



## Department of Anesthesia Techniques



كلية المستقبل الجامعة  
قسم تقنيات التخدير

المرحلة الاولى ٢٠٢٢-٢٠٢٣

**Anatomy**

**Cavity of body**

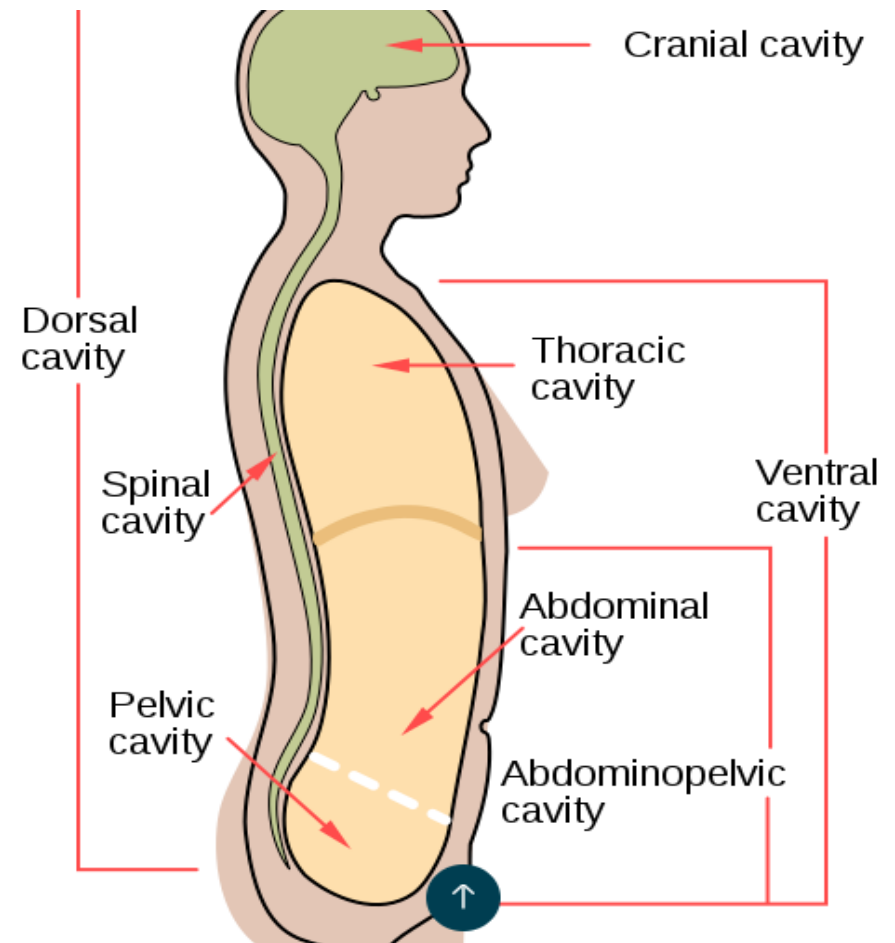
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# Body Cavities

**A body cavity** is a fluid-filled space inside the body that holds and protects internal organs. Human body cavities are separated by membranes and other structures. The two largest human body cavities are the **ventral cavity and dorsal cavity**. These two body cavities are subdivided into smaller body cavities (**figure1**).

Figure 1



# Body Cavities

**The ventral cavity** is at the anterior (or front) of the trunk. Organs contained within this cavity include the lungs, heart, stomach, liver, pancreas, spleen, intestines, and reproductive organs. (Figure.2).

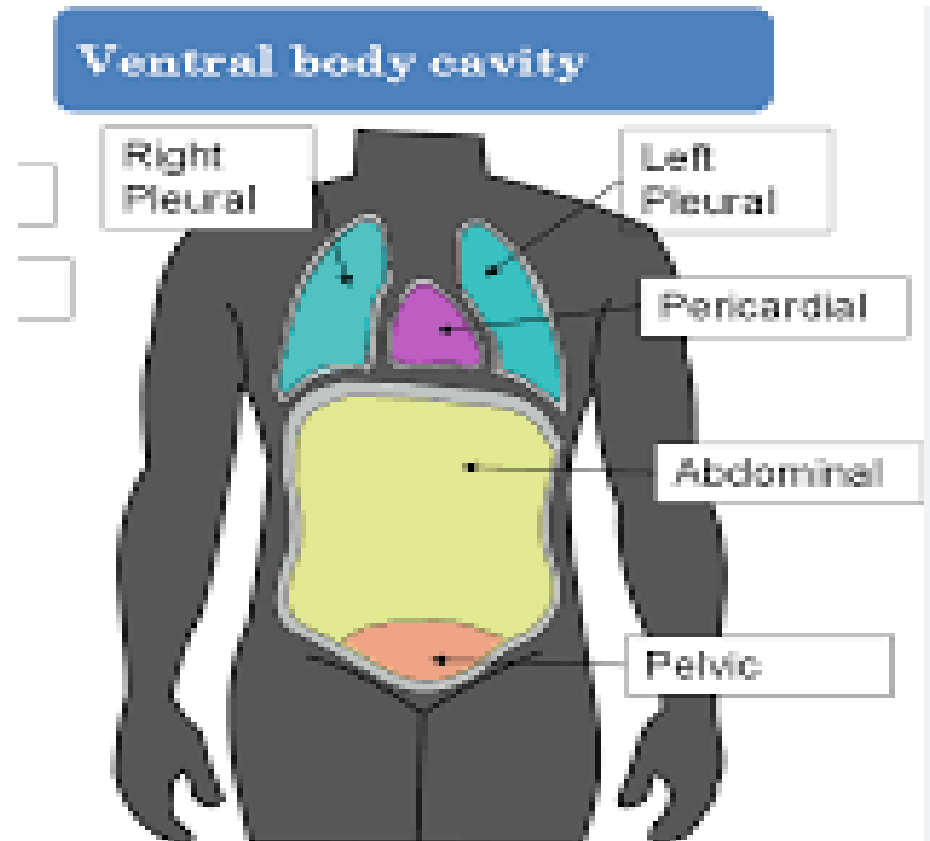


Figure.2

# Body Cavities

The ventral cavity is subdivided into the **thoracic and abdominopelvic cavities**. The **thoracic cavity** fills the chest and is subdivided into two pleural cavities and the pericardial cavity. The **abdominopelvic cavity** fills the lower half of the trunk and is subdivided into the abdominal cavity and the pelvic cavity.(figure.3)

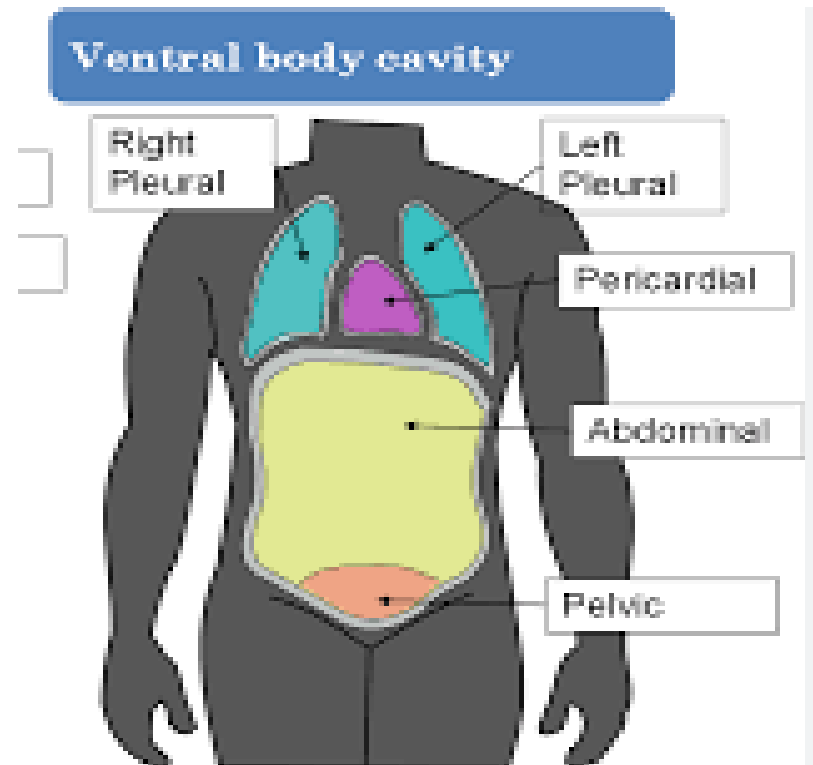


Figure.3

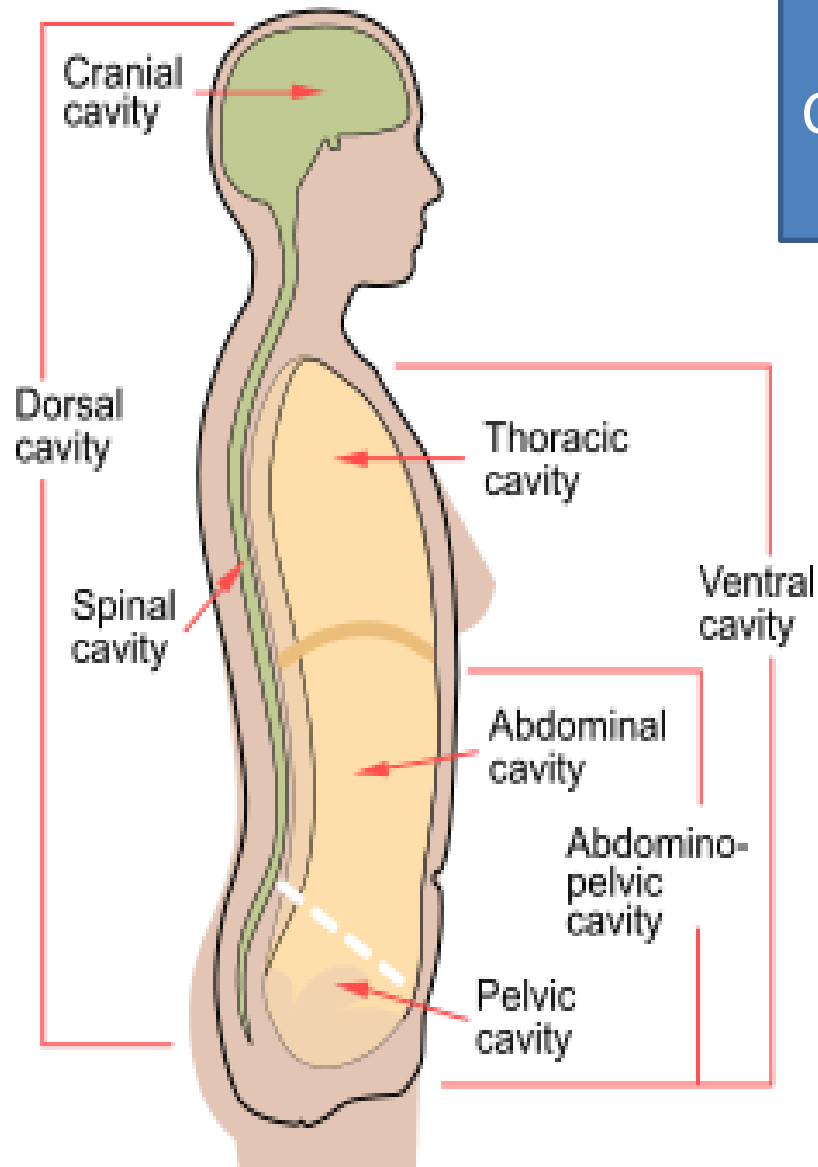
# The Thoracic Cavity

## Thoracic Cavity

The chest cavity is bounded by the chest wall and below by the **diaphragm**. It extends upward into the **root of the neck, shortly** above the clavicle on each side.

The chest cavity can be divided into a **median partition**, called the **mediastinum**, and the **laterally placed pleurae and lungs.(figure 4)**

Figure 4  
Cavities of the  
body



# The Thoracic Cavity

**The mediastinum** is the space between the lungs in the thoracic cavity, it extends from the **root of the neck** superiorly to the **diaphragm** inferiorly. It extends anteriorly to the **sternum** and posteriorly to the **vertebral column** (figure 5). The mediastinum is divided into **superior** and **inferior mediastina** .

**The superior mediastinum** contains (a) Thymus, (b) large veins, (c) large arteries, (d) trachea, (e) esophagus and thoracic duct, and (f) sympathetic trunks.

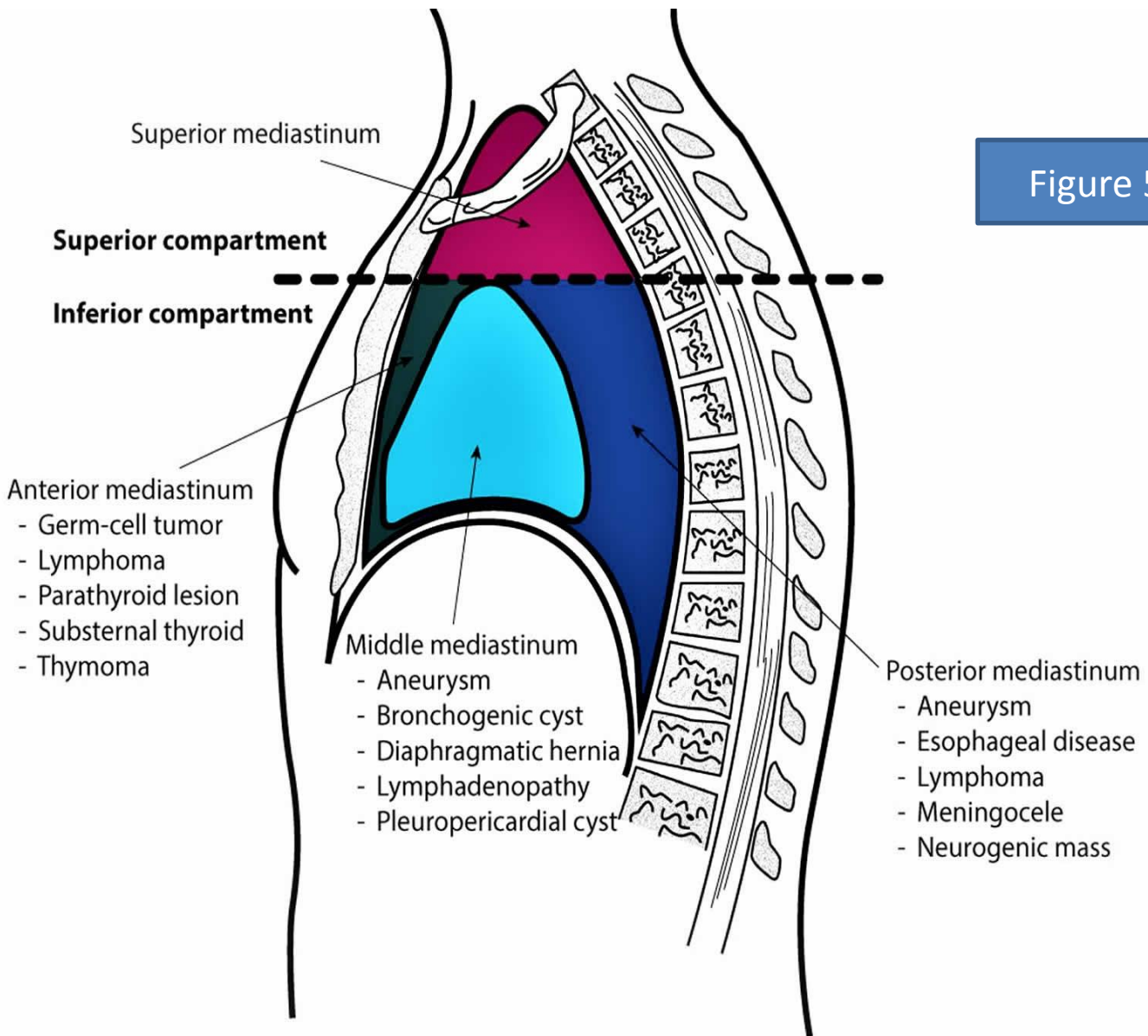


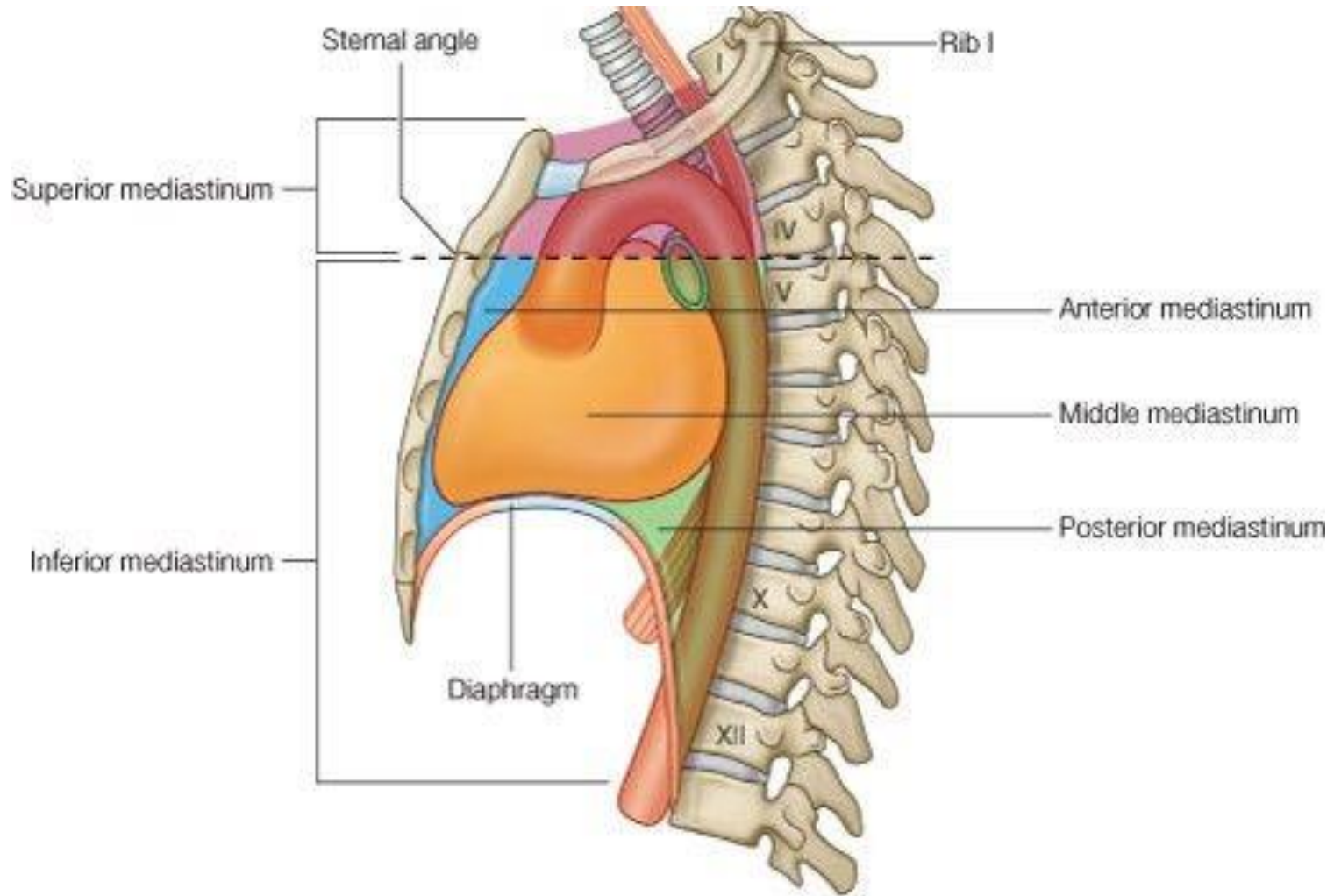
Figure 5



# The Thoracic Cavity

**The inferior mediastinum** is further subdivided into the **middle mediastinum**, which consists of the pericardium and heart; the **anterior mediastinum**, which is a space between the pericardium and the sternum; and the **posterior mediastinum**, which lies between the pericardium and the vertebral column. (figure .6)

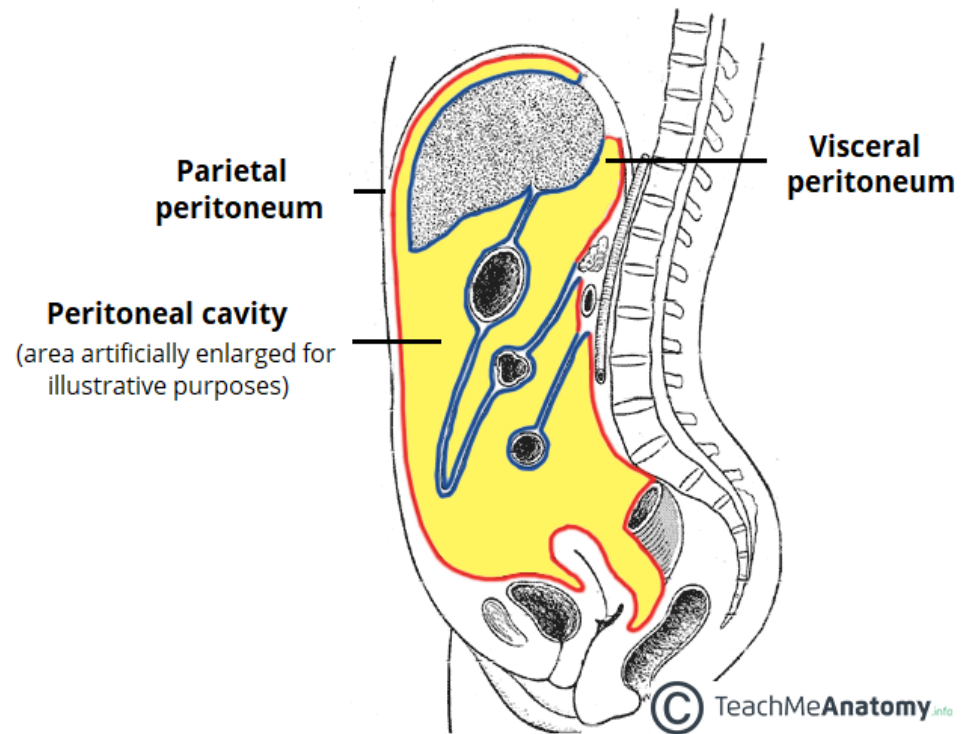
Figure 6



# THE ABDOMINAL CAVITY

Figure 1

**The peritoneum** is a thin membrane that lines the walls of the abdominal and pelvic cavities and clothes the viscera. It consists of two layers, the **parietal peritoneum** which lines the walls of the abdominal and pelvic cavities, and the **visceral peritoneum** covers the organs. (figure.1) The space between the parietal and visceral layers is called **the peritoneal cavity**.



# The Retroperitonium

The terms **intraperitoneal** and **retroperitoneal**, are used to describe the relationship of various organs to the peritoneal covering. An organ is said to be **intraperitoneal** when it is almost totally covered with visceral peritoneum. The stomach, jejunum, ileum, and spleen are good examples of intraperitoneal organs.(figure.2)

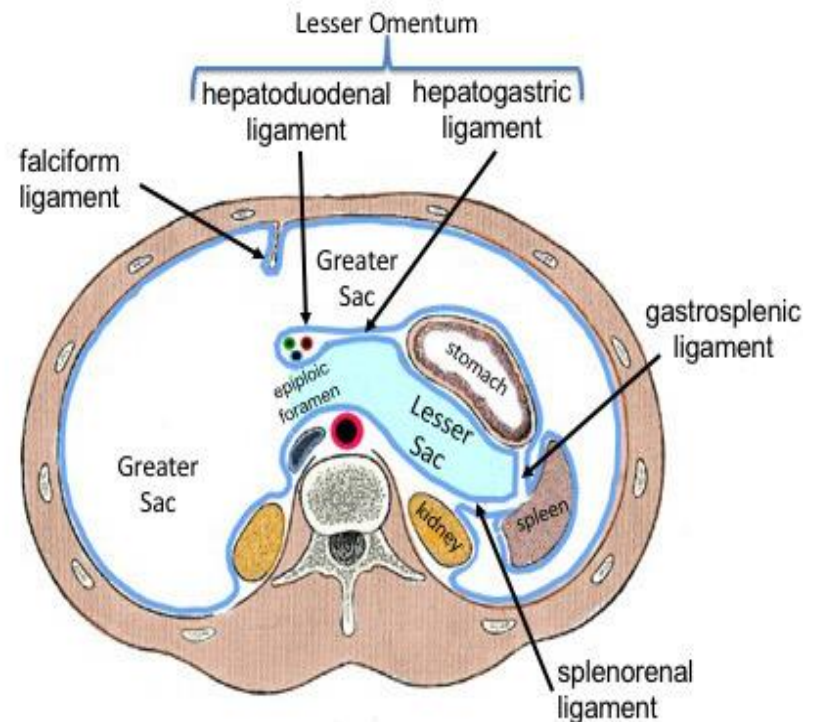


figure2

# Retroperitoneal space

**Retroperitoneal** organs lie behind the peritoneum and are only partially covered with visceral peritoneum. The pancreas and the ascending and descending parts of the colon, and kidneys are examples of retroperitoneal organs (figure .3).

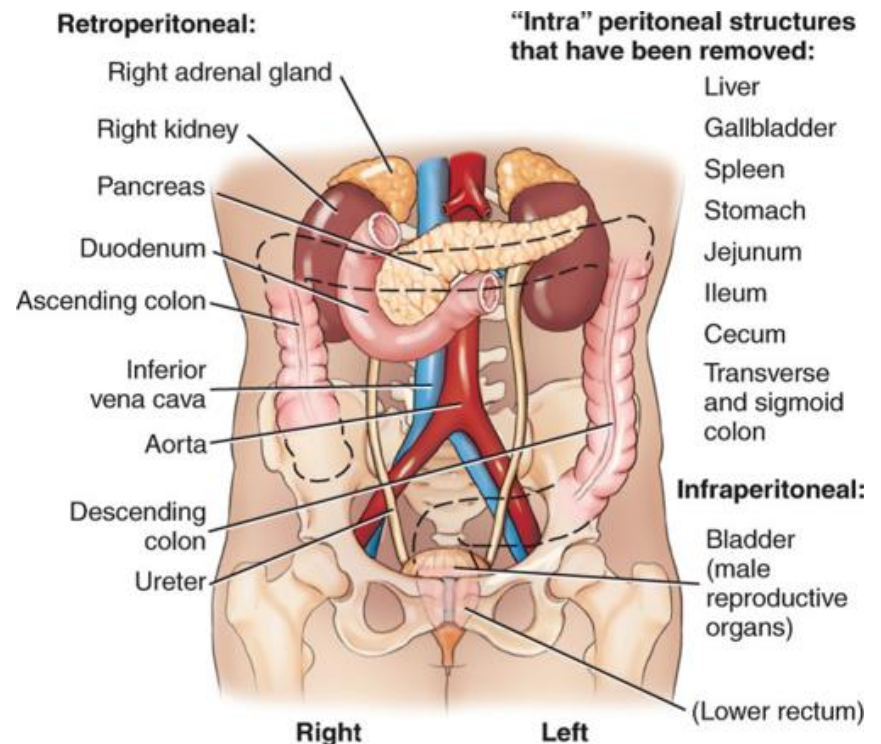


Figure 3

# The Retroperitoneal space

The **retroperitoneal space** lies on the posterior abdominal wall behind the parietal peritoneum. It extends from the 12th thoracic vertebra and the 12th rib to the sacrum and the iliac crests below (Fig.4).

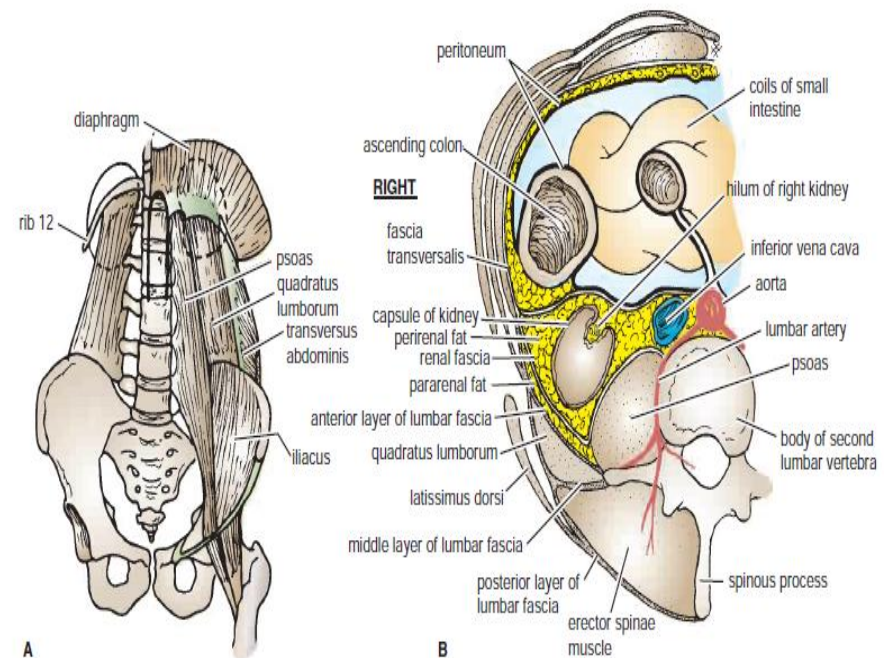


Figure 4



# The Retroperitoneal space

**The retroperitoneal fat** forms a bed for the suprarenal glands, the kidneys, the ascending and descending parts of the colon, and the duodenum. The retroperitoneal (figure.5) space also contains the ureters and the renal and gonadal blood vessels.

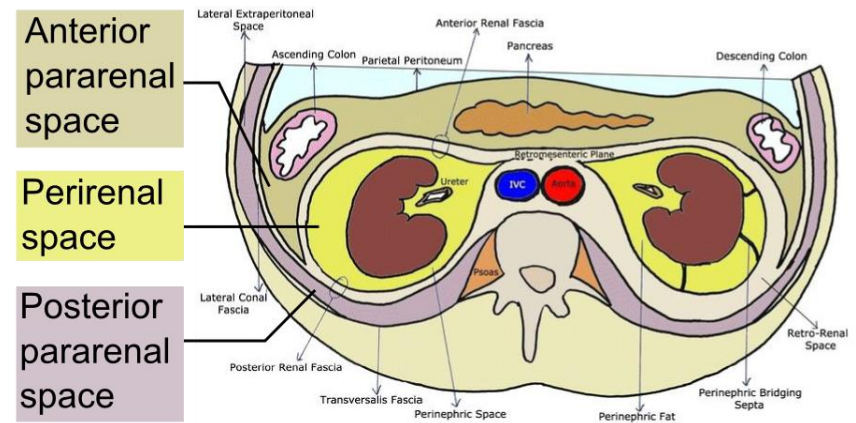


Figure.5

# Body Cavities

## Dorsal Cavity(figure.6)

The **dorsal cavity** is at the posterior (or back) of the body, including both the head and the back of the trunk. The dorsal cavity is subdivided into the cranial and spinal cavities.

The **cranial cavity** fills most of the upper part of the skull and contains the brain.

The **spinal cavity** is a very long, narrow cavity inside the vertebral column. It runs the length of the trunk and contains the spinal cord.

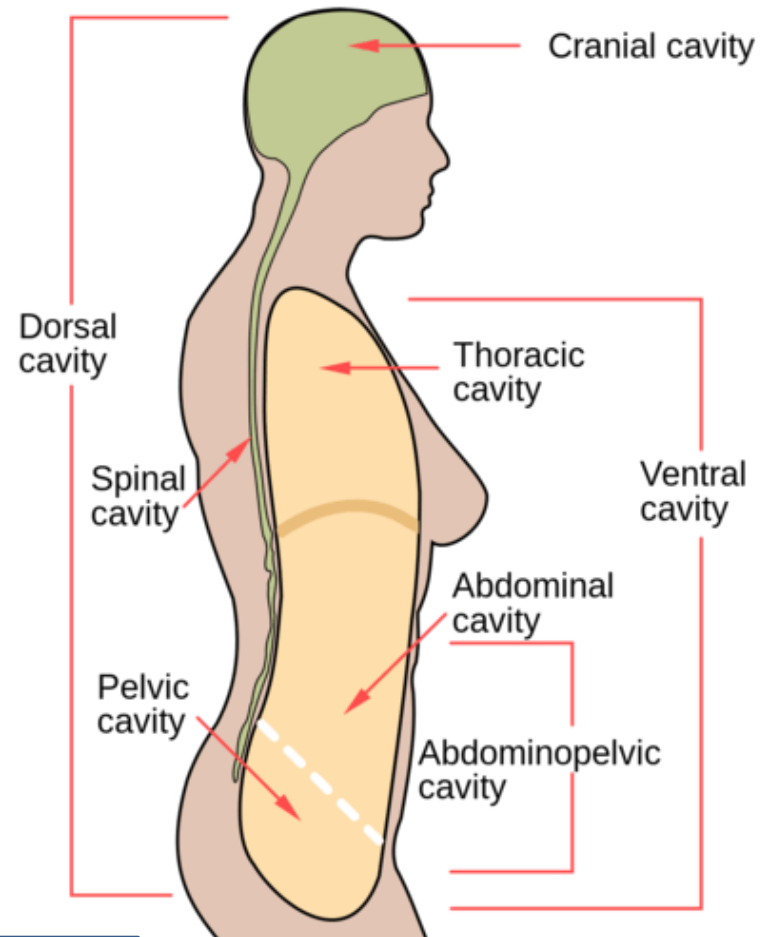


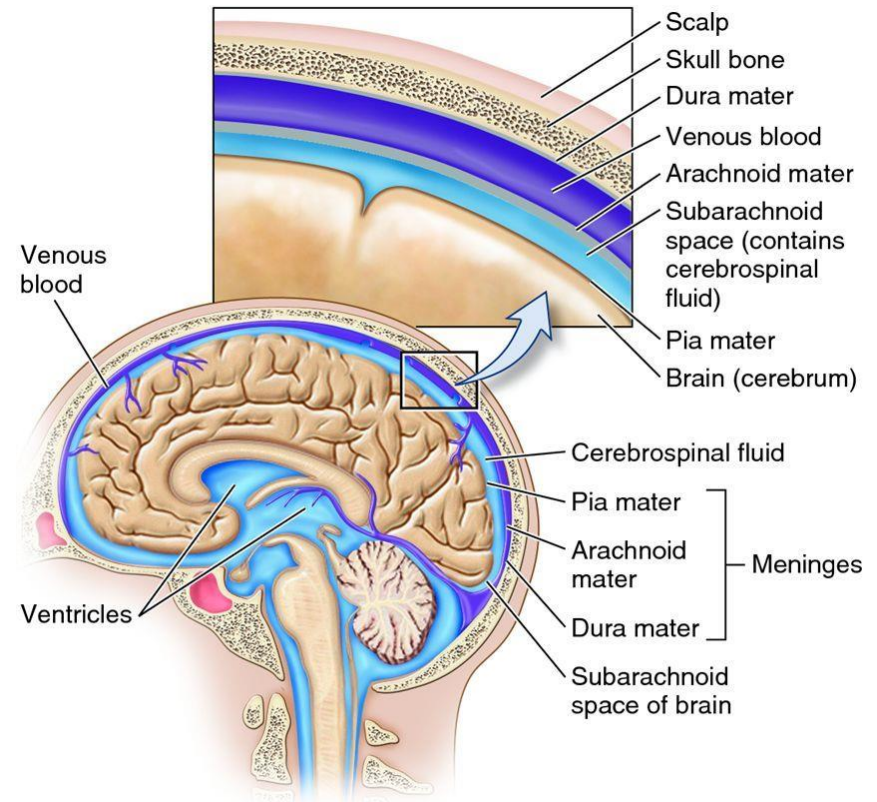
Figure.6



# THE CRANIAL CAVITY

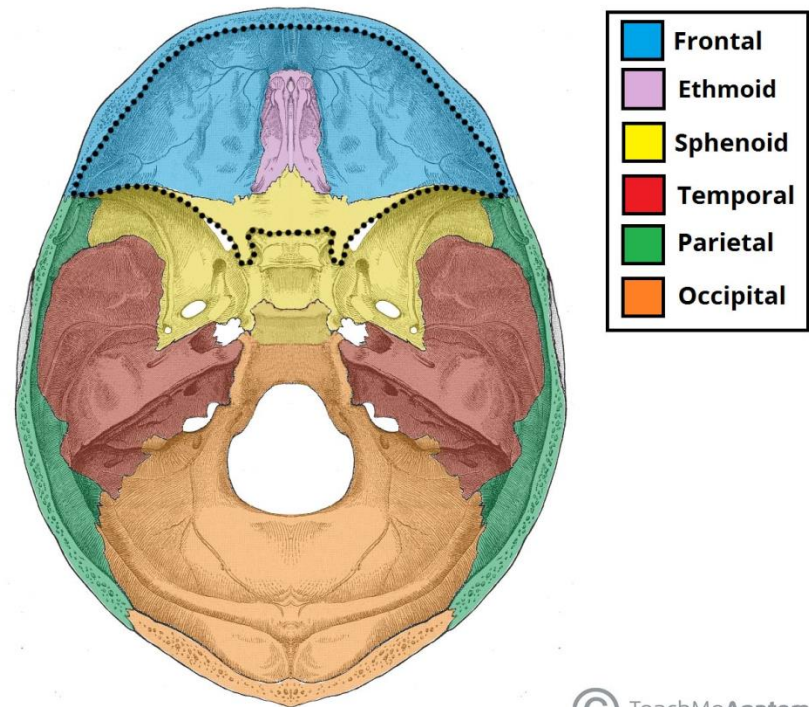
The **cranial cavity**, also known as **intracranial space**, is the space within the skull that contains the brain. The cavity is formed by eight cranial bones (figure. 7) known as the neurocranium that in humans includes the skull cap and forms the protective case around the brain. The remainder of the skull is called the facial skeleton.

The cranial cavity is lined by the Meninges which are protective membranes that surround the brain to minimize damage of the brain when there is head trauma.



# THE CRANIAL CAVITY

The spaces between meninges and the brain are filled with a clear [cerebrospinal fluid](#). There are only eight cranial bones that surround the cranial cavity : The occipital, sphenoid, frontal, ethmoid, two [parietal](#), and two temporal bones are fused together by the ossification of **fixed fibrous sutures**. The frontal and sphenoid bones are towards the front middle of the skull and in front of the temporal bone. The occipital bone is at the back of the skull. The dorsal cavity is lined by the three meninges.



# THE CRANIAL CAVITY

The three meninges are the three membranes that envelop the brain and spinal cord, which are the [pia mater](#), the [arachnoid mater](#), and the [dura mater](#). The latter is the thickest and outermost of the three membrane layers. The cranial cavity houses the Brain, Meninges, and the Cerebrospinal Fluid. The brain is that part of the central nervous system which lies inside the cranial cavity. It is continuous with the spinal cord through the foramen magnum.

