



كلية المستقبل الجامعة
قسم تقنيات التخدير

Anatomy

المرحلة الاولى

2022-2023

**Lecture Nine : Anterior
Abdominal Wall**

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Anterior Abdominal Wall

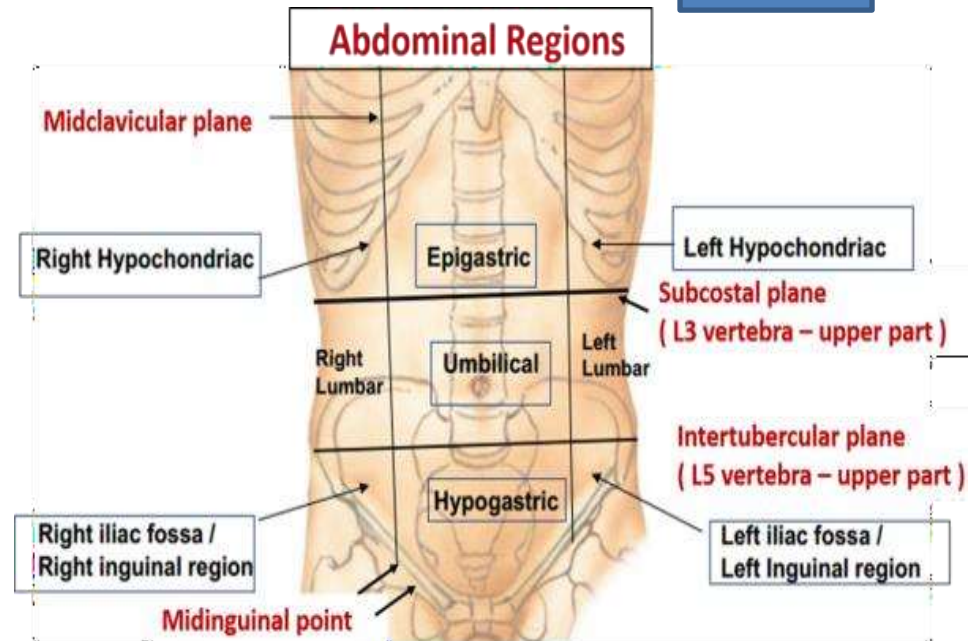
Abdominal Lines and Planes (figure 14)

Vertical lines and horizontal planes are commonly used to facilitate the description of the location of diseased structures or the performing of abdominal procedures.

Vertical Lines

Each vertical line (right and left) passes through the midpoint between the **anterior superior iliac spine and the symphysis pubis (midclavicular line)**.

Figure 14



Anterior Abdominal Wall

Transpyloric Plane

The horizontal trans pyloric plane passes through the tips of the **ninth costal cartilages** on the two sides, **(figure 15)**.

This plane passes **through the pylorus of the stomach, the Duodeno jejunal junction, the head of the pancreas, and the hila of the kidneys.**

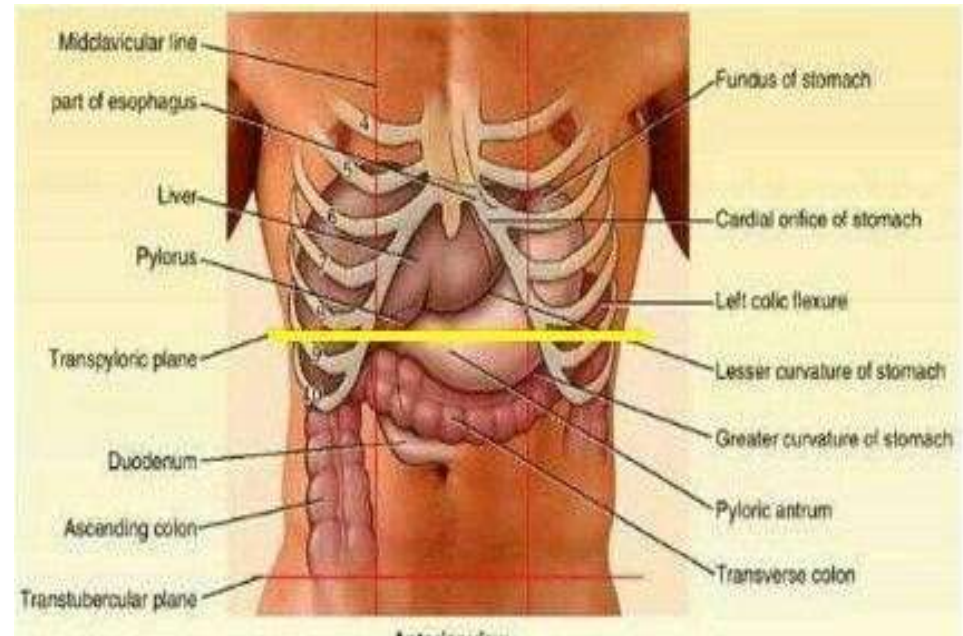


Figure
15

Anterior Abdominal Wall

Intercristal Plane

The intercrystal plane passes across the highest points on the iliac crests and lies on the level of the body of the 4th lumbar vertebra (**figure 17**). This is commonly used as a surface landmark when performing a lumbar spinal tap .

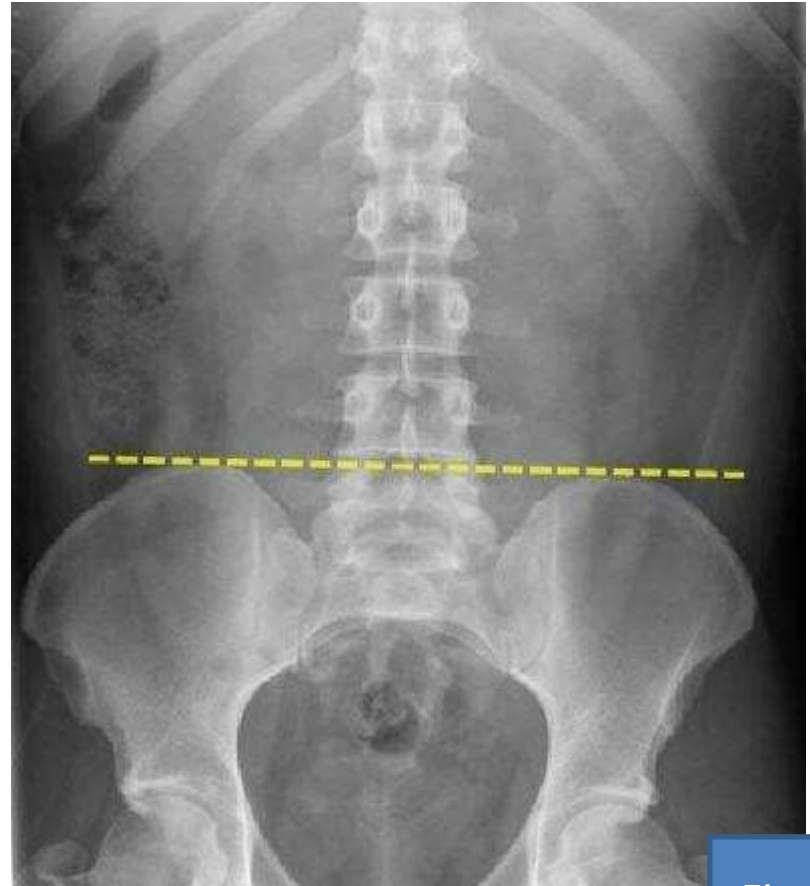


Figure
17

Surface Landmarks of the Abdominal Viscera

Abdominal Quadrants

It is common practice to divide the abdomen into quadrants by using a vertical and a horizontal line that intersect at the umbilicus (see figure 1a). The quadrants are the upper right, upper left, lower right, and lower left.

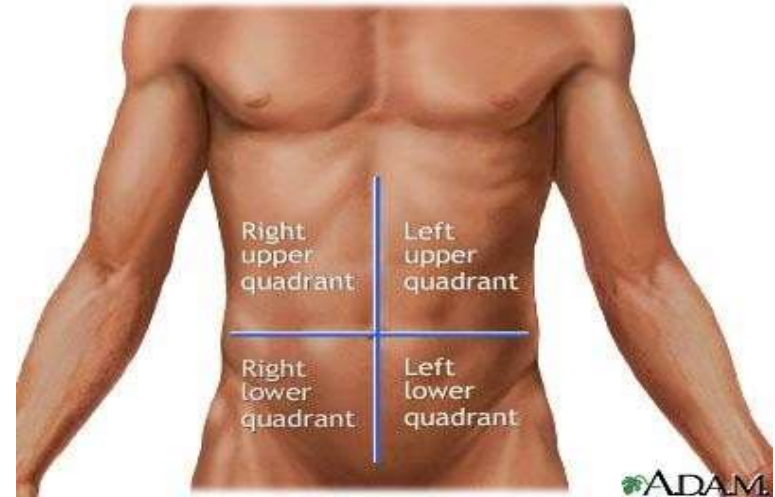


figure1a

ABDOMINAL REGIONS



Surface Landmarks of the Abdominal Viscera

The following organs are more or less fixed, and their surface markings are of clinical value.

Liver

The liver lies under cover of the lower ribs, and most of its bulk lies on the right side (figure 1). In a thin adult, the lower edge of the liver may be felt below the costal margin. It is most easily felt when the patient inspires deeply.

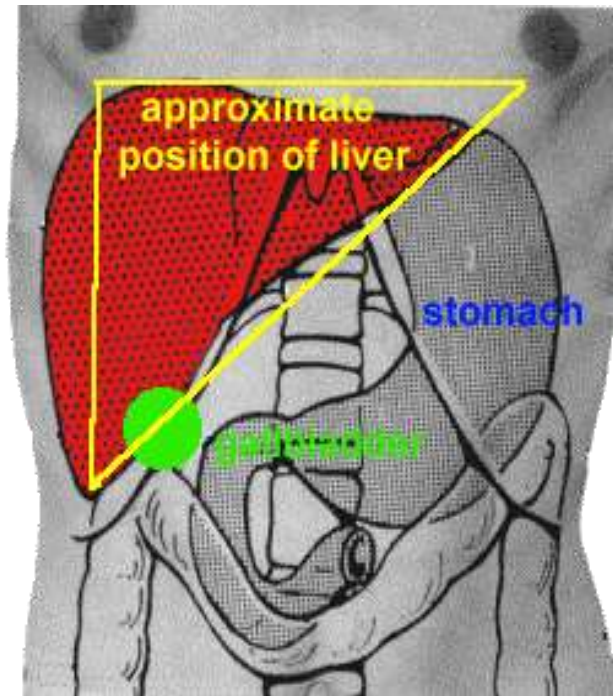


Figure
1b

Surface Landmarks of the Abdominal Viscera

Gallbladder

The fundus of the gallbladder lies opposite the tip of the right ninth costal cartilage (**figure 2**)

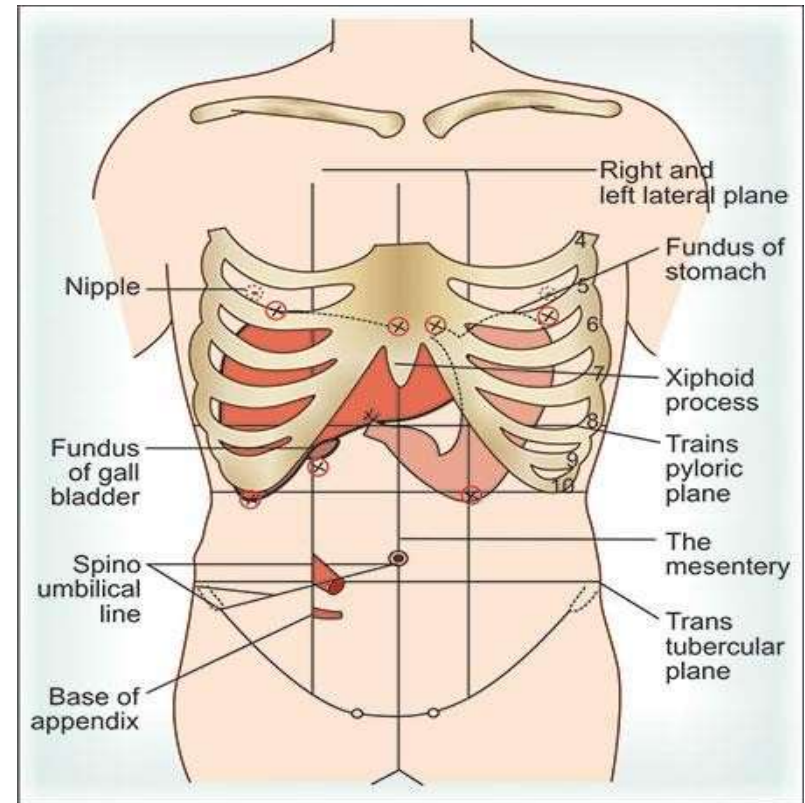


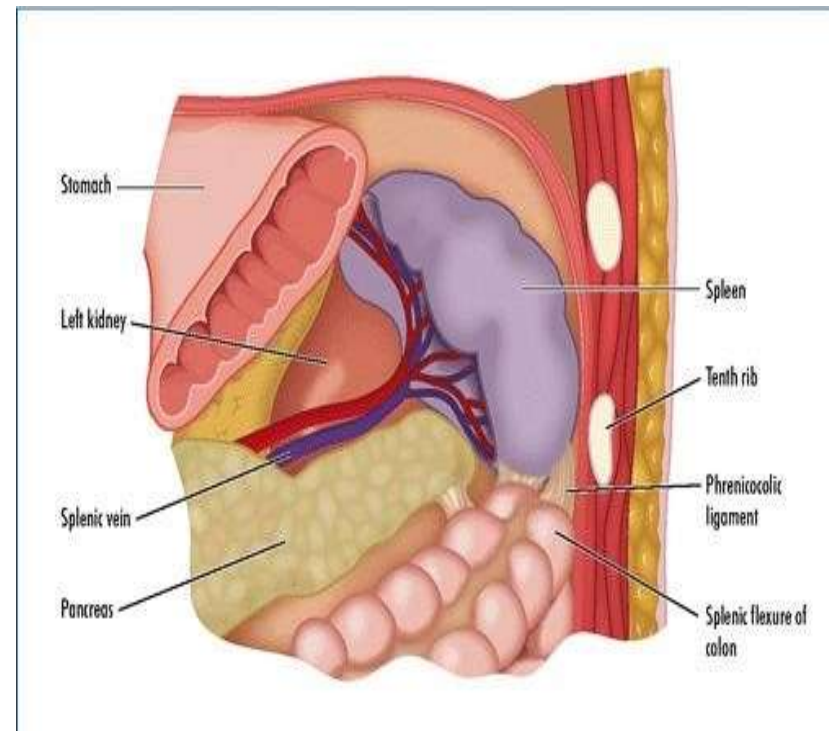
Figure
2

Surface Landmarks of the Abdominal Viscera

The spleen

It is situated in the left upper quadrant and lies under cover of the 9th, 10th, and 11th ribs (**see Fig. 3**).

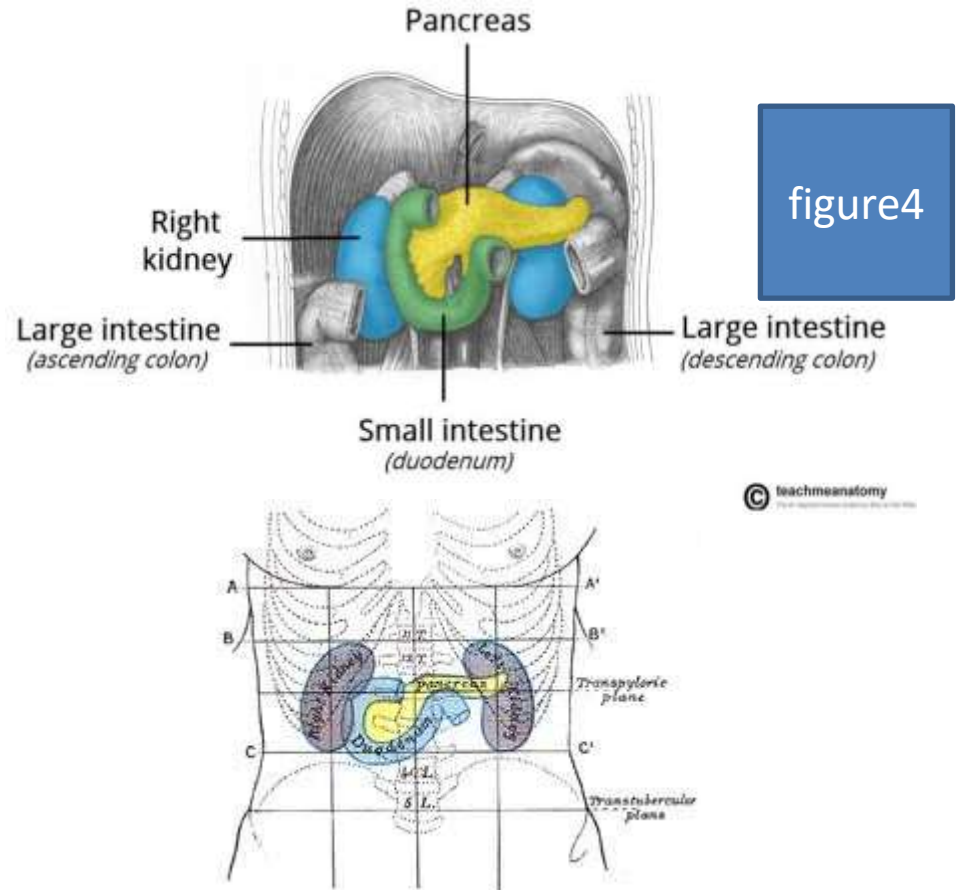
Figure 3



Surface Landmarks of the Abdominal Viscera

Pancreas

The pancreas lies across the **transpyloric** plane. The head lies below and to the right, the neck lies on the plane, and the body and tail lie above and to the left (**figure 4**).



Surface Landmarks of the Abdominal Viscera

Kidneys

The right kidney lies at a slightly lower level than the left kidney.

The normal left kidney, which is higher than the right kidney, is not palpable (figure 5).

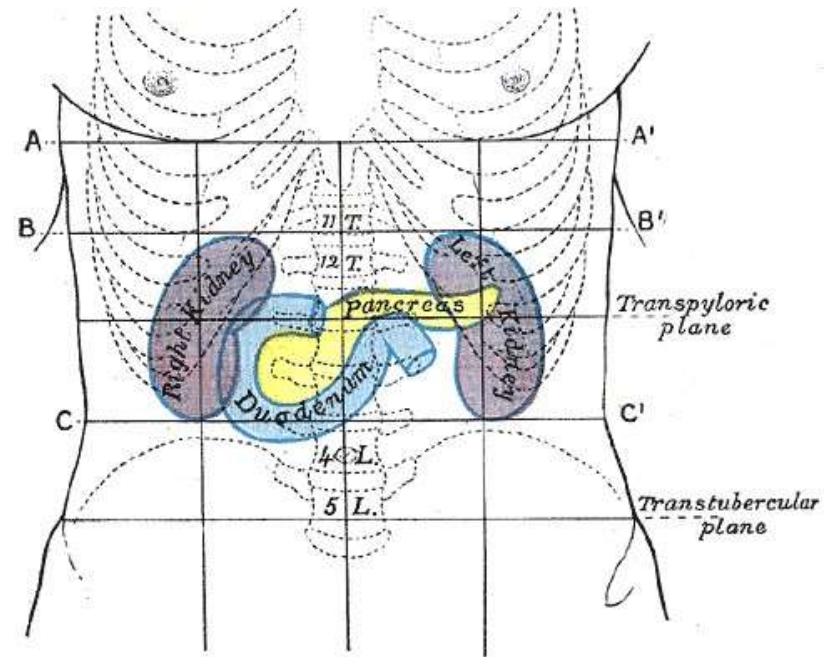


Figure 5

Surface Landmarks of the Abdominal Viscera

Stomach (figure 6)

The **cardioesophageal junction** lies below and to the left of the xiphisternal junction.

The **pylorus** lies on the transpyloric plane just to the right of the midline.

The **lesser curvature of the stomach** lies on a line joining the cardioesophageal junction and the pylorus.

The **greater curvature** has an extremely variable position in the umbilical region or below.

Surface anatomy of stomach parts

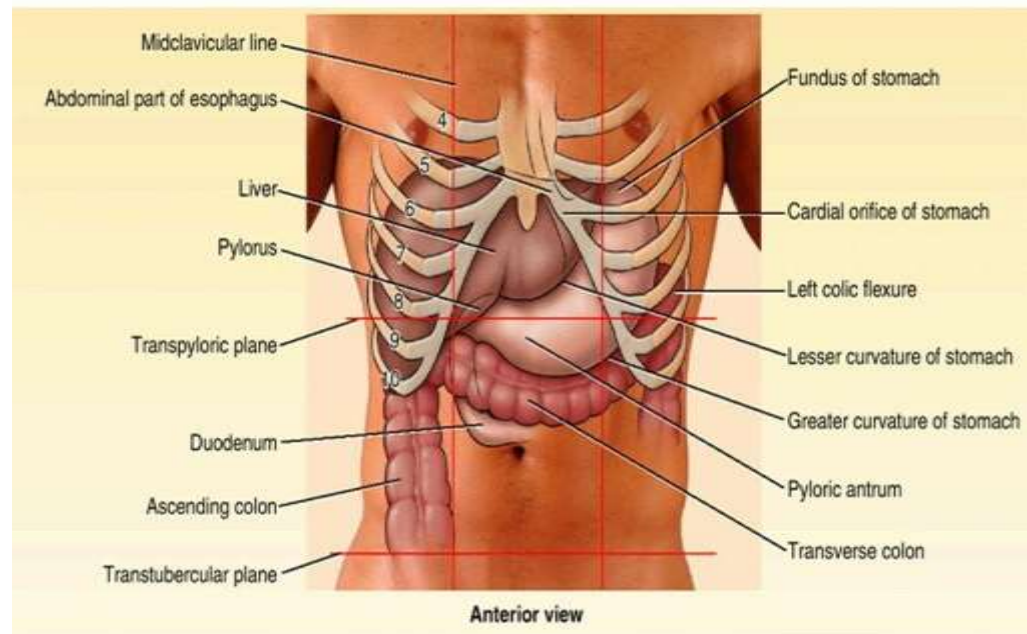


Figure 6

Surface Landmarks of the Abdominal Viscera

Duodenum (First Part)

The duodenum lies on the transpyloric plane about four fingerbreadths to the right of the midline.

Cecum (figure 7)

The cecum is situated in the **right lower quadrant**. It is often distended with gas and gives a resonant sound when percussed.

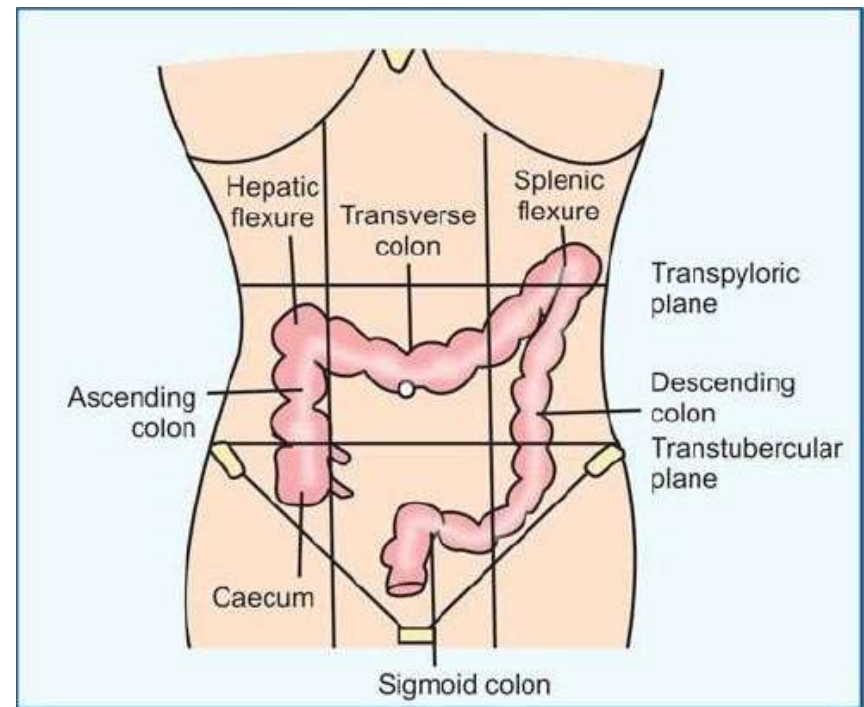


Figure 7

Surface Landmarks of the Abdominal Viscera

Appendix (figure 8)

The appendix lies in the right lower quadrant. The base of the appendix is situated one third of the way up the line, joining the anterior superior iliac spine to the umbilicus (McBurney's point). The position of the free end of the appendix is variable.

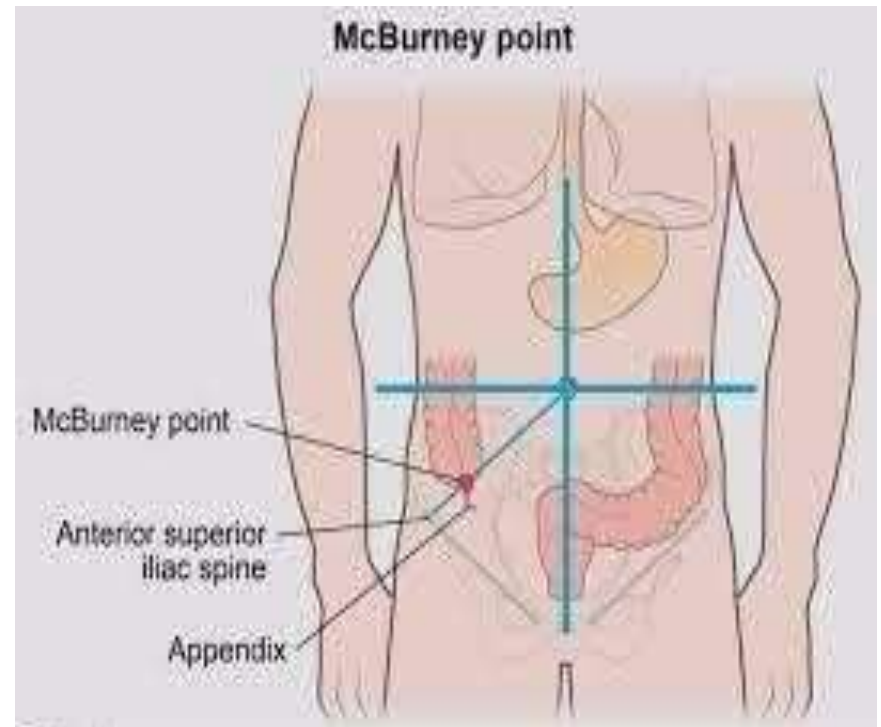


figure8

Surface Landmarks of the Abdominal Viscera

Ascending Colon

The ascending colon extends upward from the cecum on the lateral side of the right vertical line and disappears under the right costal margin. It can be palpated through the anterior abdominal wall. (**figure. 9**)

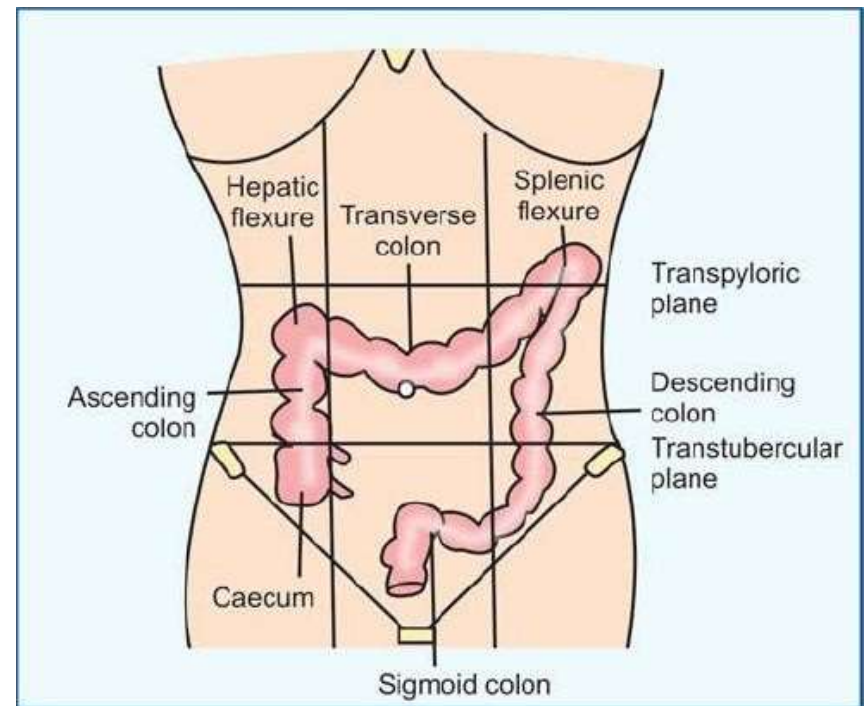


Figure 9

Surface Landmarks of the Abdominal Viscera

Transverse Colon (figure10)

The transverse colon extends across the abdomen, occupying the umbilical region. It arches downward with its concavity directed upward. Because it has a mesentery, its position is variable.

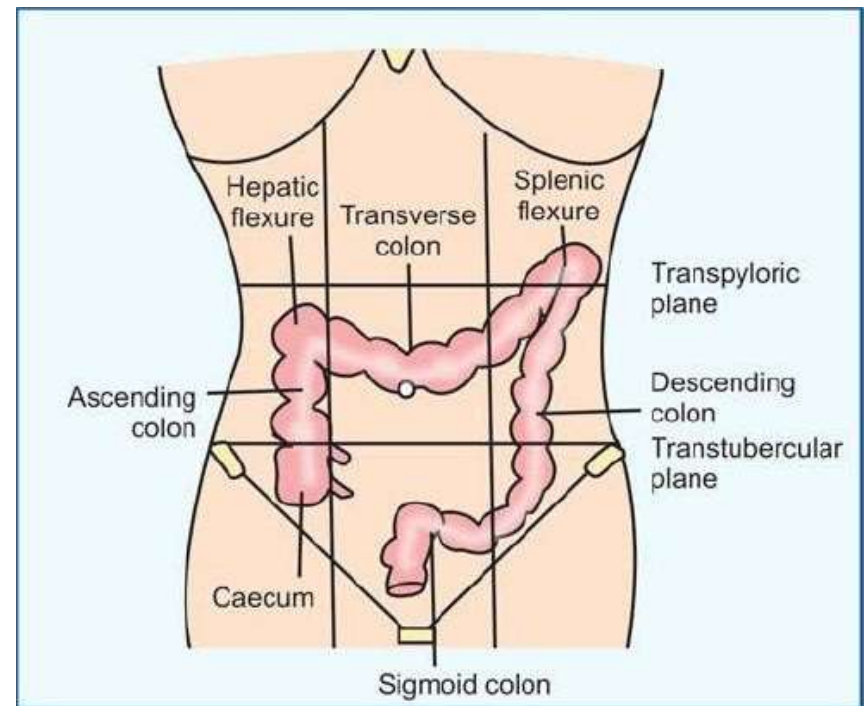


Figure 10

Surface Landmarks of the Abdominal Viscera

Descending Colon

The descending colon extends downward from the left costal margin on the lateral side of the left vertical line. In the left lower quadrant, it curves medially and downward to become continuous with the sigmoid colon. The descending colon has a smaller diameter than the ascending colon and can be palpated through the anterior abdominal wall. **(figure 11)**

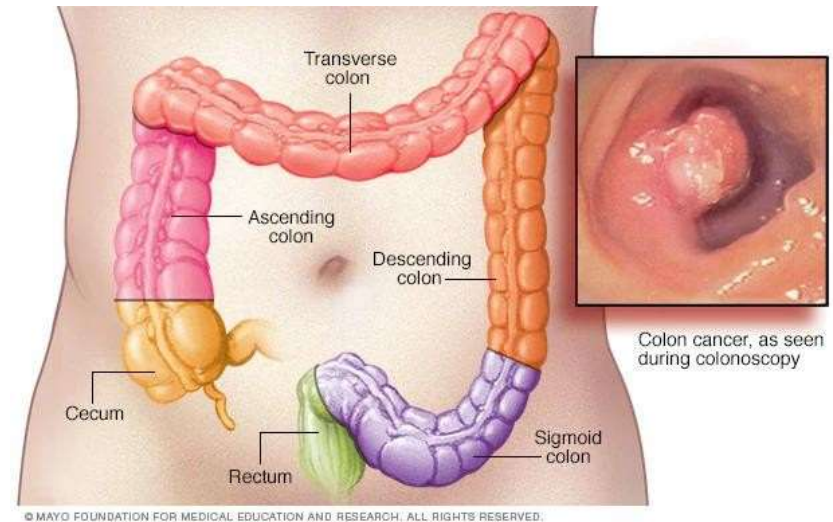


Figure 11

Posterior Abdominal Wall

Structure of the Posterior Abdominal wall

The posterior abdominal wall is formed in

1. the midline by the **five lumbar vertebrae** and their intervertebral discs and
2. laterally by **the 12th ribs**, the
3. **upper part of the bony pelvis**, the psoas muscles, the quadratus lumborum muscles (**figure 12**) and,
4. **the iliacus** muscles lie in the upper part of the bony pelvis.

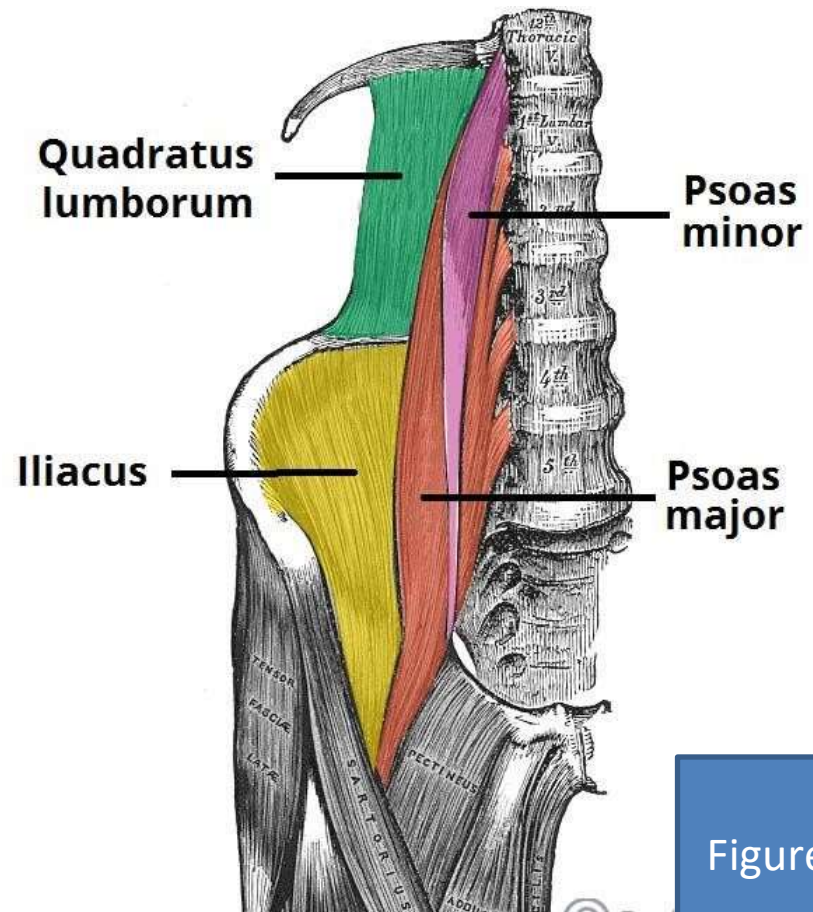


Figure 12

Posterior Abdominal Wall

Lumbar Vertebrae

The **body** of each vertebra is massive , and has wedge-shape, giving lumbar lordosis . The 5th lumbar vertebra articulates with the base of the sacrum at the **lumbosacral joint. (figure 13)**

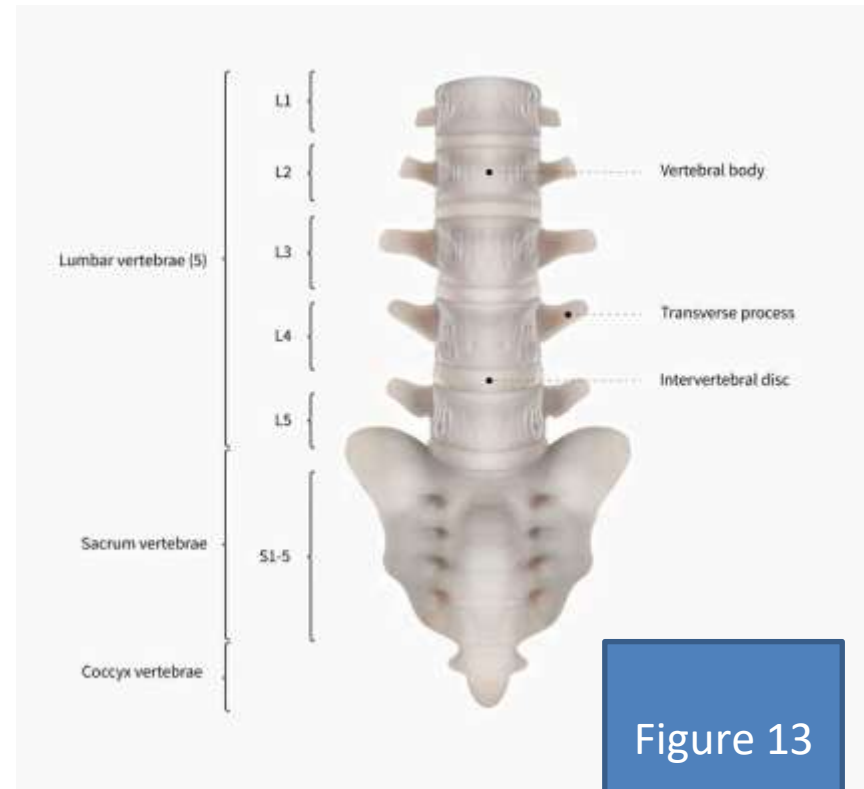


Figure 13