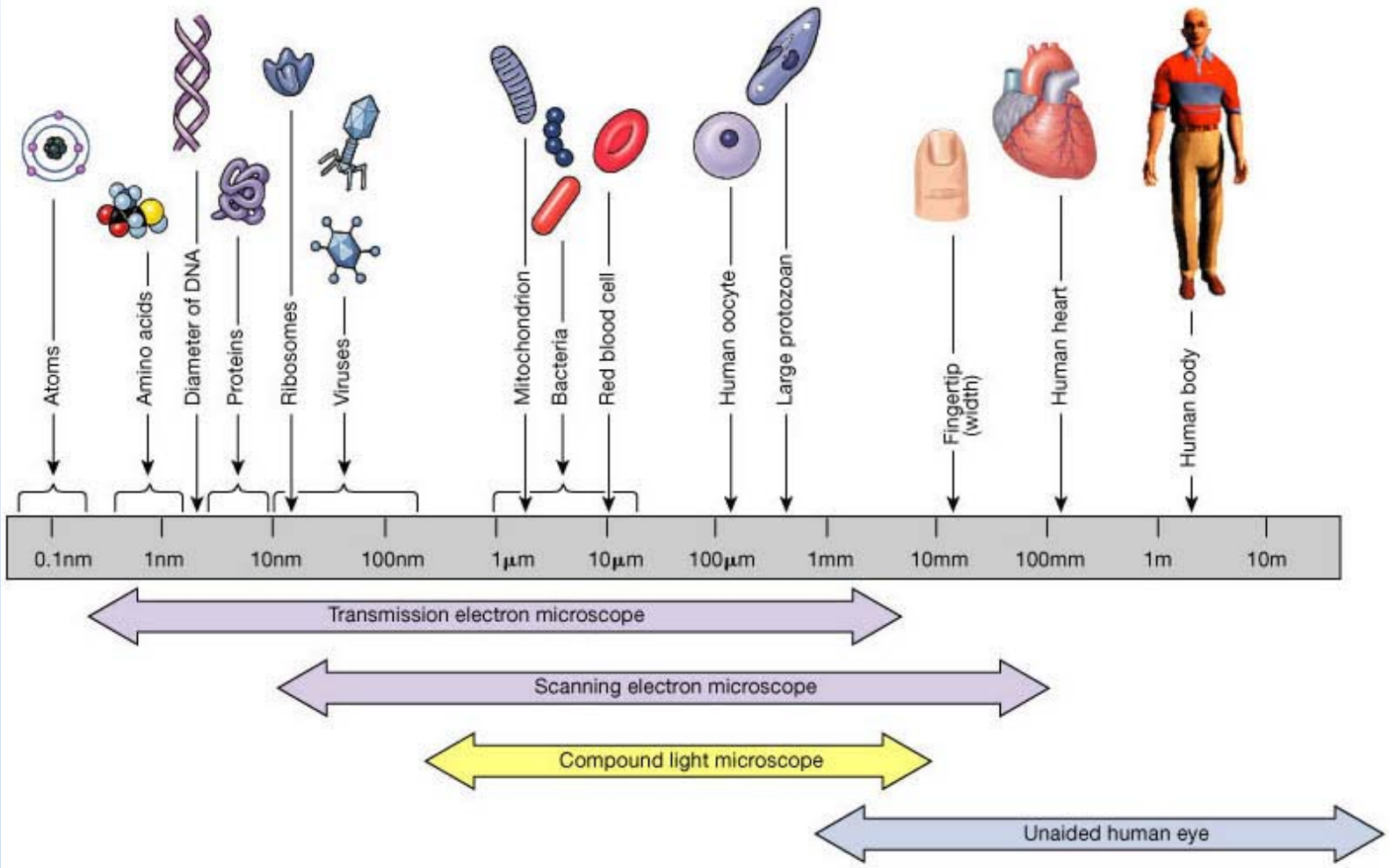
Corpus callosum



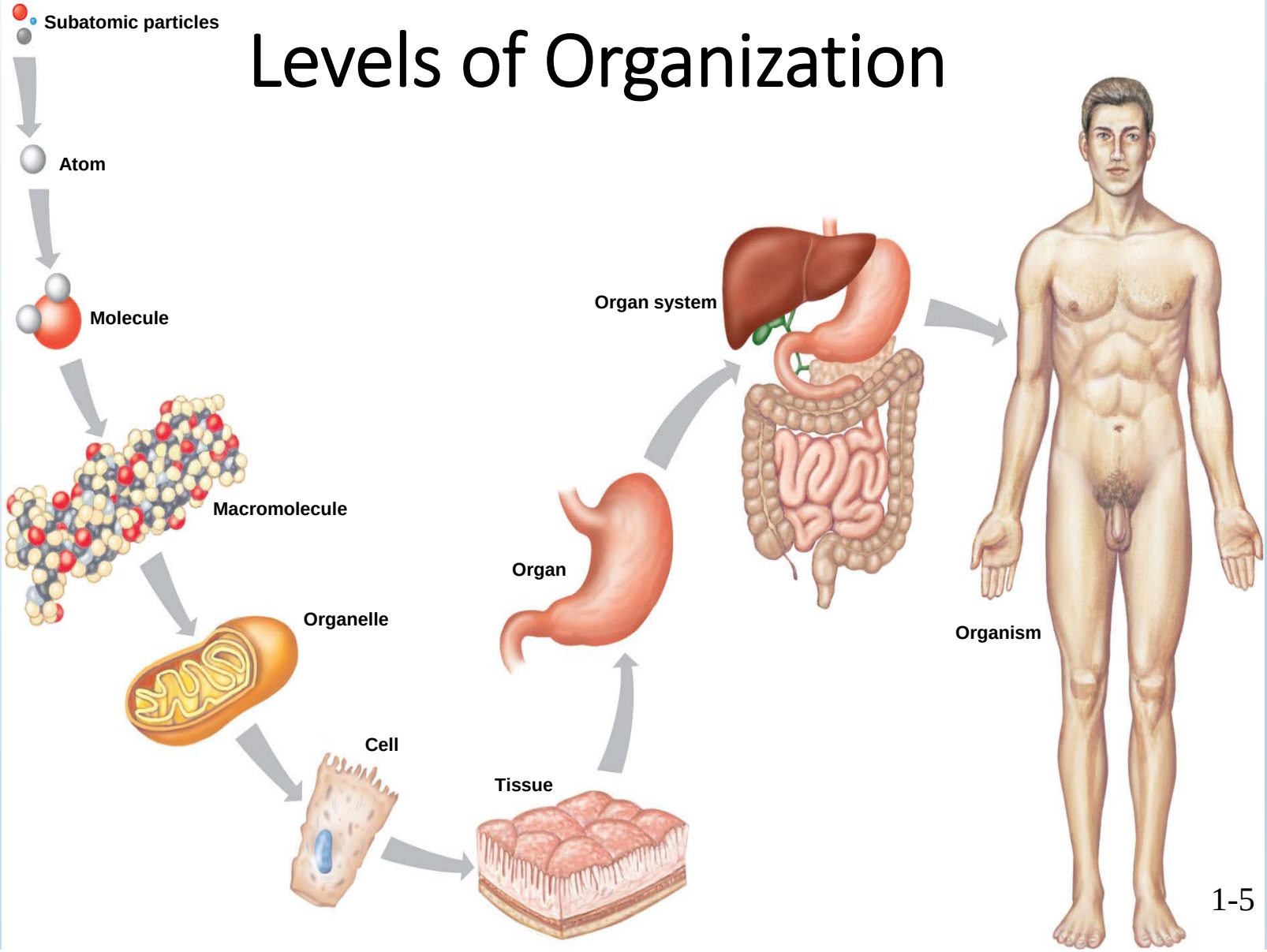
Lepore & Noe, 2013, The cerebral cortex of Albert Einstein: a description and preliminary analysis of unpublished photographs, Brain 136(4):1304-27.

Microscopic Anatomy

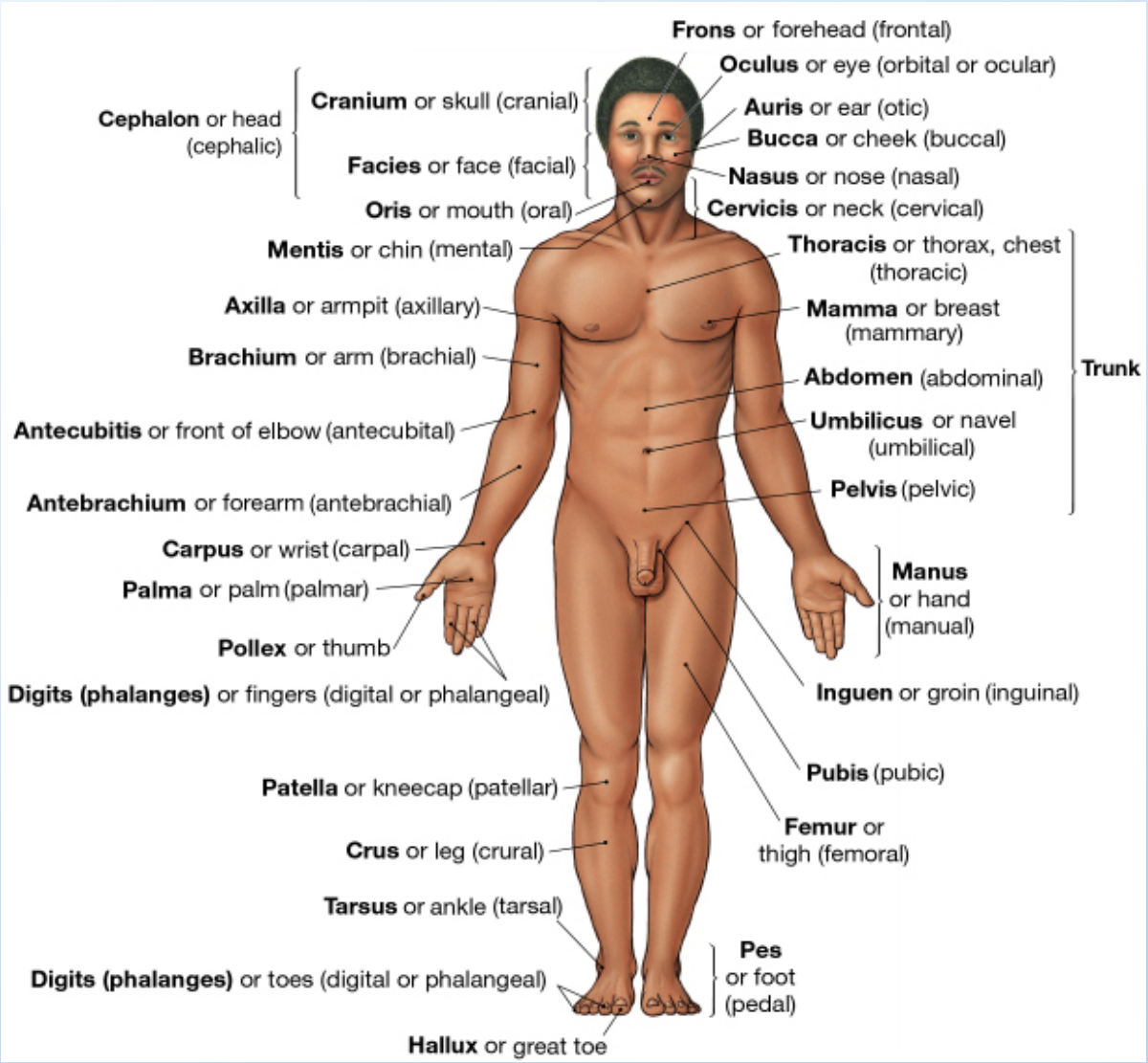
Gross Anatomy

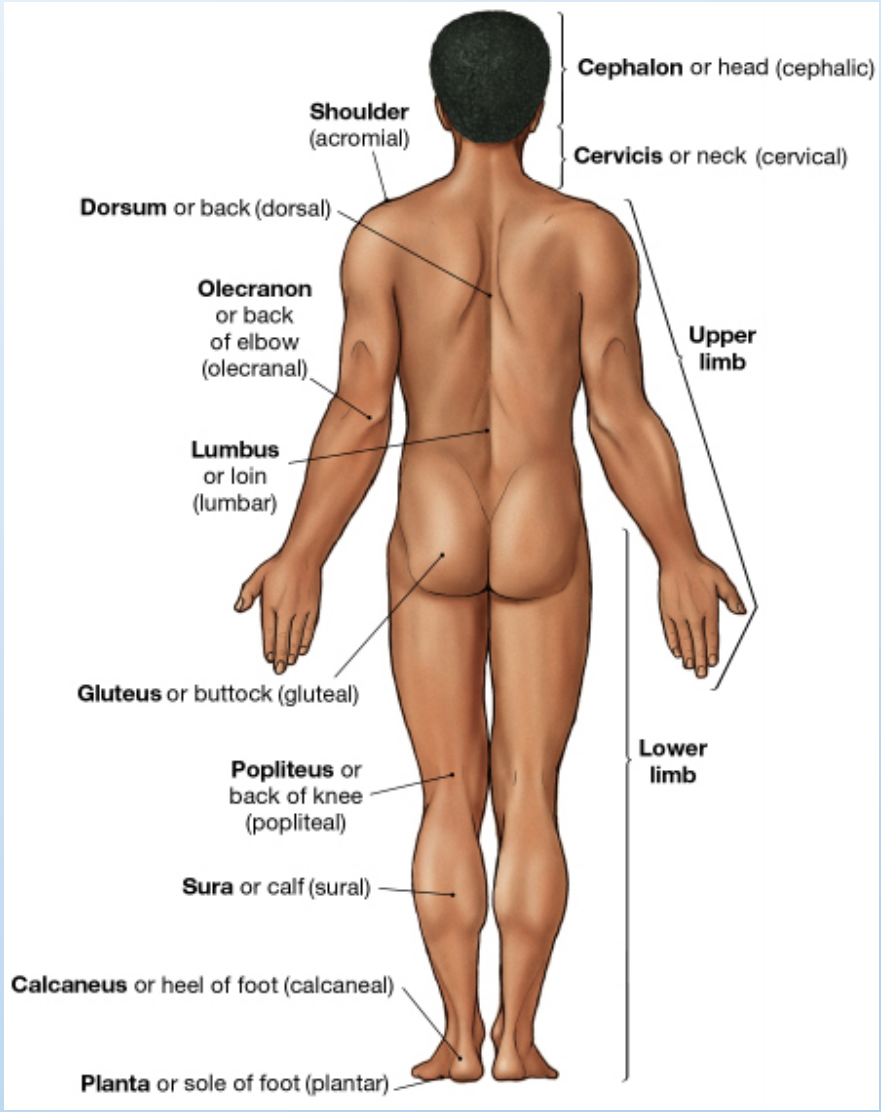


Levels of Organization

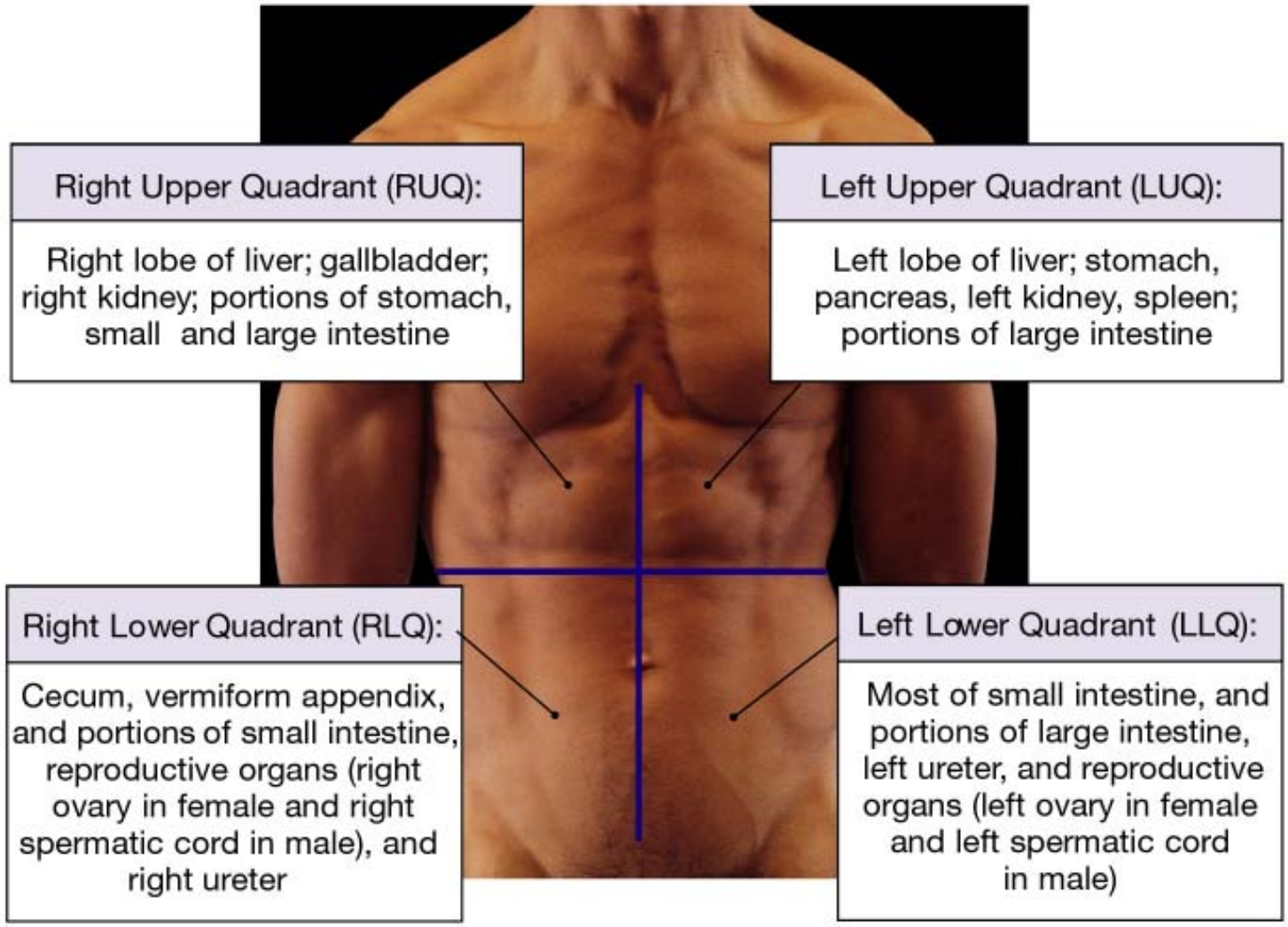


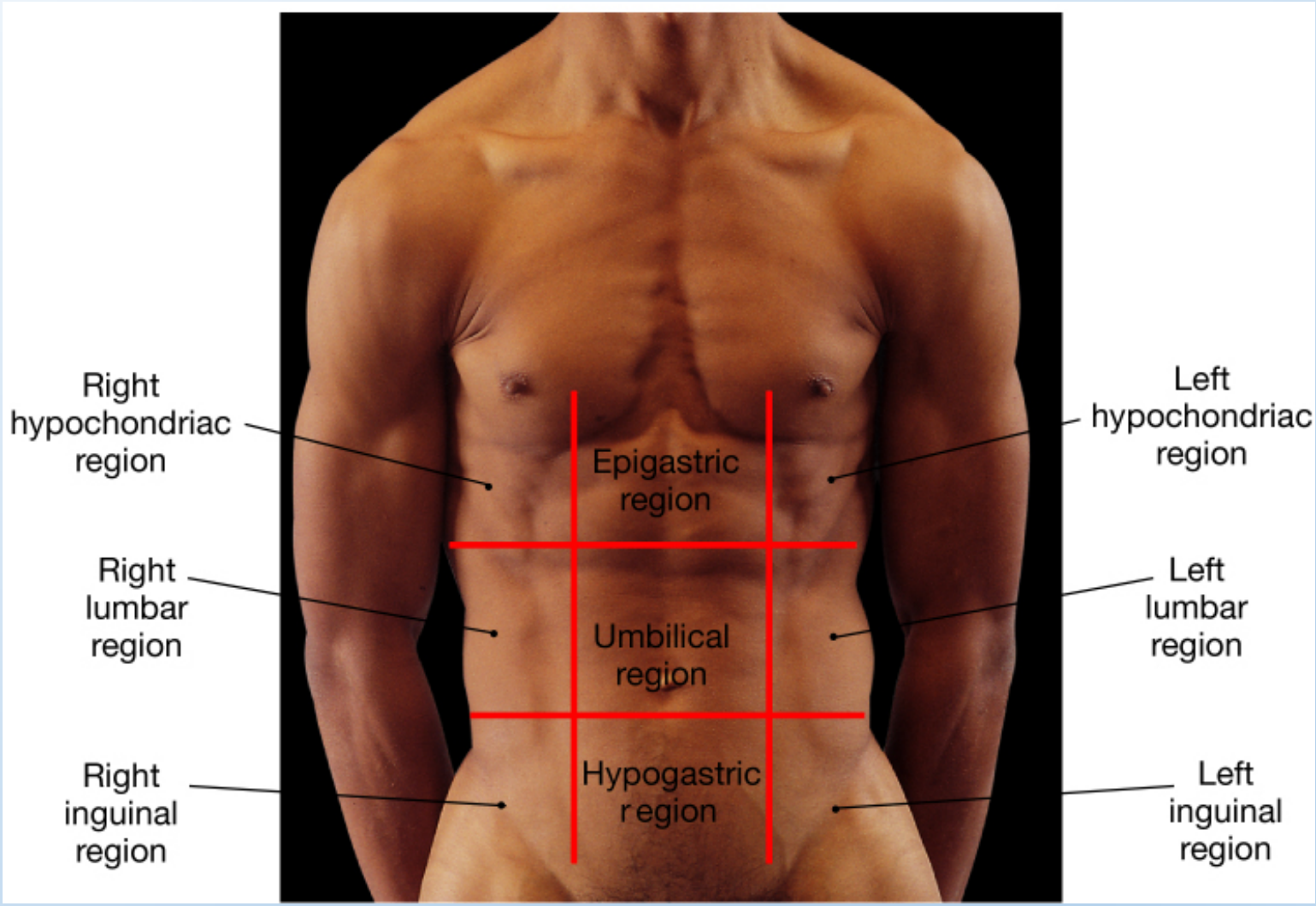
Anatomical Landmarks

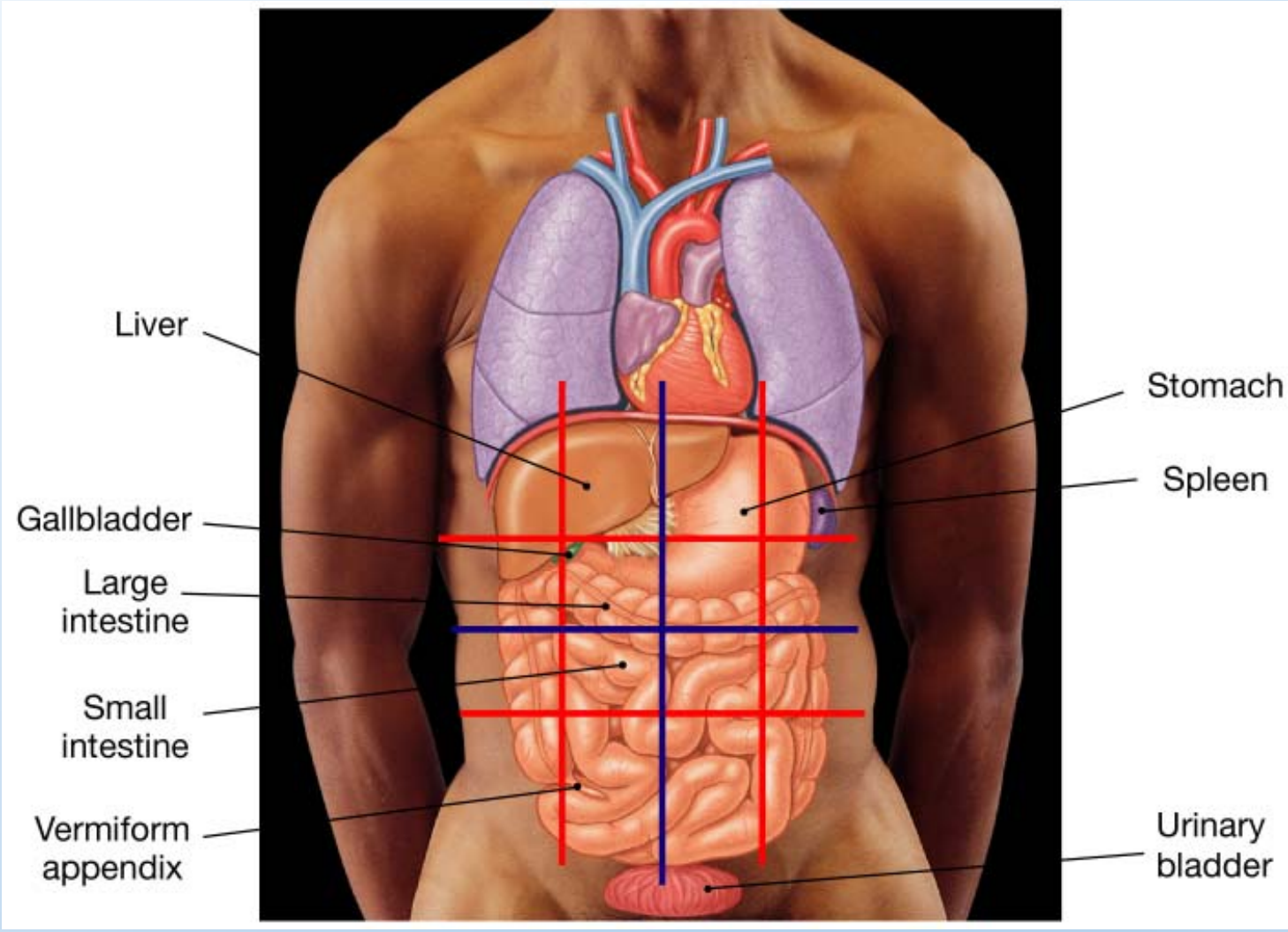



Cephalon or head (cephalic)
Shoulder (acromial)
Cervicis or neck (cervical)
Dorsum or back (dorsal)
Olecranon or back of elbow (olecranal)
Upper limb
Lumbus or loin (lumbar)
Gluteus or buttock (gluteal)
Lower limb
Popliteus or back of knee (popliteal)
Sura or calf (sural)
Calcaneus or heel of foot (calcaneal)
Planta or sole of foot (plantar)

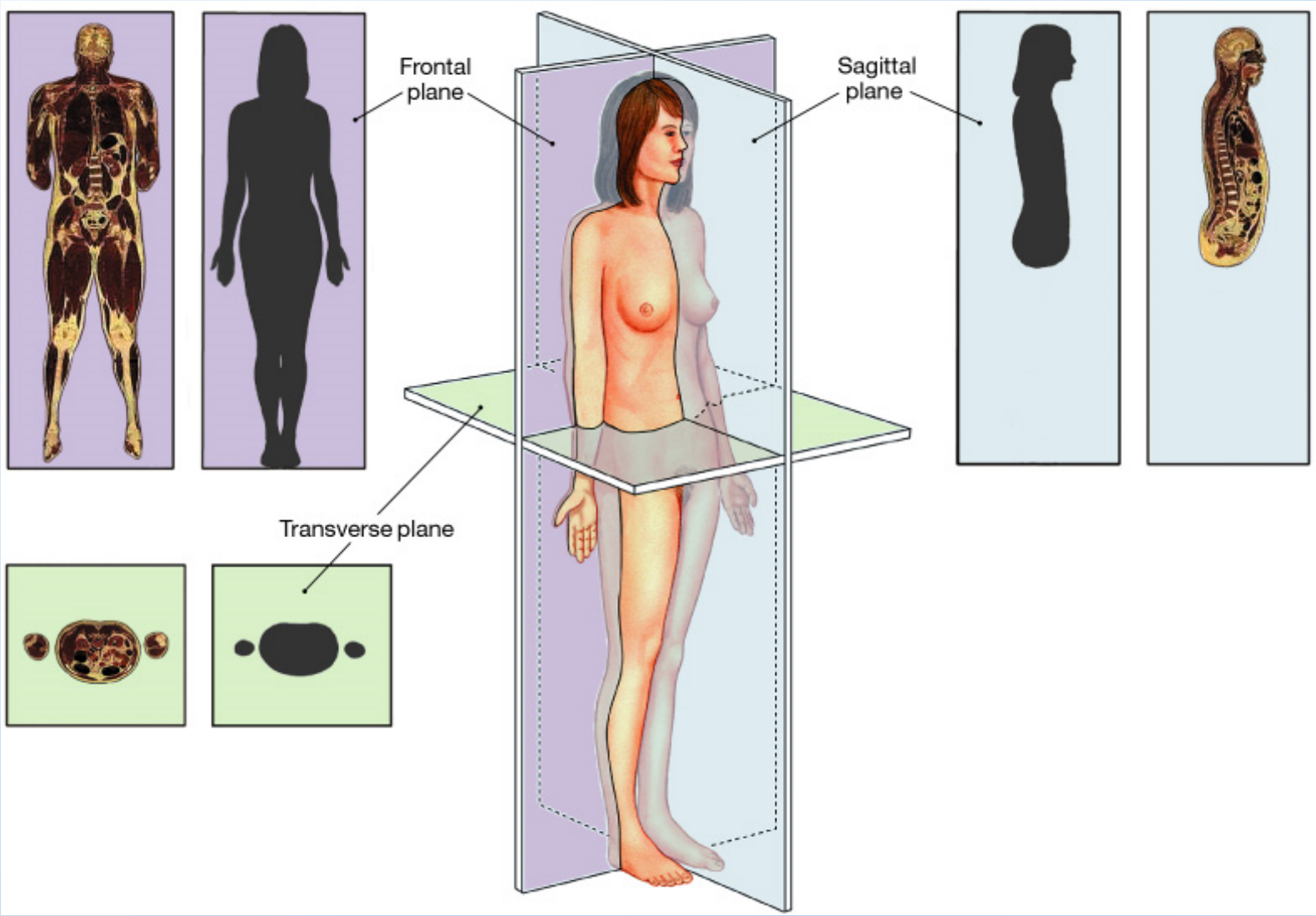
Abdominopelvic Quadrants and Regions



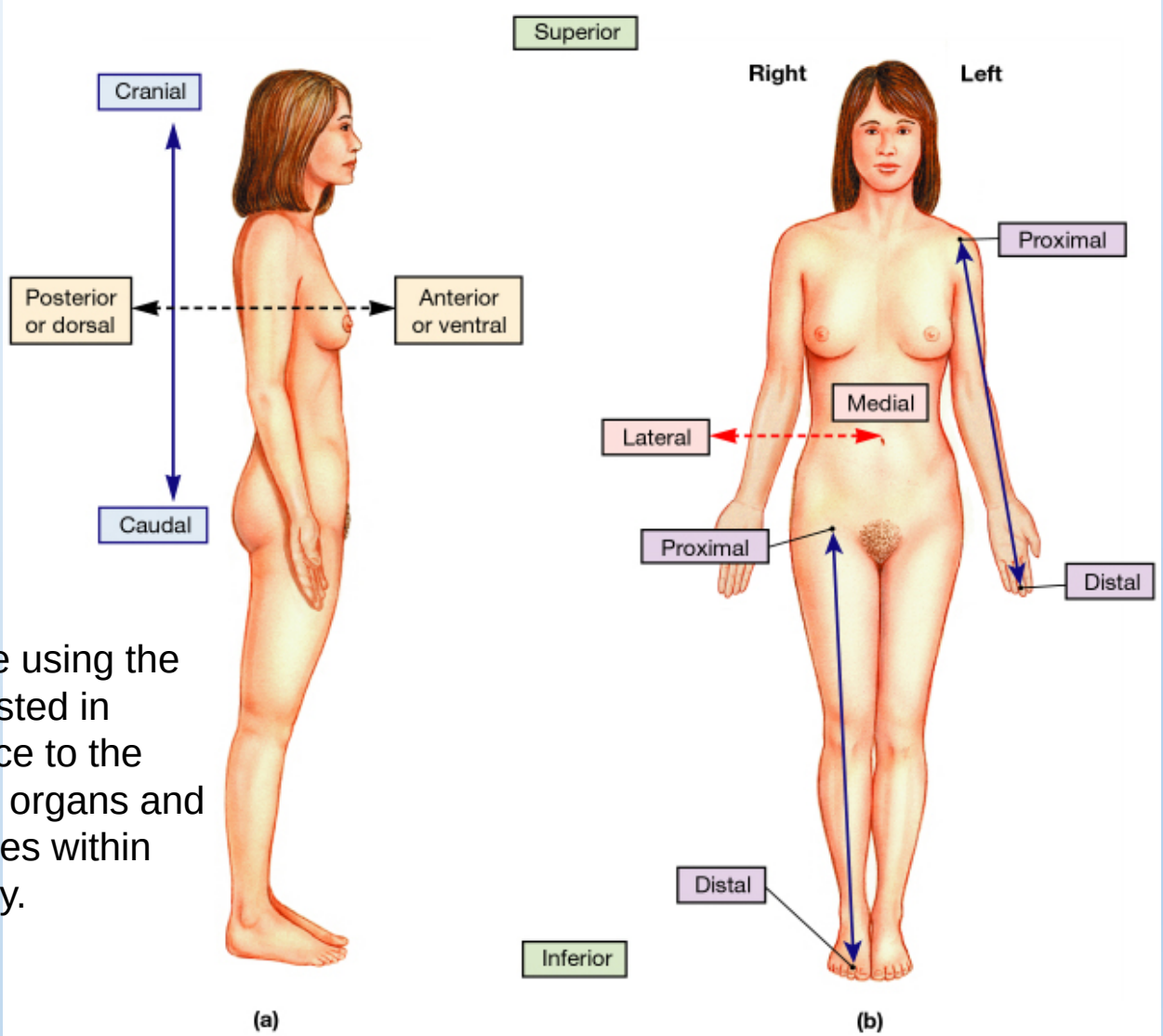

Right hypochondriac region
Epigastric region
Left hypochondriac region
Right lumbar region
Umbilical region
Left lumbar region
Right inguinal region
Hypogastric region
Left inguinal region


Liver
Gallbladder
Large intestine
Small intestine
Vermiform appendix
Stomach
Spleen
Urinary bladder

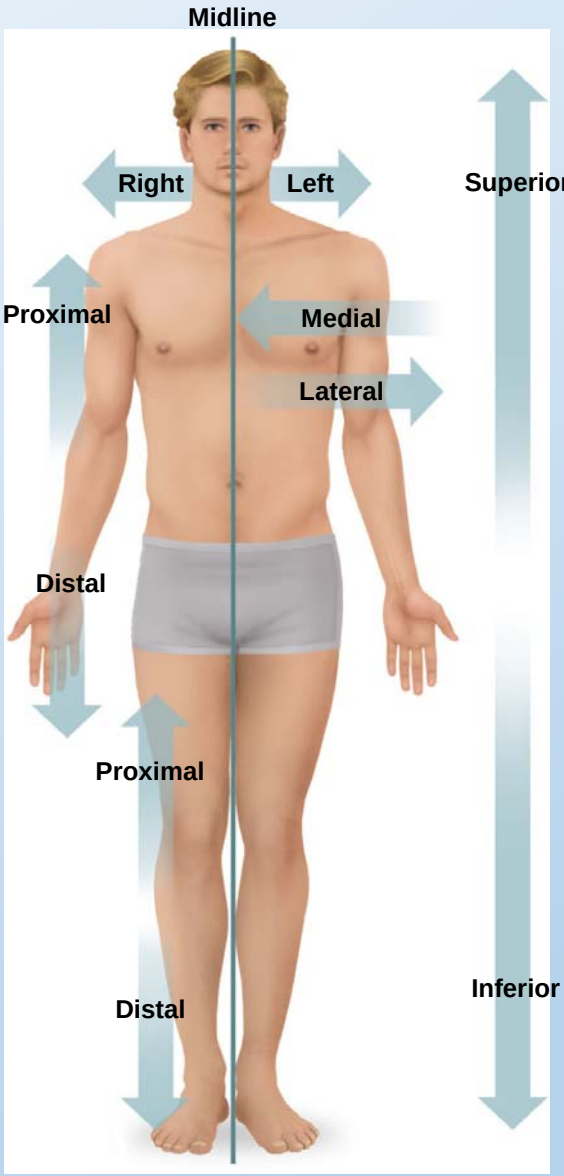
Sectional Planes

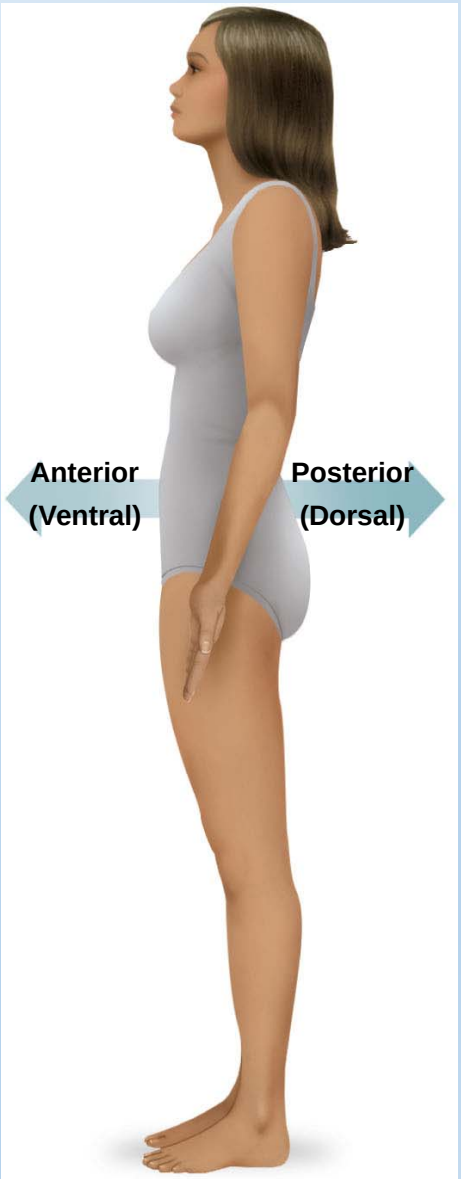


Directional References



Practice using the terms listed in reference to the Various organs and structures within the body.


Midline
Right
Left
Superior
Proximal
Medial
Lateral
Distal
Proximal
Distal
Inferior


Anterior
(Ventral)
Posterior
(Dorsal)

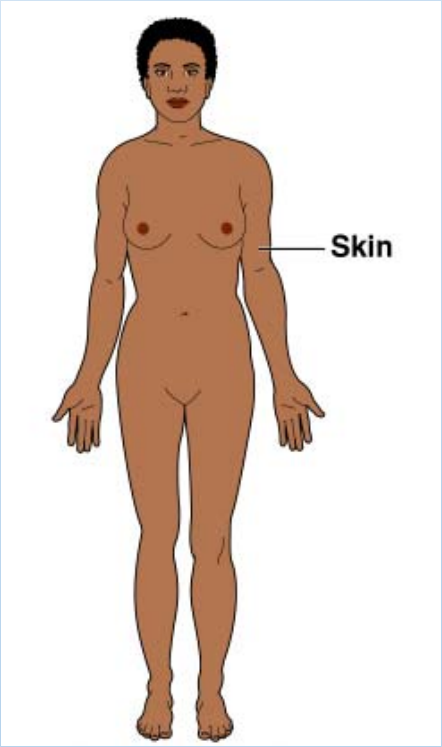
Organ Systems of the Body

Organ System		Major Functions
	**Integumentary system**	Protection from environmental hazards; temperature control
	**Skeletal system**	Support, protection of soft tissues; mineral storage; blood formation
	**Muscular system**	Locomotion, support, heat production
	**Nervous system**	Directing immediate responses to stimuli, usually by coordinating the activities of other organ systems
	**Endocrine system**	Directing long-term changes in the activities of other organ systems
	**Cardiovascular system**	Internal transport of cells and dissolved materials, including nutrients, wastes, and gases

Organ System		Major Functions
	**Lymphatic system**	Defense against infection and disease
	**Respiratory system**	Delivery of air to sites where gas exchange can occur between the air and circulating blood
	**Digestive system**	Processing of food and absorption of organic nutrients, minerals, vitamins, and water
	**Urinary system**	Elimination of excess water, salts, and waste products; control of pH
	**Reproductive system**	Production of sex cells and hormones

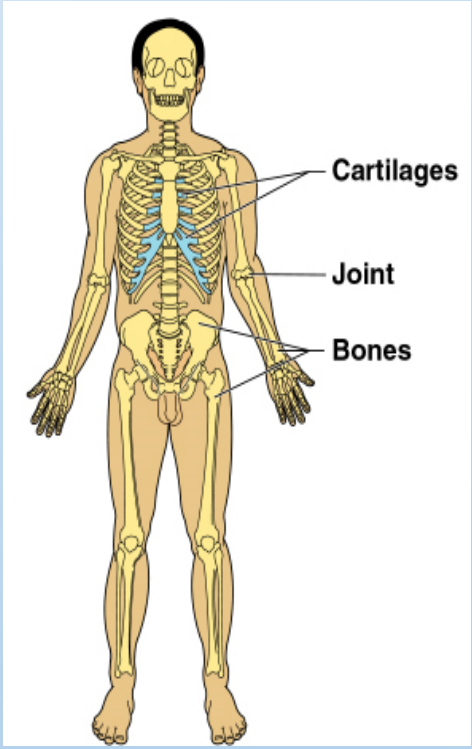
Integumentary System

- Forms the external body covering
- Protects deeper tissue from injury
- Synthesizes vitamin D
- Location of cutaneous nerve receptors



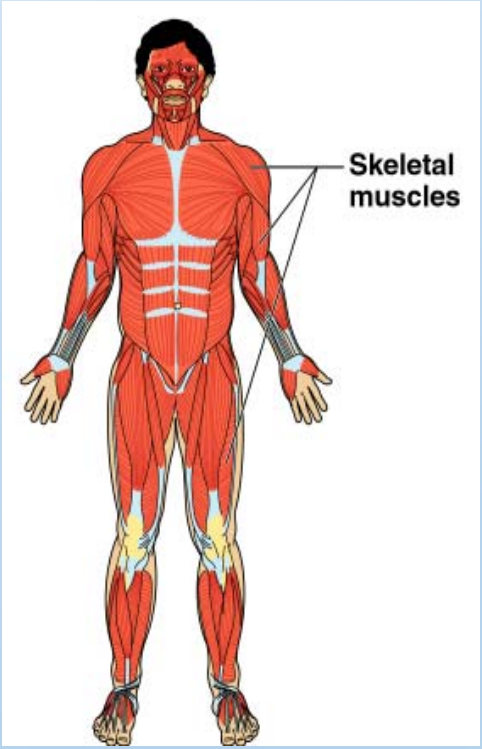
Skeletal System

- Protects and supports body organs
- Provides muscle attachment for movement
- Site of blood cell formation
- Stores minerals



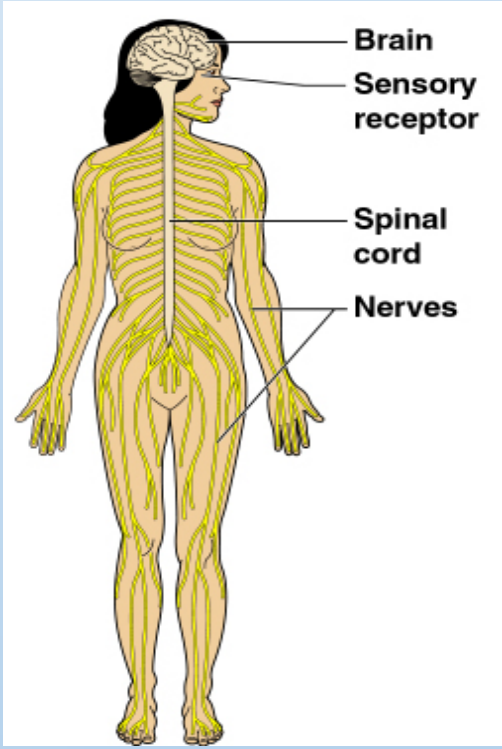
Muscular System

- Allows locomotion
- Maintains posture
- Produces heat



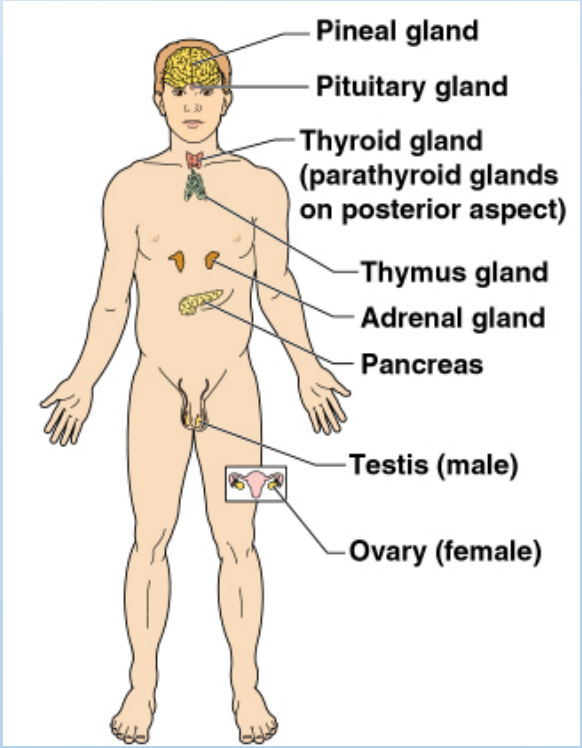
Nervous System

- Fast-acting control system
- Responds to internal and external change
- Activates muscles and glands



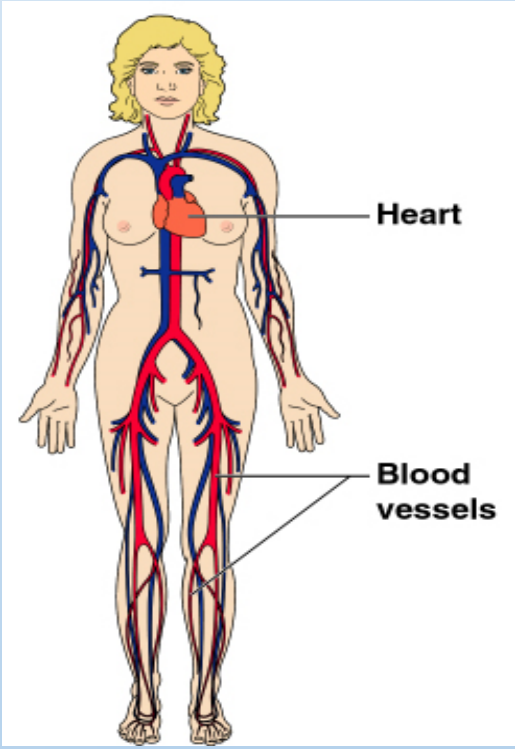
Endocrine System

- Secretes regulatory hormones
  - Growth
  - Reproduction
  - Metabolism



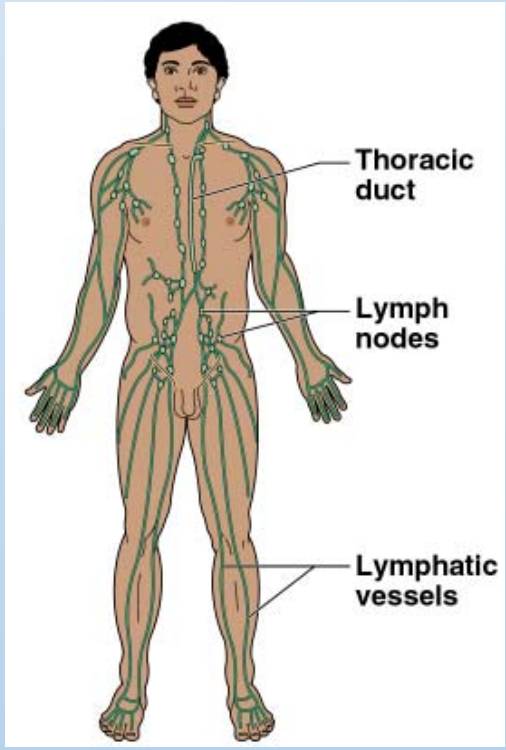
Cardiovascular System

- Transports materials in body via blood pumped by heart
  - Oxygen
  - Carbon dioxide
  - Nutrients
  - Wastes



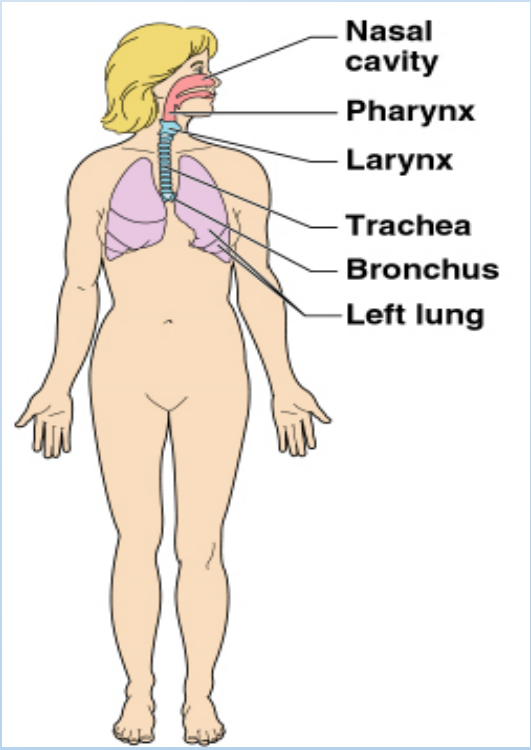
Lymphatic System

- Returns fluids to blood vessels
- Disposes of debris
- Involved in immunity



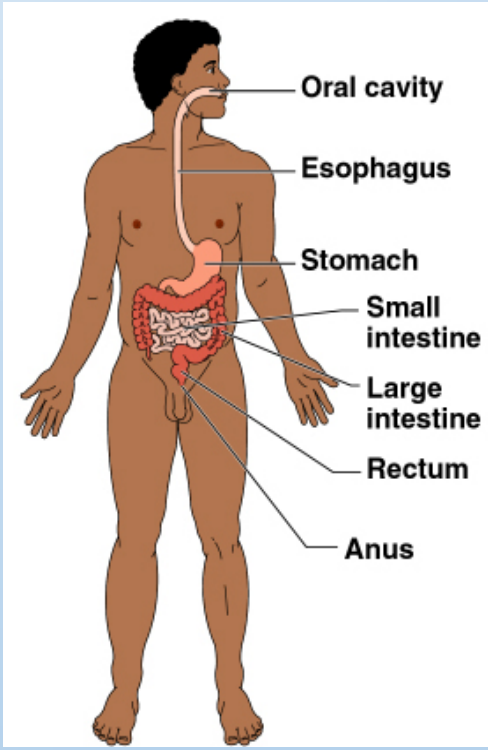
Respiratory System

- Keeps blood supplied with oxygen
- Removes carbon dioxide



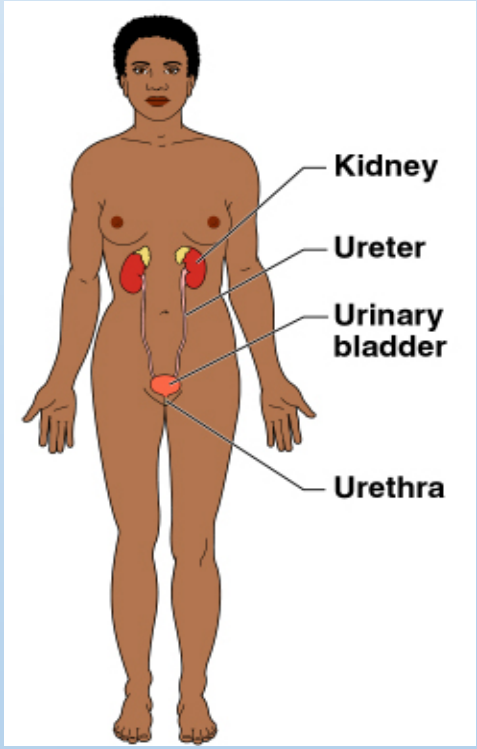
Digestive System

- Breaks down food
- Allows for nutrient absorption into blood
- Eliminates indigestible material



Urinary System

- Eliminates nitrogenous wastes
- Maintains acid – base balance
- Regulation of materials
  - Water
  - Electrolytes



Reproductive System

- Production of offspring
- Development