

MEDICAL TERMINOLOGY

ORGANIZATION OF THE HUMAN BODY

I. **Body systems**

CELLS are the main individual units forming the human body.

Muscle, nerve, skin(epithelium), and bone cells are examples of different cells of the body.

Cells grouped together are **TISSUES**. Group of muscle cells are muscle tissue and groups of epithelial cells are epithelial tissue.

Collection of different tissues working together are **ORGANS**.

e.g. Stomach contains muscle, epithelium, and nerves

Group of organs working together are the **SYSTEMS** of the body

The **digestive system** include organs like the mouth, throat, esophagus, stomach, and intestines.

There are **11** systems of the body:

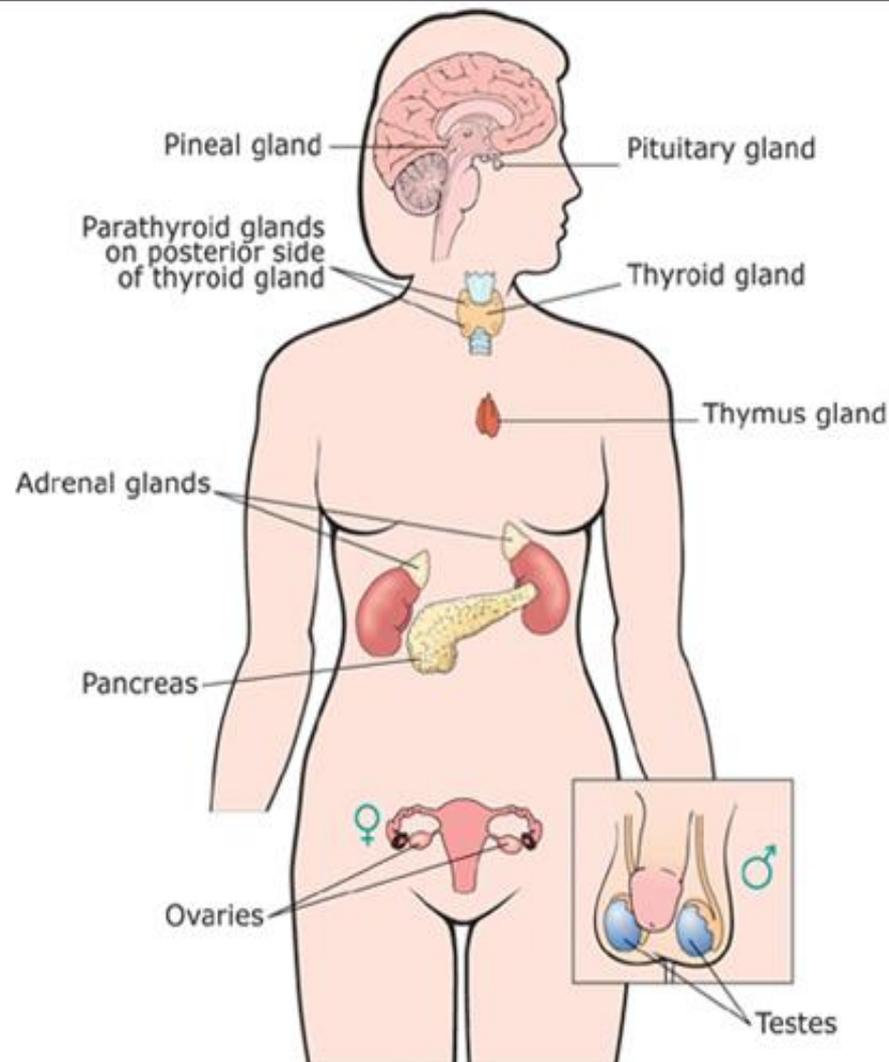
1-The **Circulatory system** (heart, blood, blood vessels such as arteries, veins and capillaries).

2-The **lymphatic system** includes lymph vessels and nodes that carry lymph which contains WBCs called lymphocytes that fight against disease and plays important role in immunity



3-The Endocrine system

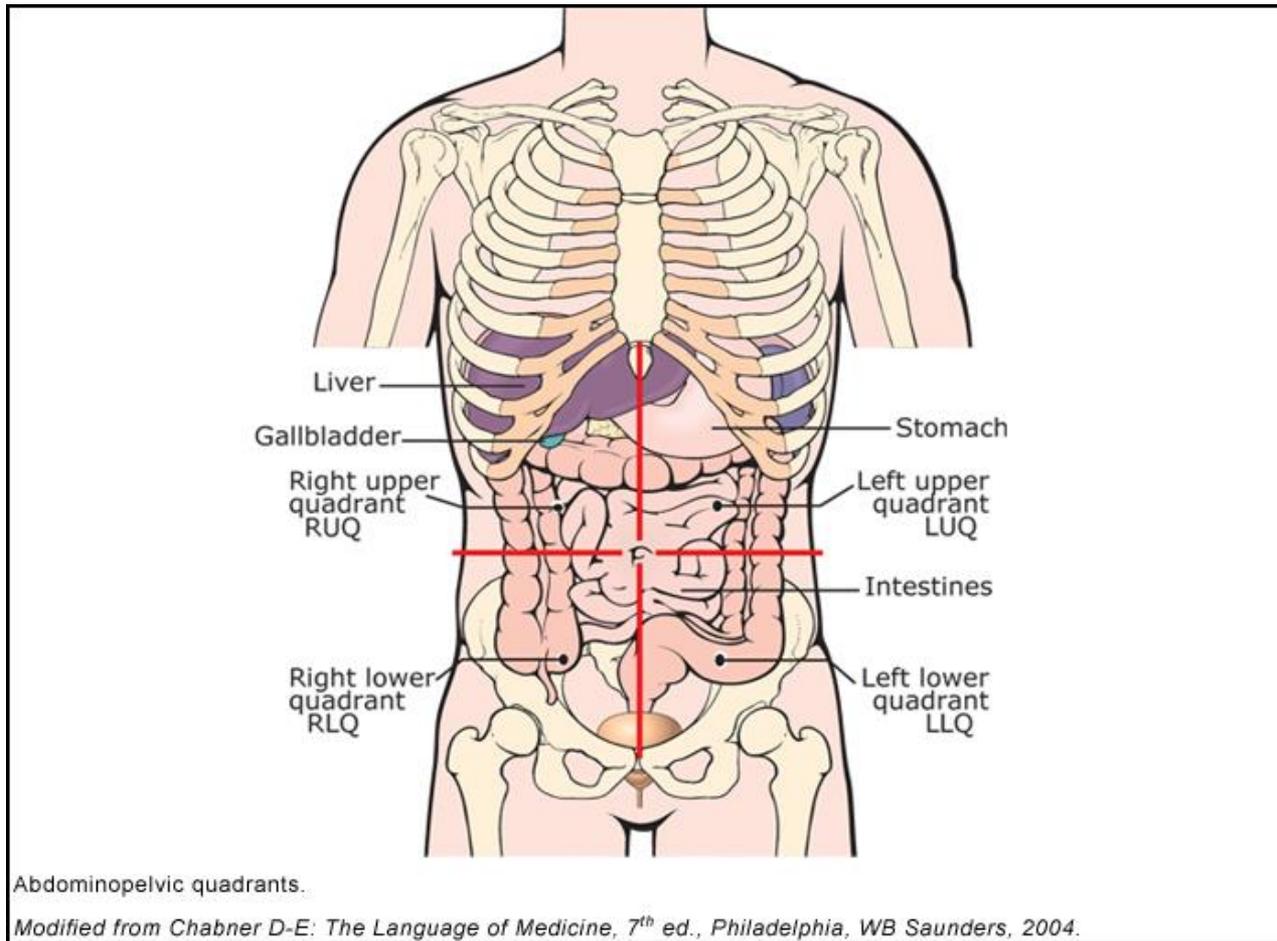
Glands send chemical messengers called hormones into the blood to act on other glands and organs.



Endocrine glands secrete (form and give off) hormones into the bloodstream. The hormones travel throughout the body, affecting organs (including other endocrine glands) and controlling their actions.

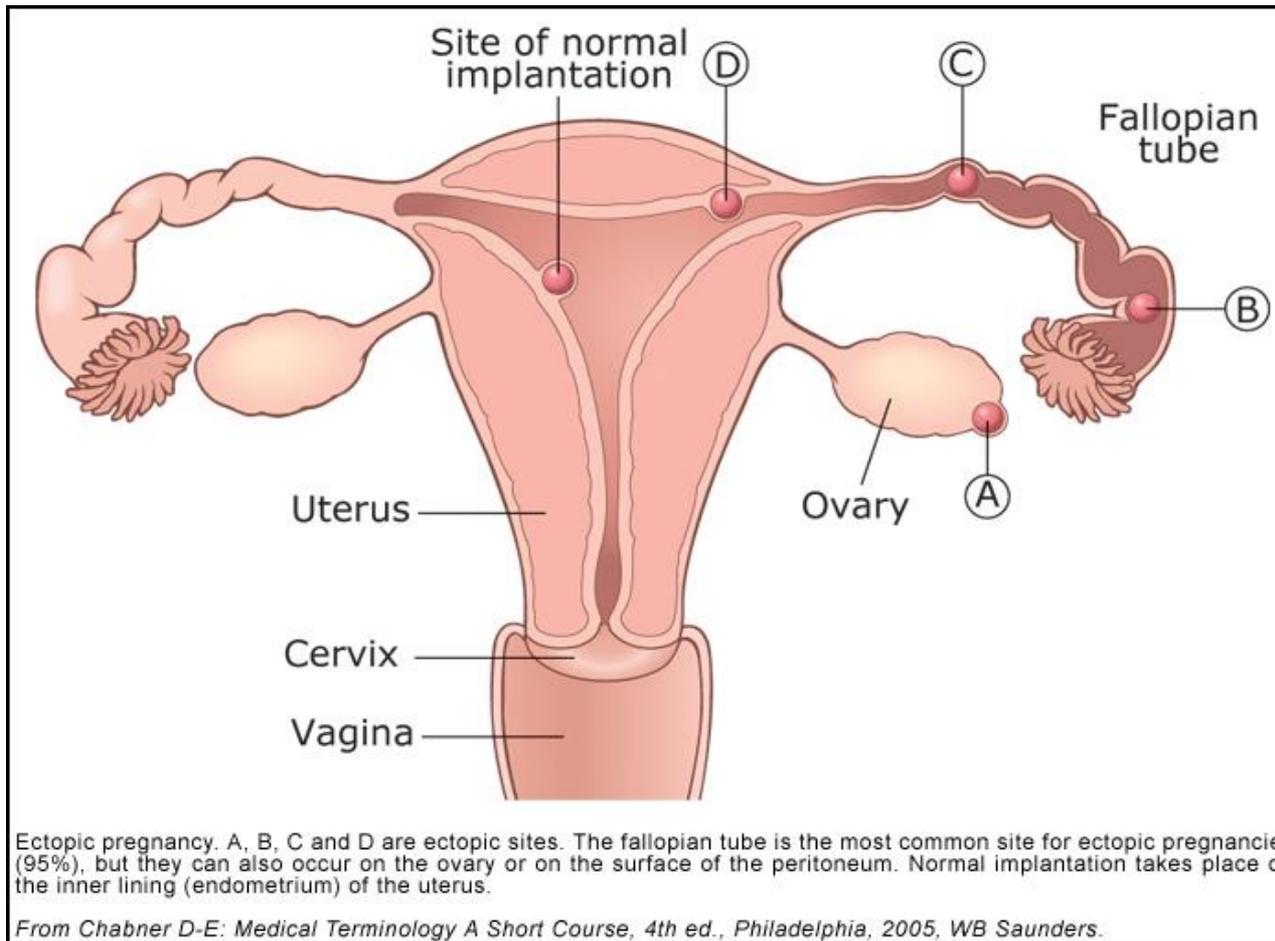
4-The Digestive system •

Brings food into the body and breaks it down •
so that it can enter the bloodstream. Food not
broken down is then removed from the body

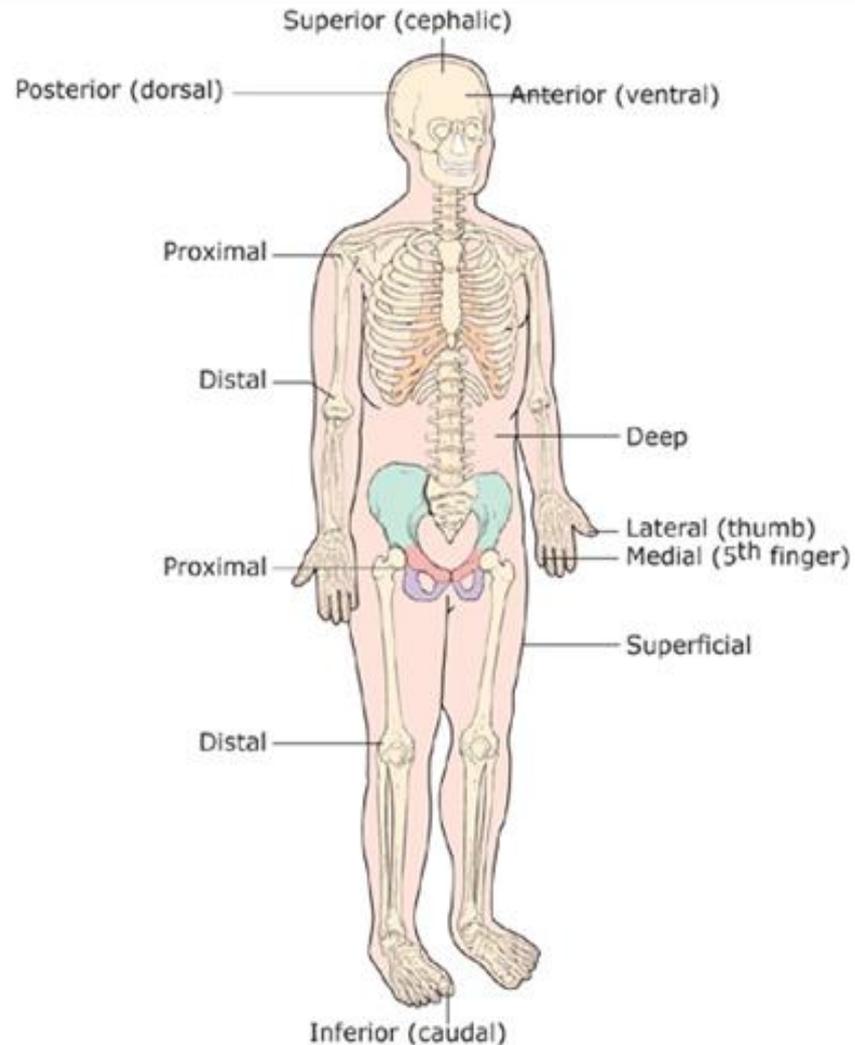


5 & 6-The **Female and male reproductive systems** produce cells that join to form the embryo

Male (testis) and female(ovary) sex organs produce hormones as well.



7-Musculoskeletal system includes muscles, bones, joints, and connective tissues supports the body and moves it.



Positional and directional terms.

Modified from Chabner D-E: *The Language of Medicine*, 7th ed., Philadelphia, WB Saunders, 2004.

8-The **Nervous system**:-

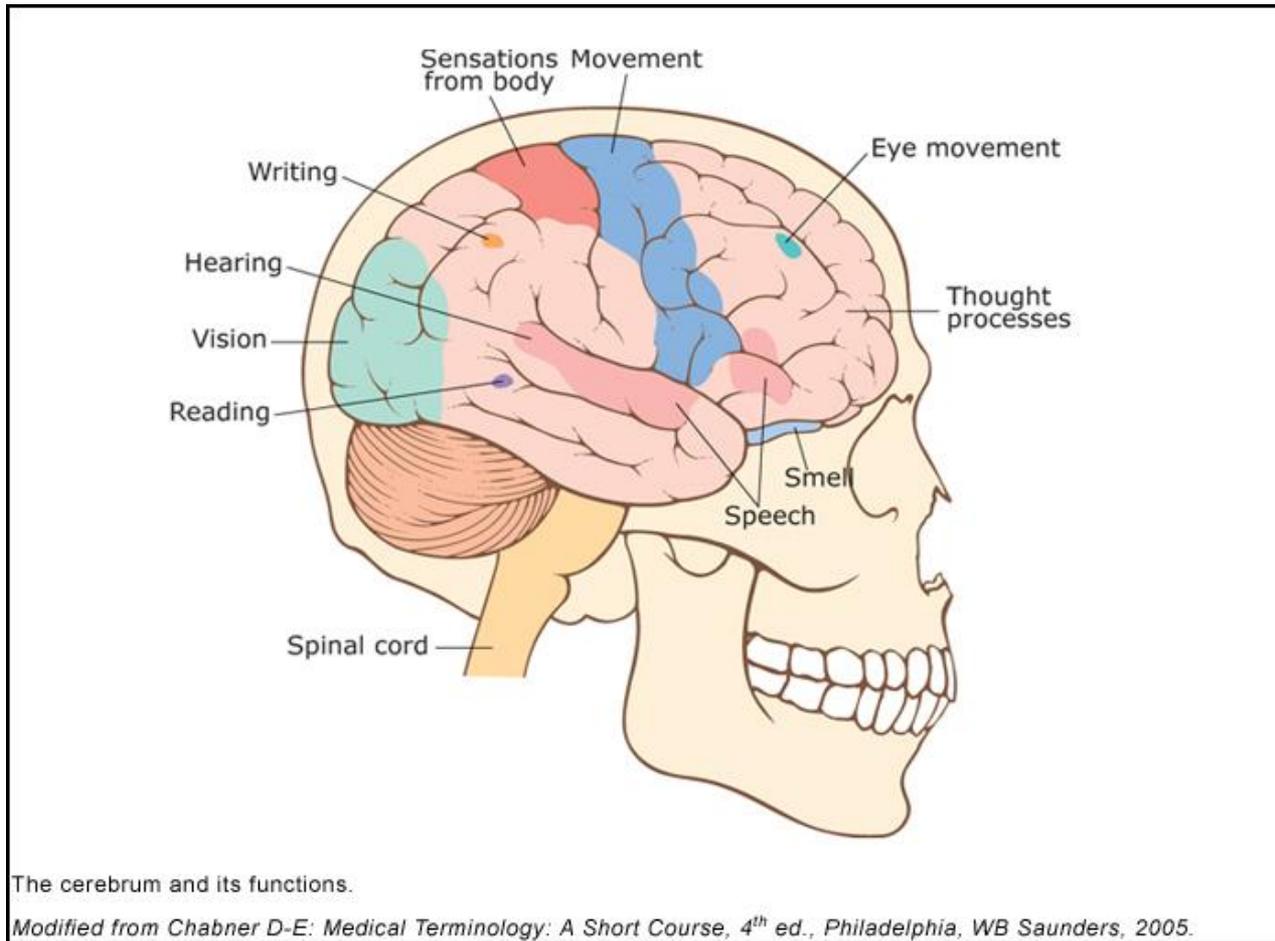
Carries electrical messages to and from the brain and spinal cord.

9-The **Respiratory system**:-

Controls breathing, a process in which air enters and leaves the body.

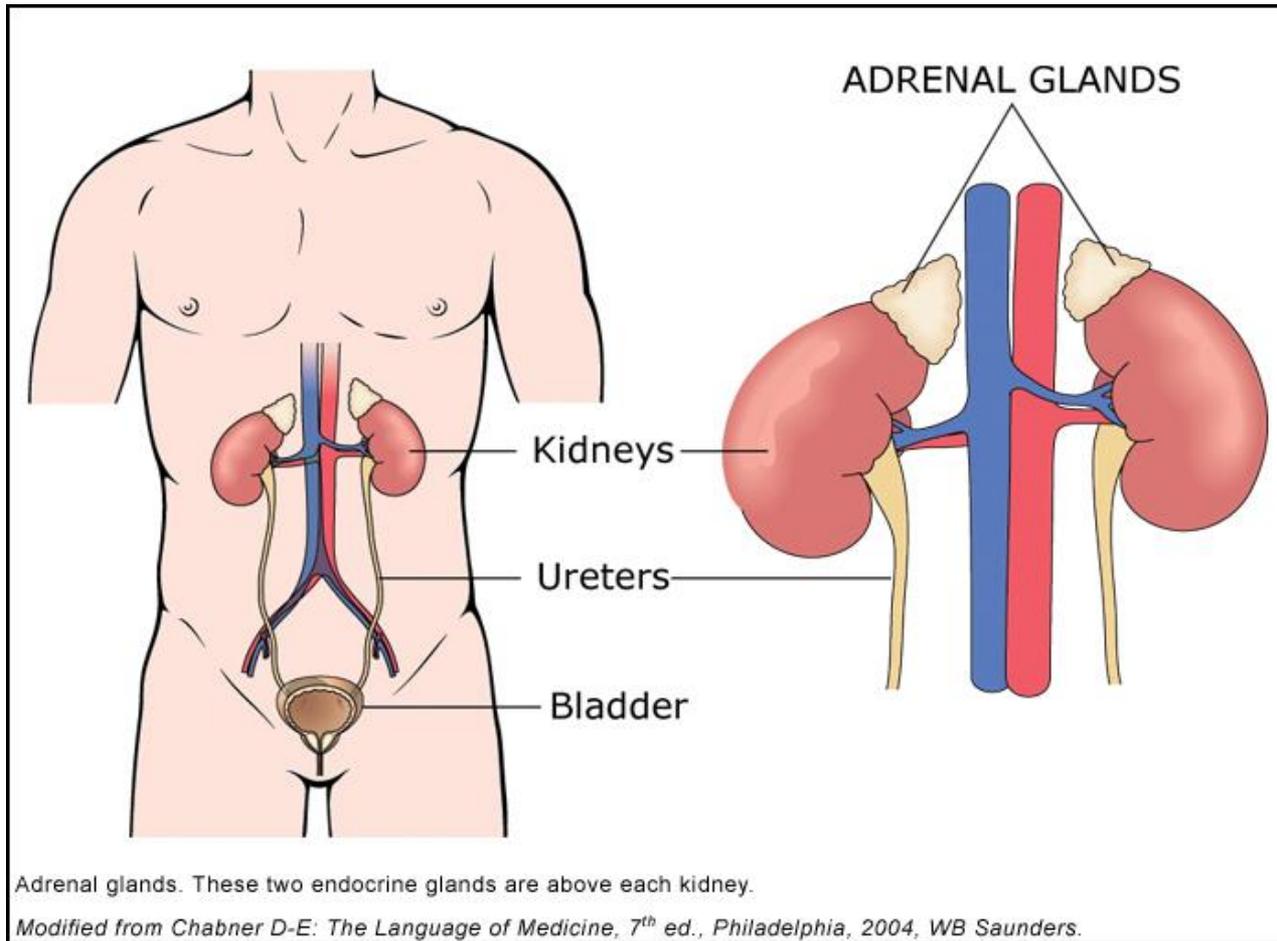
10-The **Skin and Sense organ system**:-

Skin, eyes and ears, receives messages from the environment and sends them to the brain.





11-The **Urinary system** produces urine and sends it out of the body through kidneys, ureters, bladder, and urethra



II. Body Cavities

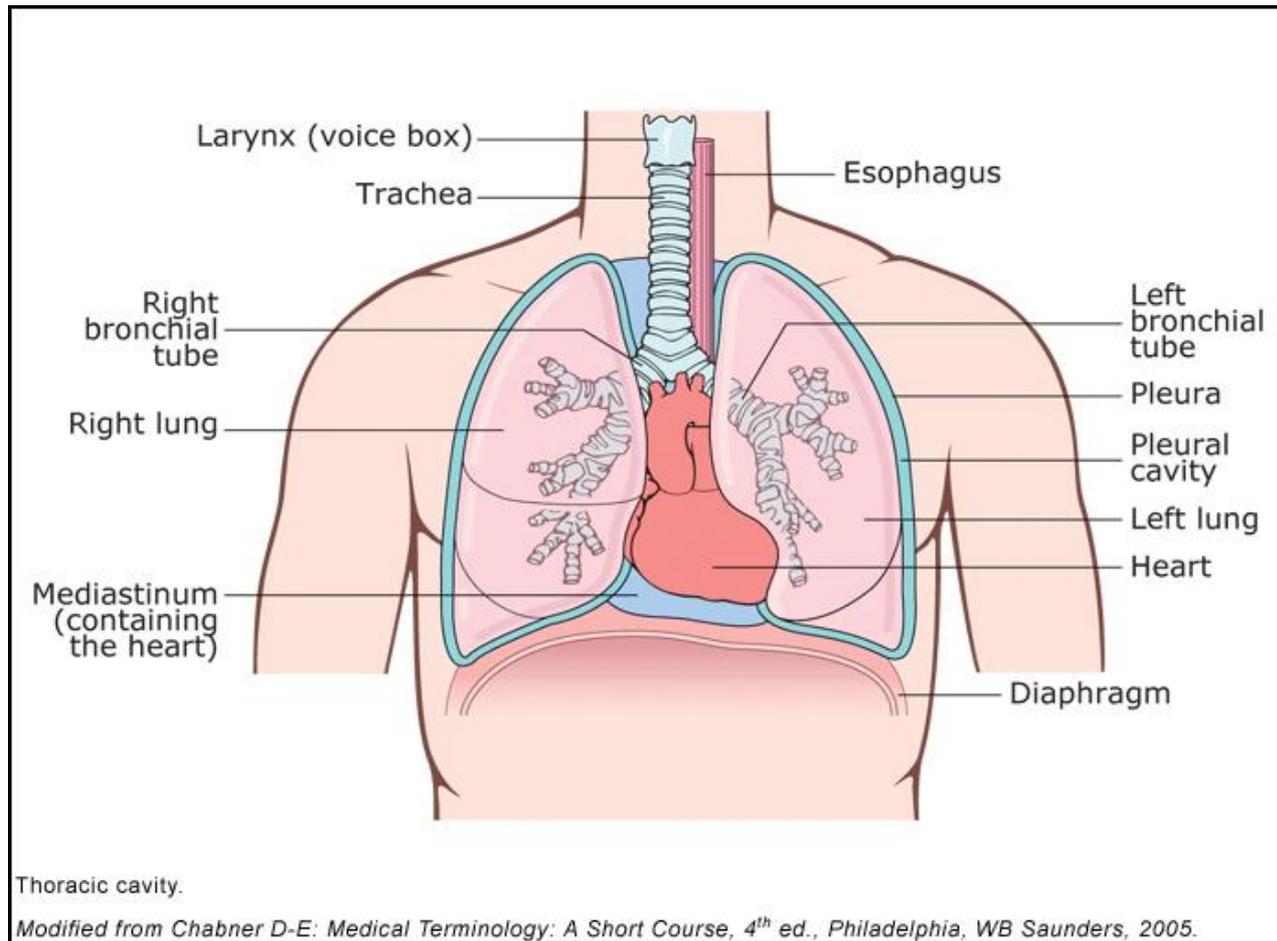
The **cranial cavity** located in the head and surrounded by the skull (CRANI/O means skull) contains the brain and other structures like the pituitary gland.

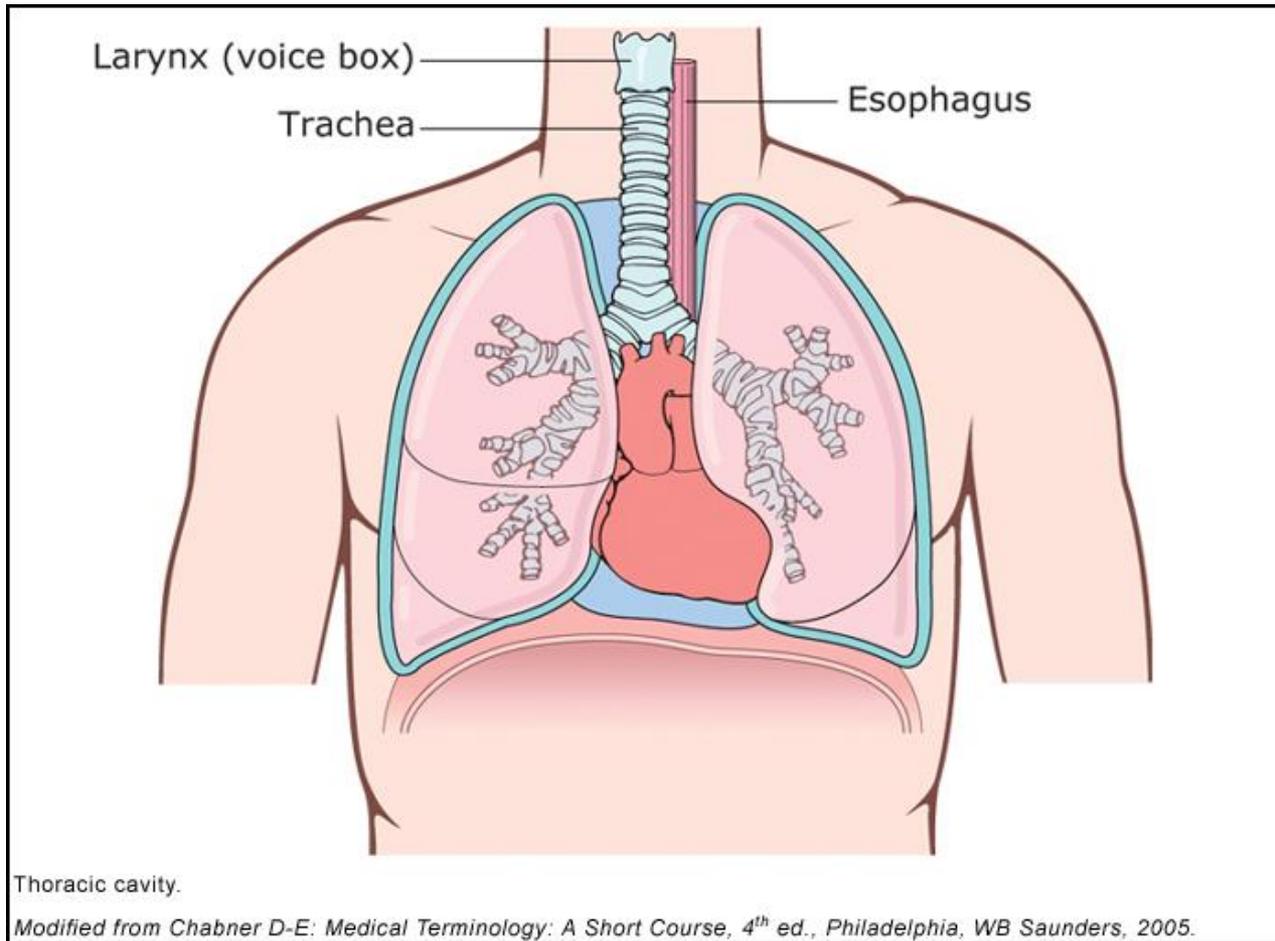
The **Thoracic Cavity** is the chest cavity (THORAC/O means chest), which is surrounded by breast, bone and ribs. It contains the lungs, heart, trachea and bronchial tubes.

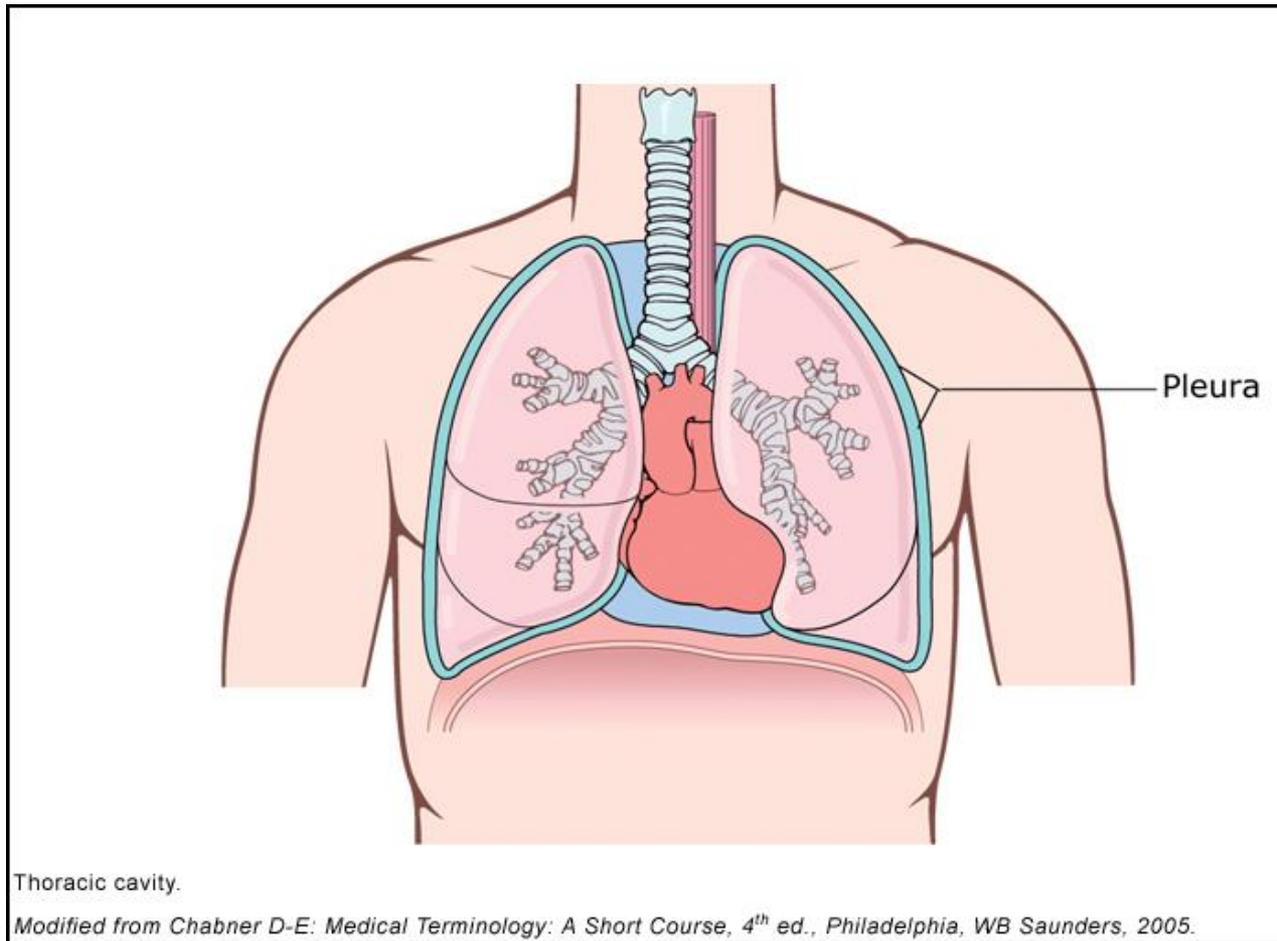
The lungs are surrounded by a double membrane known as the **Pleura**.

The space between pleura and each lung is the **Pleural cavity**.

The space between lungs is the **Mediastinum** containing (heart, esophagus, trachea and bronchial tubes).







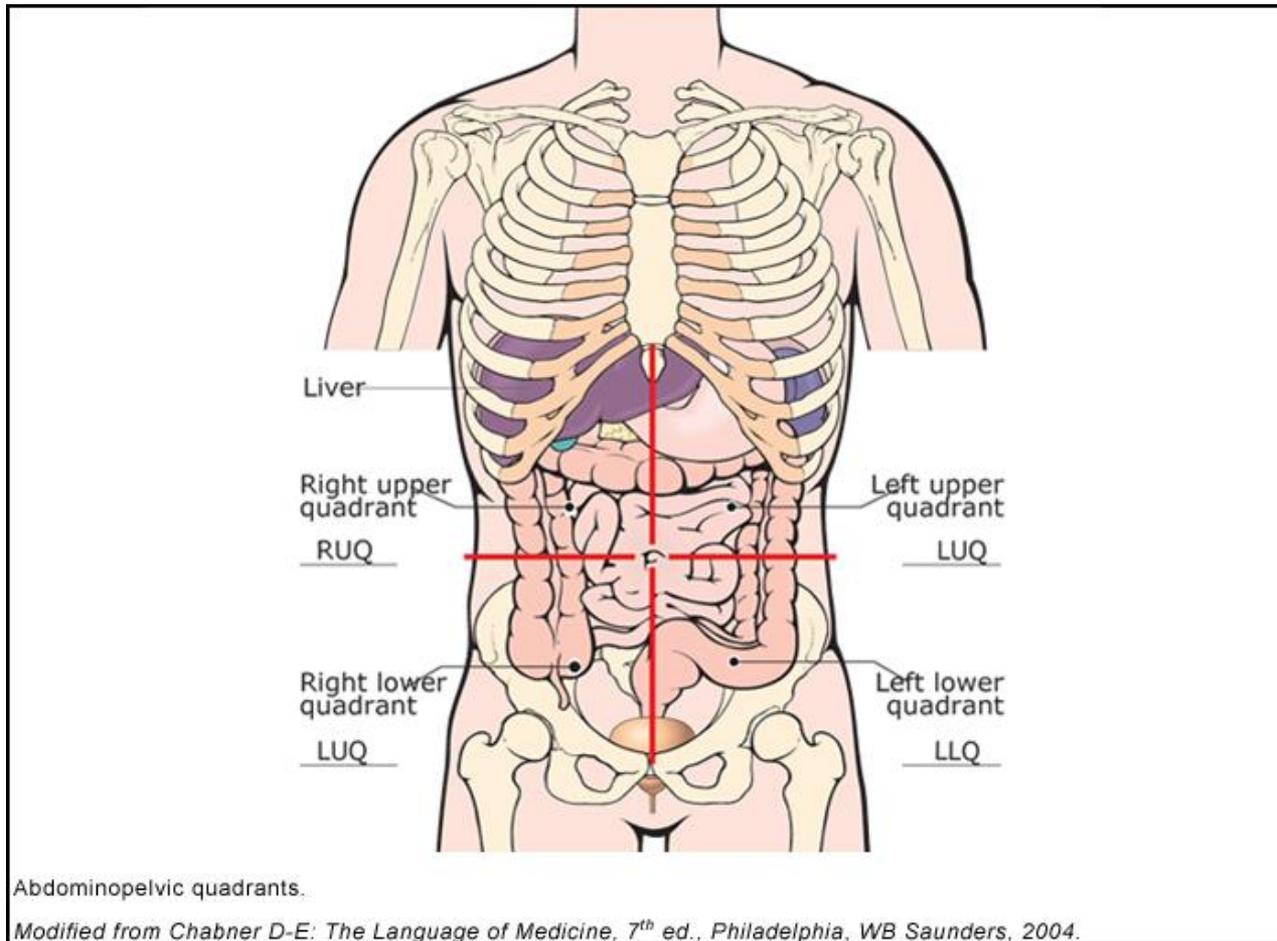
The **Abdominal Cavity** is the space below the thoracic cavity. The **Diaphragm** is the muscle that separates the abdominal and thoracic cavities. •

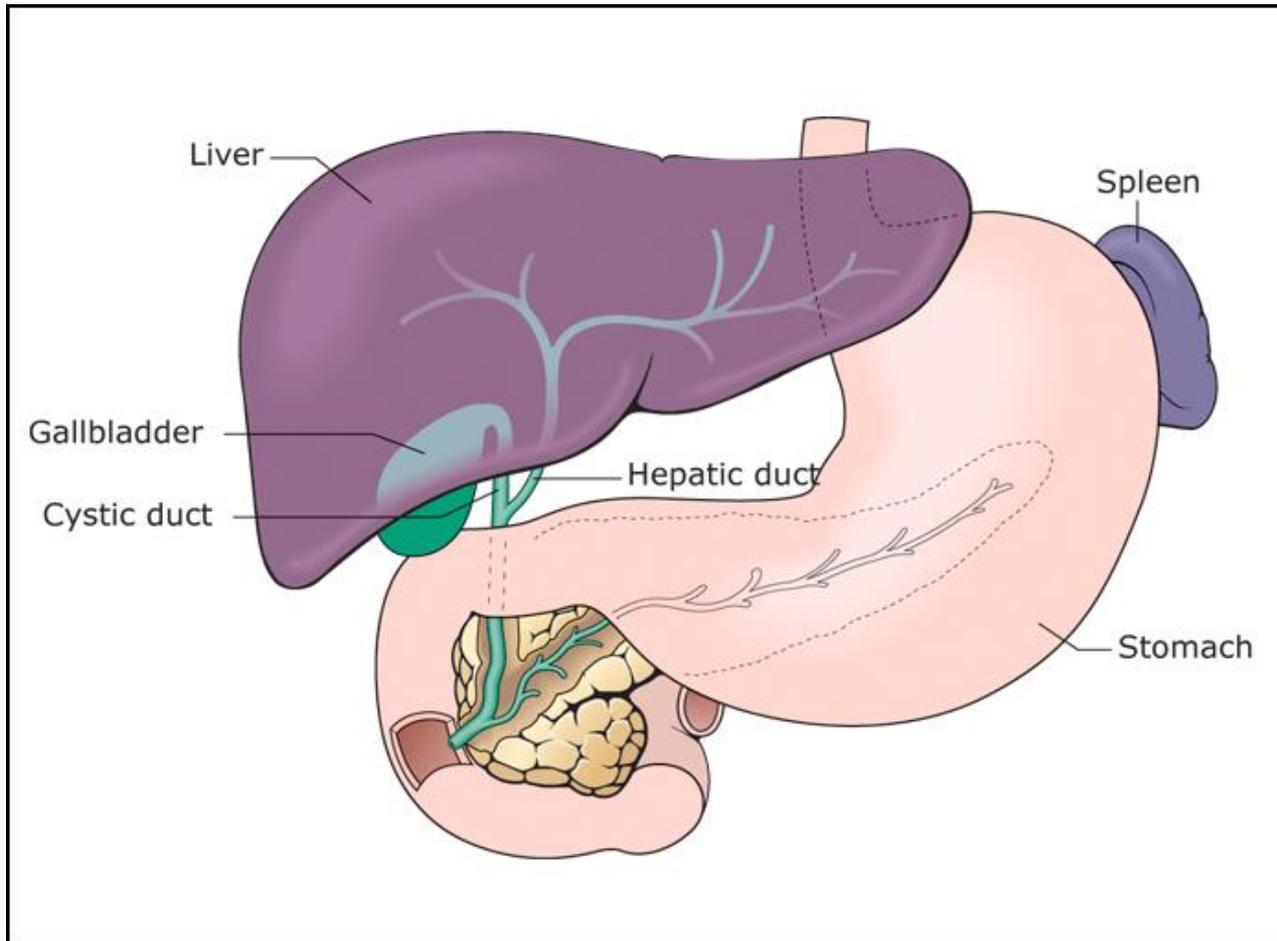
Organs in the abdomen include (stomach, liver, gallbladder, and small and large intestines). •

Organs in the abdomen are covered by a membrane called the **peritoneum** which attaches the abdominal organs to the abdominal muscles and surround each organ to hold it in place.

The **Pelvic cavity** is below the abdominal cavity surrounded by the **pelvis** (bones of the hip).

Organs located within this cavity are the urinary bladder, ureters (tubes from the kidneys to the bladder), urethra (tube from bladder to the outside of the body), rectum and anus. Also the Uterus in females.





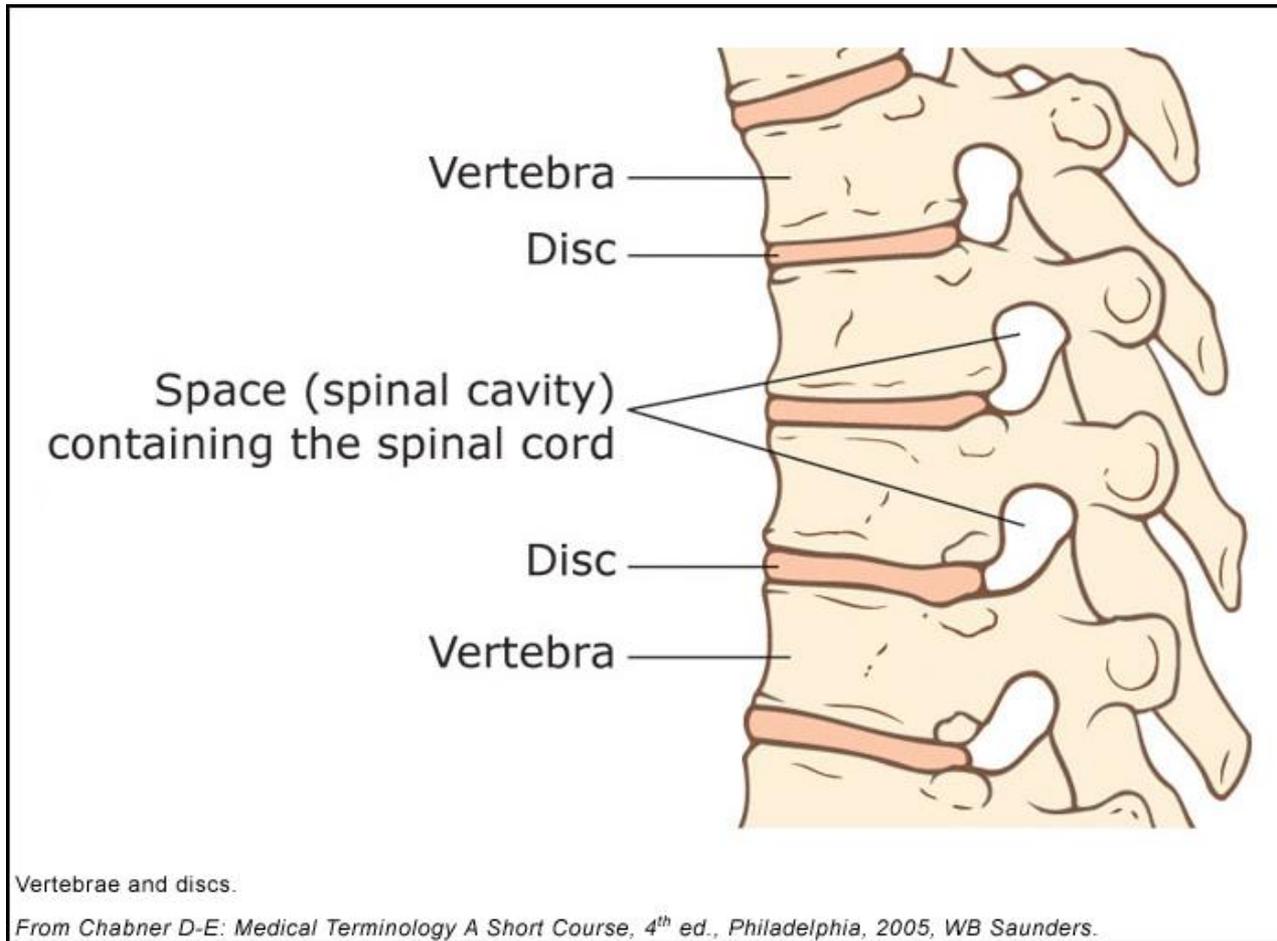
III. Divisions of the Back

The **Spinal cavity** is the space surrounded by the **spinal column** (backbones).

The **Spinal cord** is the nervous tissue within the spinal cavity.

The spinal column is a long row of bones from the neck to the tailbone, each bone is called **Vertebrae**.

A piece of connective tissue, called a **disk (disc)**, lies between the bones



IV. Planes of the Body

A **plane** is an imaginary flat surface. Organs appear in different relationships to each other according to the plane of the body in which they are viewed.

1-Frontal (coronal) plane: plane dividing the body or an organ into front (anterior) and back (posterior) portions..e.g. Routine chest X ray

2-Lateral (sagittal) plane: divides the body or an organ into right and left..e.g. Lateral chest X ray

3-Transverse (axial): divides the body or an organ into upper and lower portions as in a cross-section. e.g. CT scan