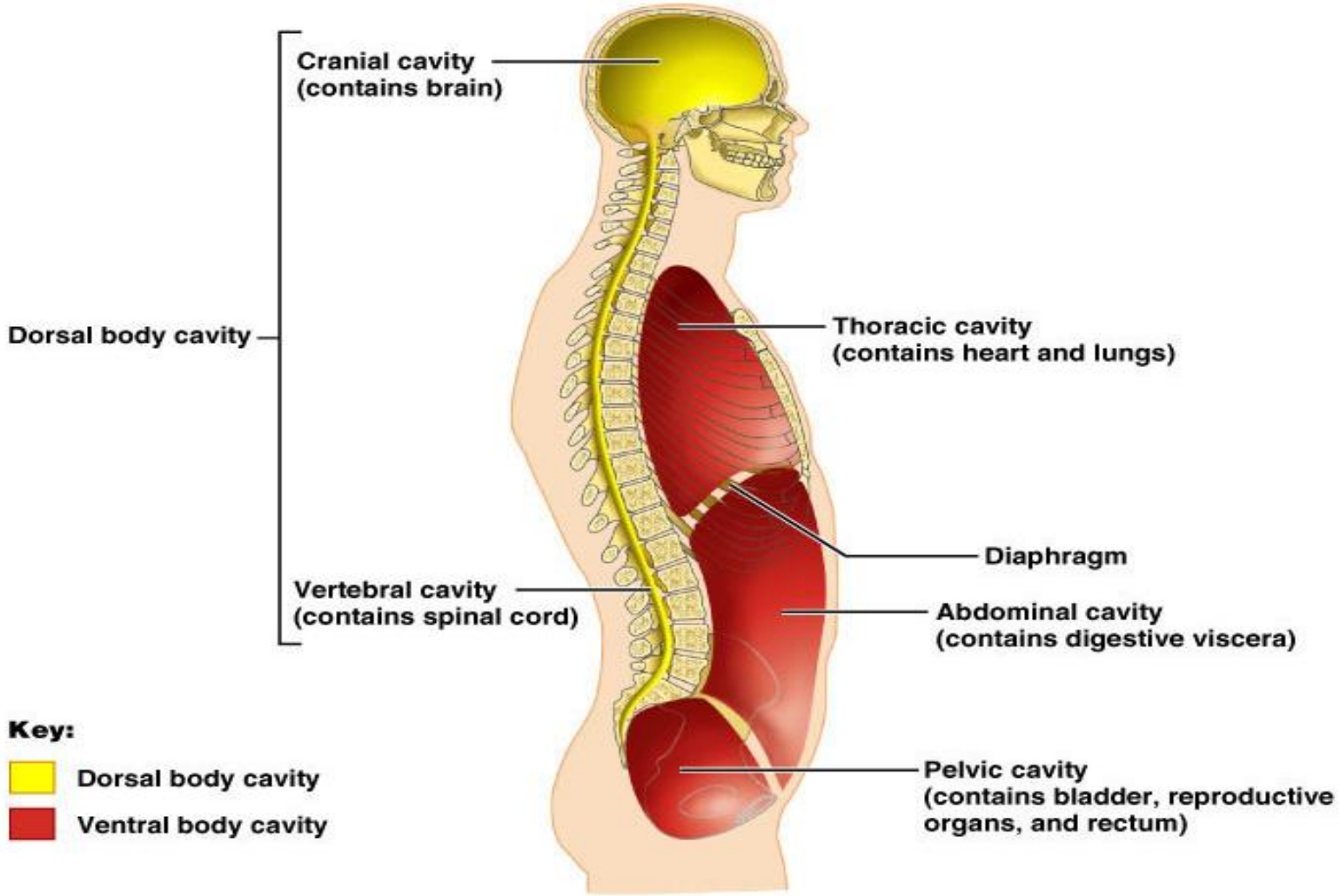
BODY CAVITIES

- Cranial
- Thoracic
- Abdominal
- Pelvic

Prepared by: Madam Ruth

Body Cavities



BODY CAVITIES

- **Body Cavities** - Body cavities are spaces within the body that help protect, separate, and support internal organs.
  - Dorsal Body Cavity
  - Ventral Body Cavity

Body Cavities

- **Thoracic cavity** is subdivided into pleural cavities, the mediastinal cavity, and the pericardial cavity
  - **Pleural cavities** – each houses a lung
  - **Mediastinum** – contains the pericardial cavity, and surrounds the remaining thoracic organs
  - **Pericardial cavity** – encloses the heart

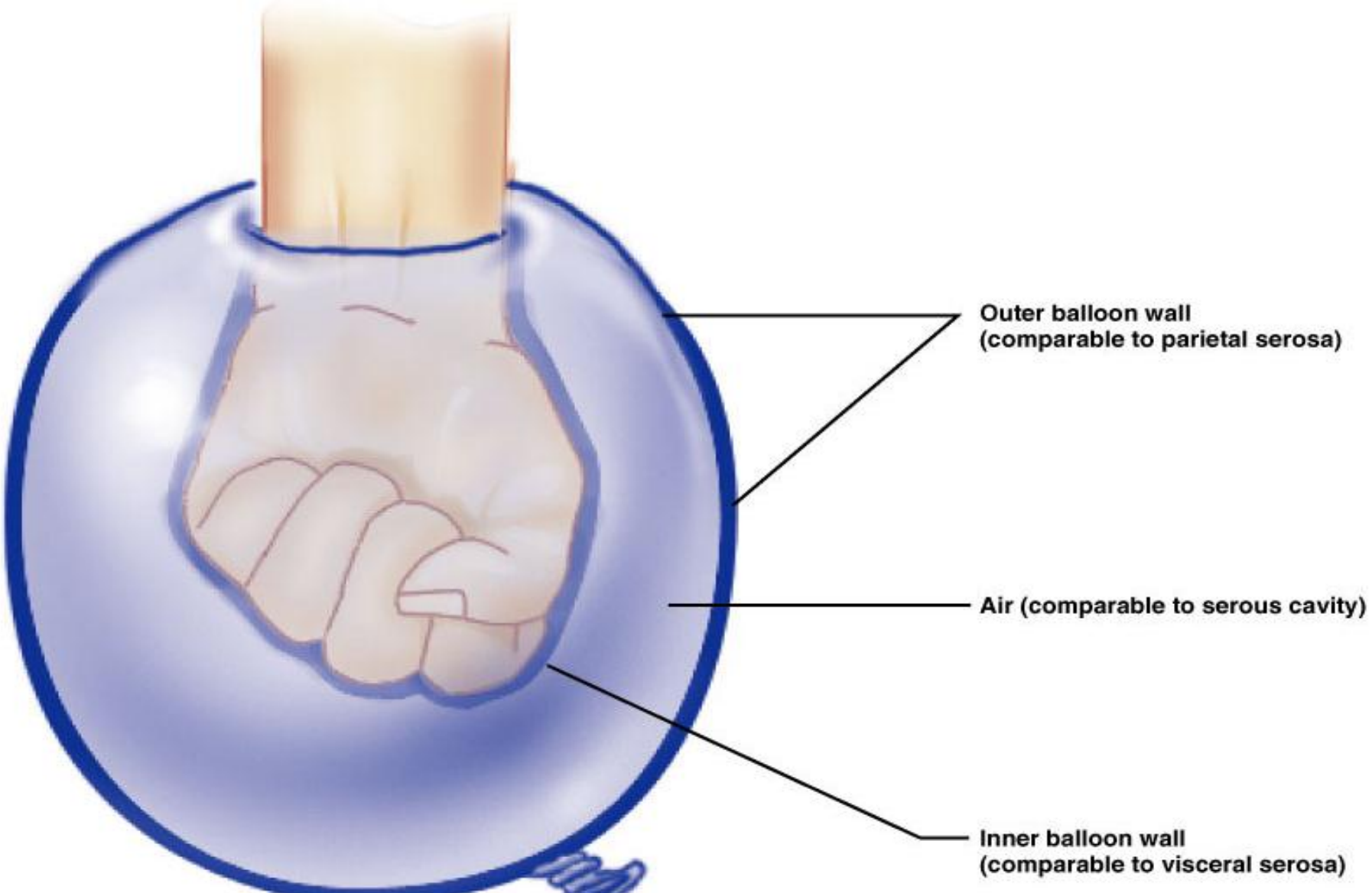
Body Cavities

- **The abdominopelvic cavity is separated from the superior thoracic cavity by the dome-shaped diaphragm**
- It is composed of two subdivisions
  - **Abdominal cavity** – contains the stomach, intestines, spleen, liver, and other organs
  - **Pelvic cavity** – lies within the pelvis and contains the bladder, reproductive organs, and rectum

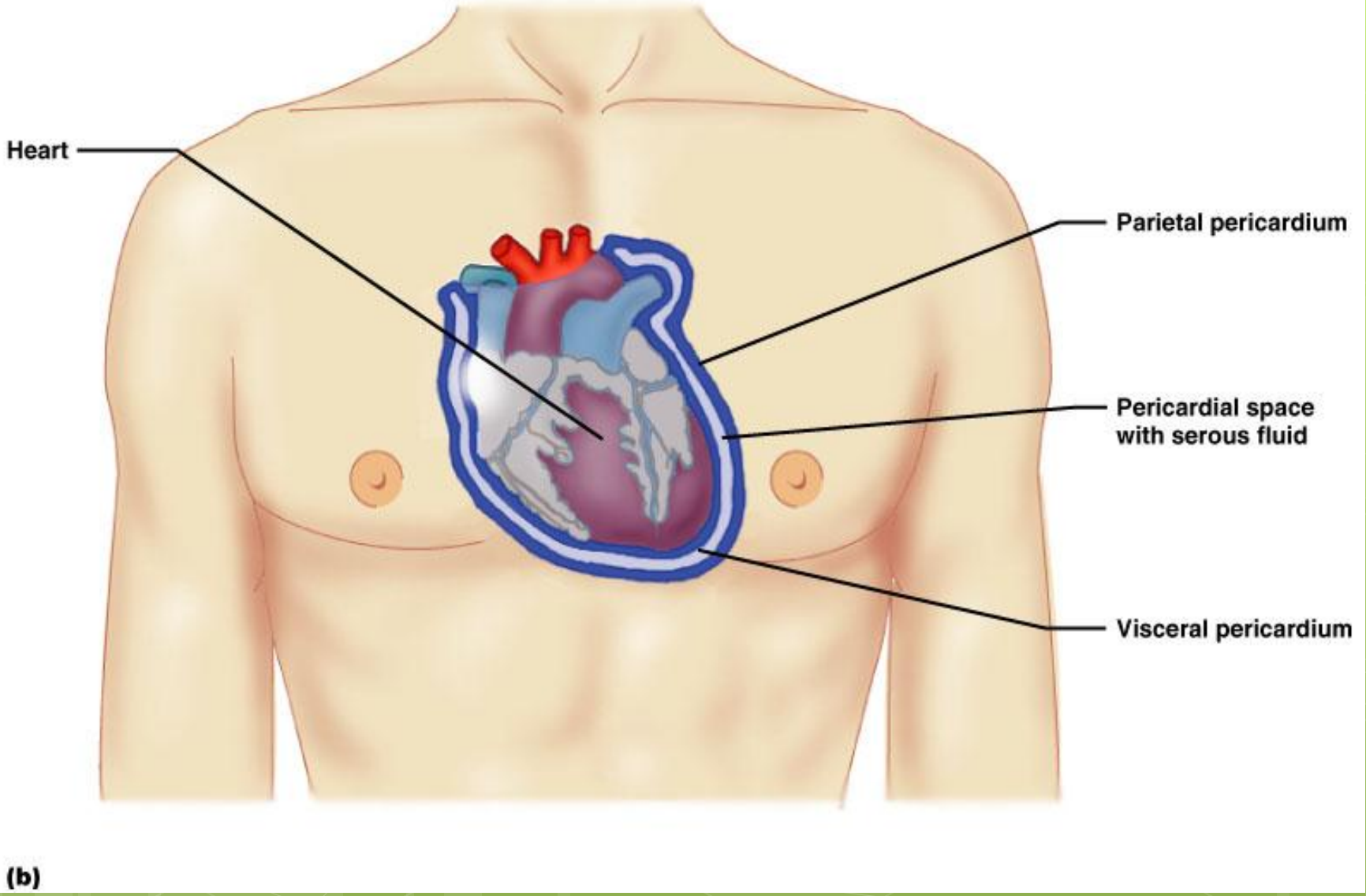
Ventral Body Cavity Membranes

- **Parietal serosa** lines internal body walls
- **Visceral serosa** covers the internal organs
- **Serous fluid** separates the serosae

Ventral Body Cavity Membranes



Ventral Body Cavity Membranes



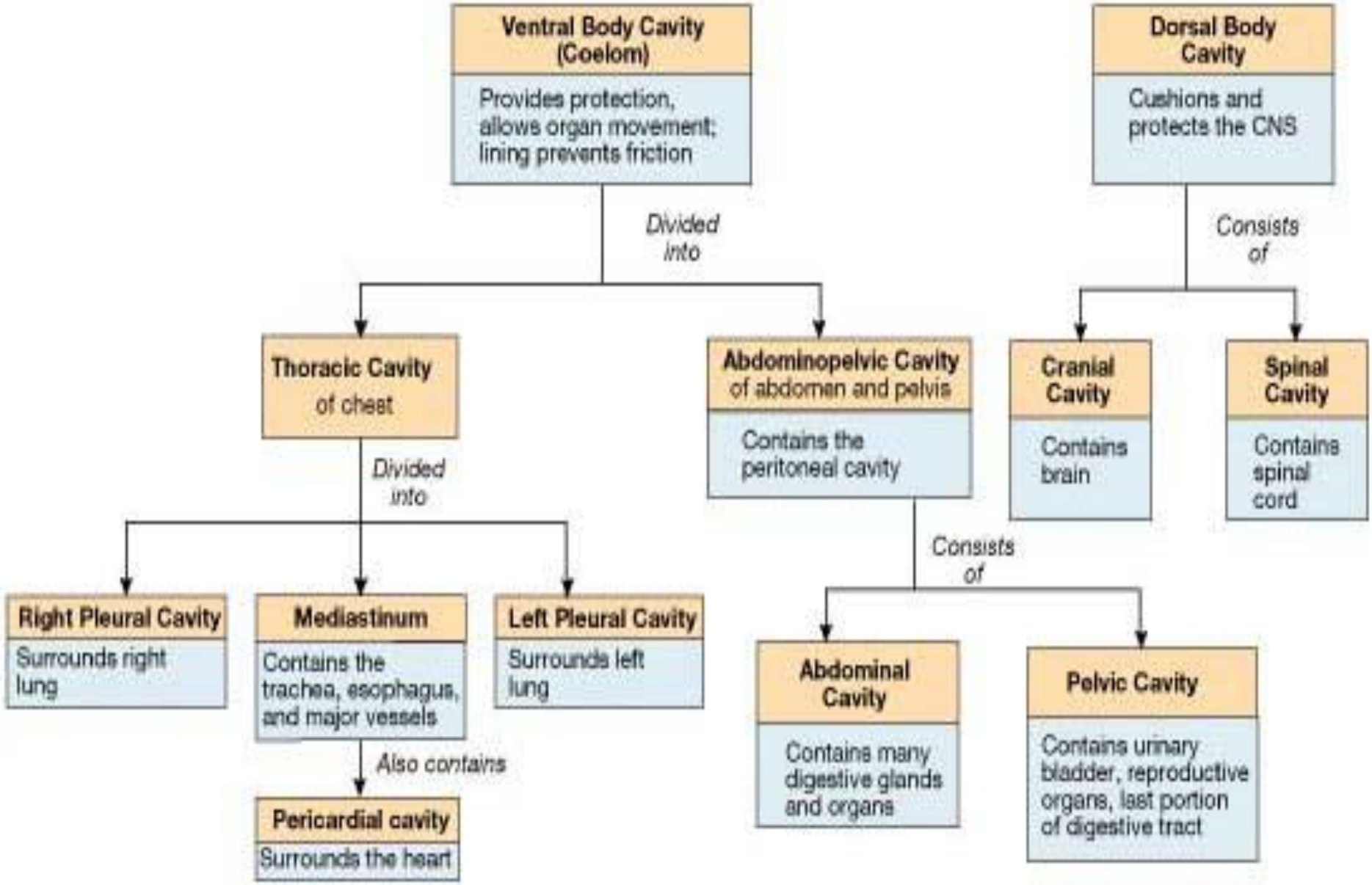


FIGURE 1-12 Relationships of the Various Body Cavities

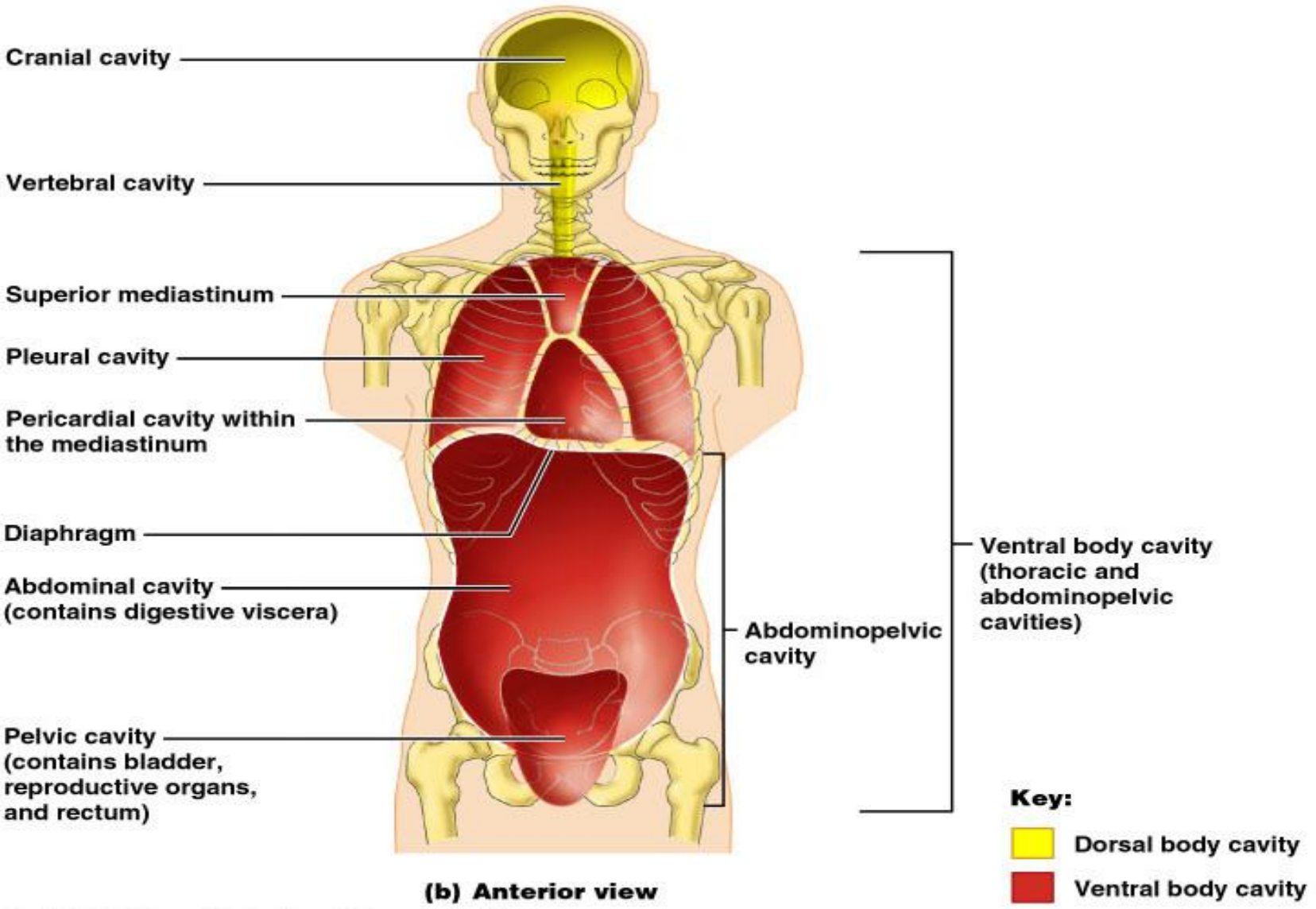
BODY CAVITIES

- **Dorsal Body Cavity** - The dorsal body cavity is located near the dorsal (back) surface of the body and has two subdivisions, the cranial cavity and the vertebral canal.

Body Cavities

- **Dorsal cavity** protects the nervous system, and is divided into two subdivisions
  - Cranial cavity is within the skull and encases the brain
  - Vertebral cavity runs within the vertebral column and encases the spinal cord
- **Ventral cavity** houses the internal organs (viscera), and is divided into two subdivisions: - **Thoracic** and **Abdominopelvic cavities**

Body Cavities



Other Body Cavities

- **Oral and digestive** – mouth and cavities of the digestive organs
- **Nasal** –located within and posterior to the nose
- **Orbital** – house the eyes
- **Middle ear** – contain bones (ossicles) that transmit sound vibrations
- **Synovial** – joint cavities

BODY CAVITIES

- The **cranial cavity** is formed by the cranial bones and contains the brain.

BODY CAVITIES

- The **vertebral (spinal) canal** is the spinal cord. formed by the bones of the vertebral column and contains
- Three layers of protective tissue, called meninges, line the dorsal body cavity.

BODY CAVITIES

- **Ventral Body Cavity** - The ventral body cavity is subdivided by the diaphragm into an upper thoracic cavity and a lower abdominopelvic cavity.

BODY CAVITIES

- The thoracic cavity contains two pleural cavities, and the mediastinum, which includes the pericardial cavity.

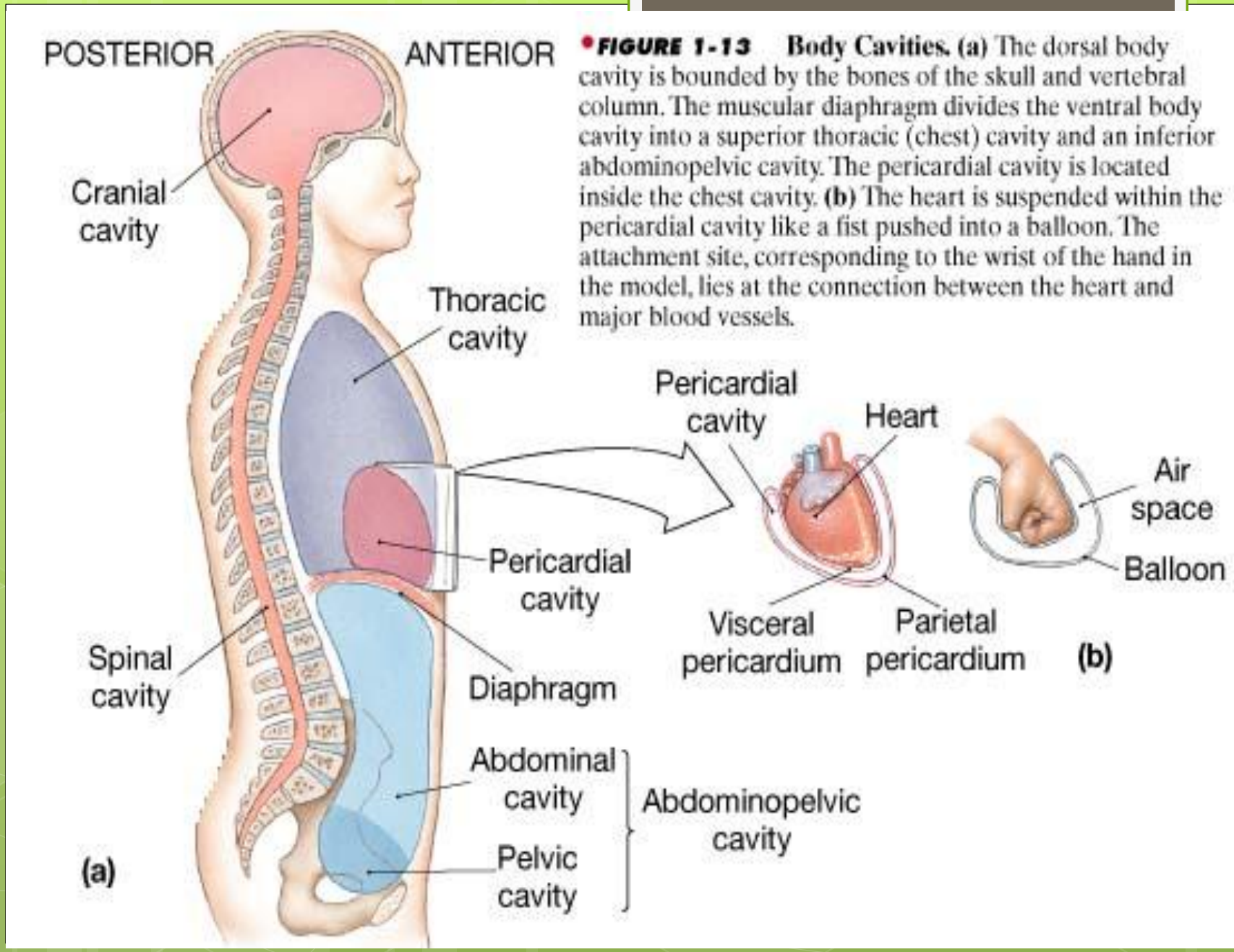
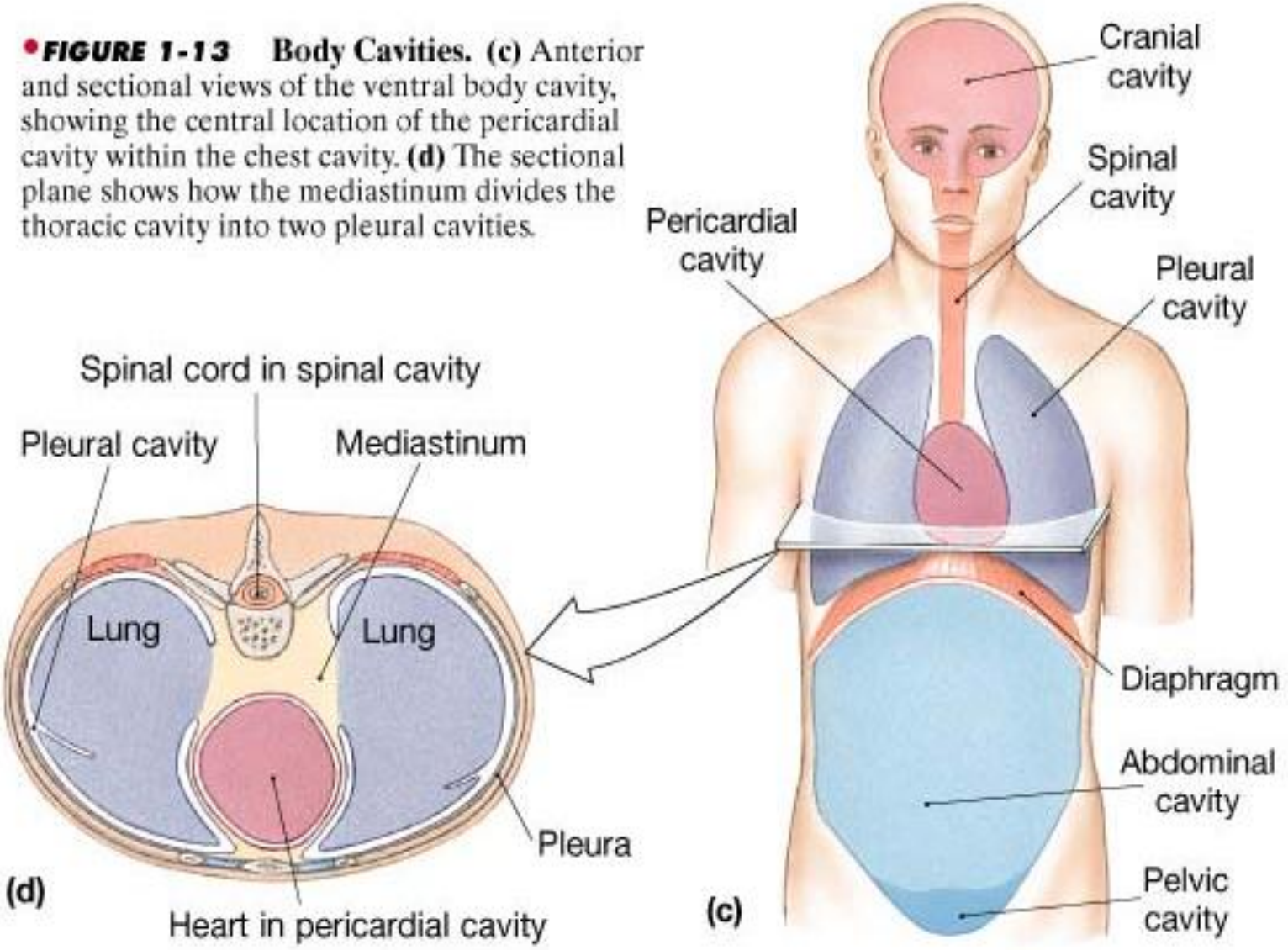


FIGURE 1-13 Body Cavities. (a) The dorsal body cavity is bounded by the bones of the skull and vertebral column. The muscular diaphragm divides the ventral body cavity into a superior thoracic (chest) cavity and an inferior abdominopelvic cavity. The pericardial cavity is located inside the chest cavity. **(b)** The heart is suspended within the pericardial cavity like a fist pushed into a balloon. The attachment site, corresponding to the wrist of the hand in the model, lies at the connection between the heart and major blood vessels.

FIGURE 1-13 Body Cavities. **(c)** Anterior and sectional views of the ventral body cavity, showing the central location of the pericardial cavity within the chest cavity. **(d)** The sectional plane shows how the mediastinum divides the thoracic cavity into two pleural cavities.



UPPER THORACIC CAVITY

- The **pleural cavities** enclose the lungs, while the pericardial cavity surrounds the **heart**.

UPPER THORACIC CAVITY

- The **mediastinum** is a broad, median partition between the lungs that extends from the sternum to the vertebral column, it contains all contents of the thoracic cavity except the lungs.
- The **pericardial cavity** encloses the heart and great vessels.

ABDOMINOPELVIC CAVITY

- The abdominopelvic cavity is divided into a superior abdominal and an inferior pelvic cavity.

Abdominopelvic Regions

- Umbilical
- Epigastric
- Hypogastric
- Right and left iliac or inguinal
- Right and left lumbar
- Right and left hypochondriac

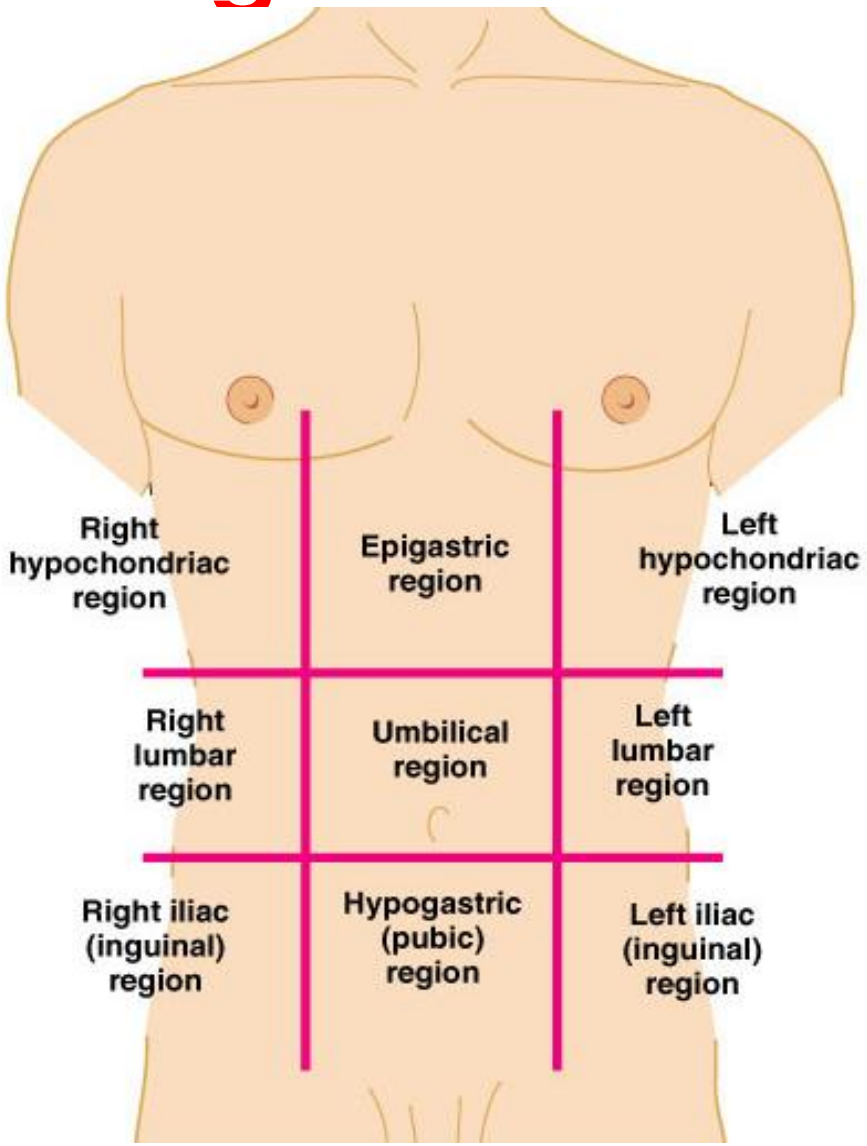


Figure 1.11a

Organs of the Abdominopelvic Regions

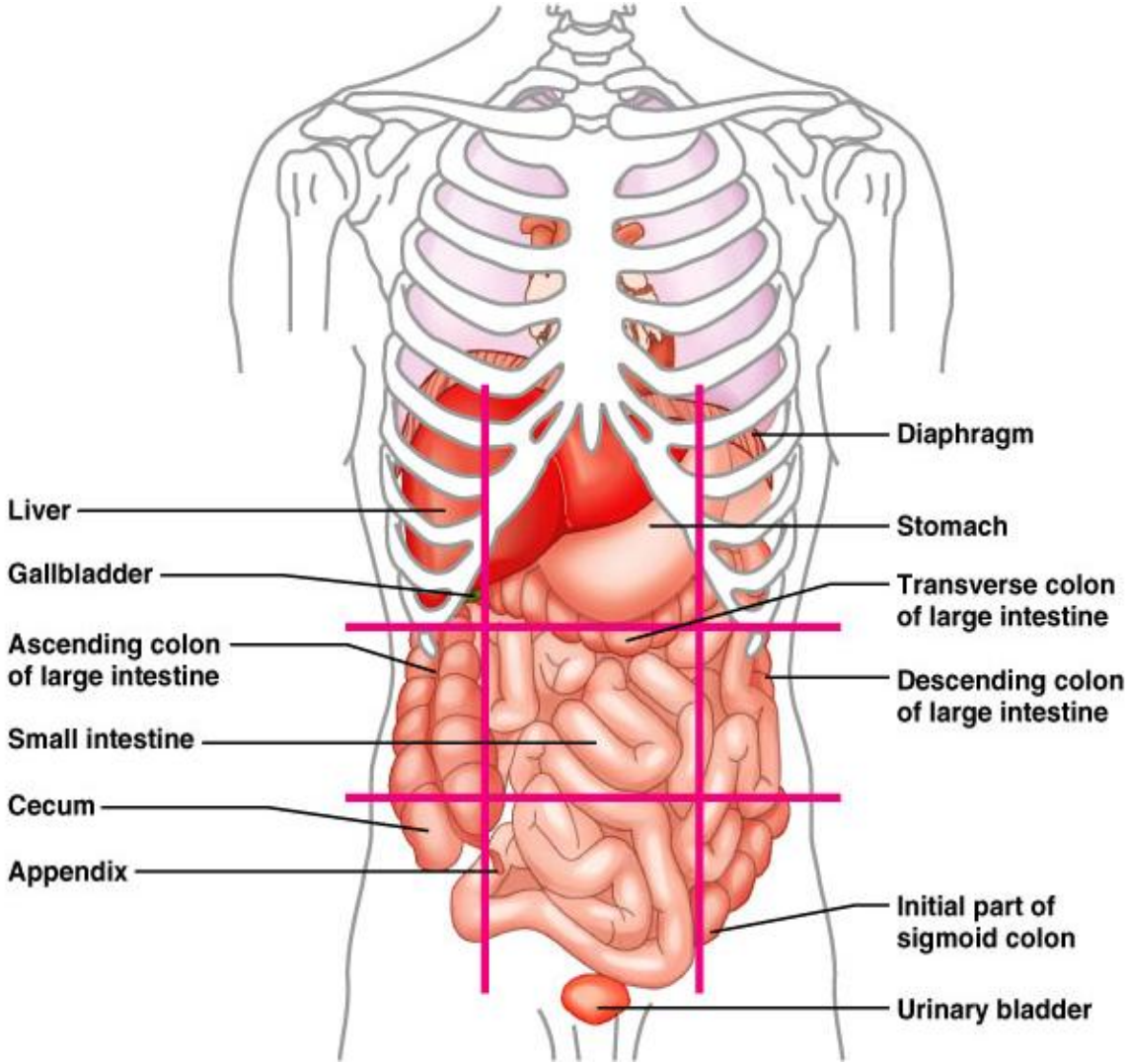


Figure 1.11b

Abdominopelvic Quadrants

- Right upper **(RUQ)**
- Left upper **(LUQ)**
- Right lower **(RLQ)**
- Left lower **(LLQ)**

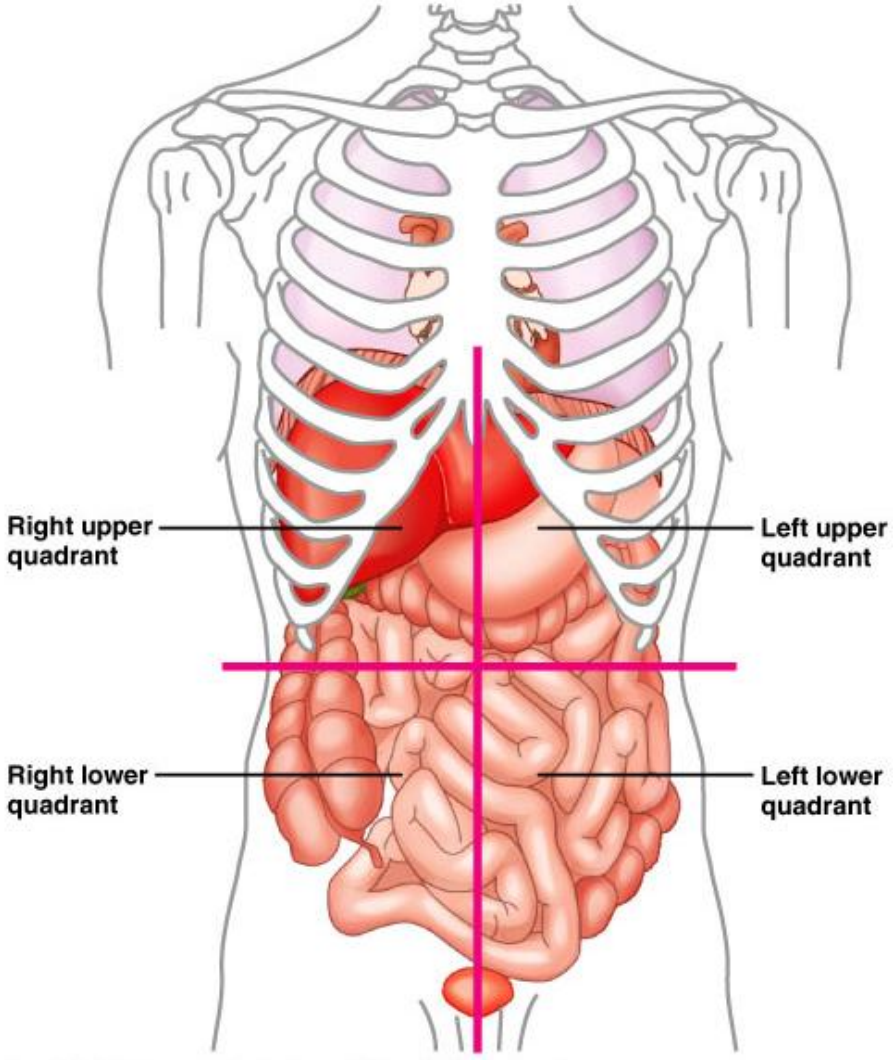


Figure 1.12

ABDOMINOPELVIC CAVITY

- **Viscera** of the **abdominal cavity** include the stomach, spleen, pancreas, liver, gallbladder, small intestine, and most of the large intestine

ABDOMINOPELVIC CAVITY

- **Viscera** of the **pelvic cavity** include the urinary bladder, portions of the large intestine and internal female and male reproductive structures.

ABDOMINOPELVIC CAVITY

- Thoracic and Abdominal Cavity **Membranes:**
  - A thin, slippery **serous membrane** covers the viscera within the thoracic and abdominal cavities and also lines the walls of the thorax and abdomen.

ABDOMINOPELVIC CAVITY

- Parts of the serous membrane are the **parietal layer** which lines the walls of the cavities and the **visceral layer** which covers and adheres to the viscera within the cavities.

ABDOMINOPELVIC CAVITY

- **Serous fluid** between the two layers reduces friction and allows the viscera to slide somewhat during movements.
- The serous membranes include the **pleura**, **pericardium** and **peritoneum**.

PLEURAL MEMBRANE

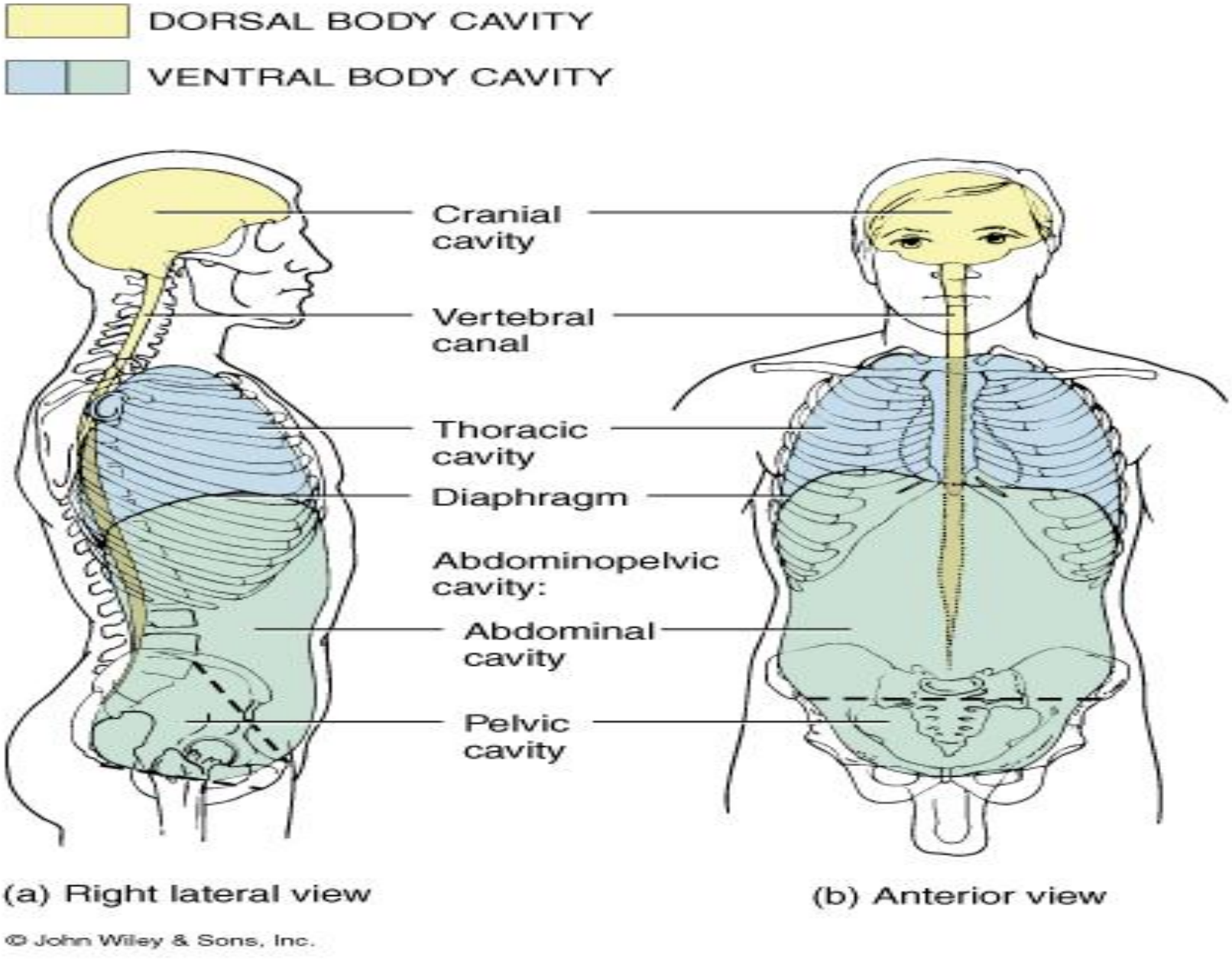
- The **pleural membrane** surrounds the lungs, with the **visceral pleura** clinging to the surface of the lungs and the **parietal pleura** lining the chest wall.

PERICARDIUM

- The serous membrane of the pericardial cavity is the **pericardium**, with visceral pericardium covering the surface of the heart and the parietal pericardium lining the chest wall.

PERITONEUM

- The **peritoneum** is the serous membrane of the abdominal cavity, with the visceral peritoneum covering the abdominal viscera and the parietal peritoneum lining the abdominal wall.


DORSAL BODY CAVITY
VENTRAL BODY CAVITY
Cranial cavity
Vertebral canal
Thoracic cavity
Diaphragm
Abdominopelvic cavity:
Abdominal cavity
Pelvic cavity
(a) Right lateral view
(b) Anterior view
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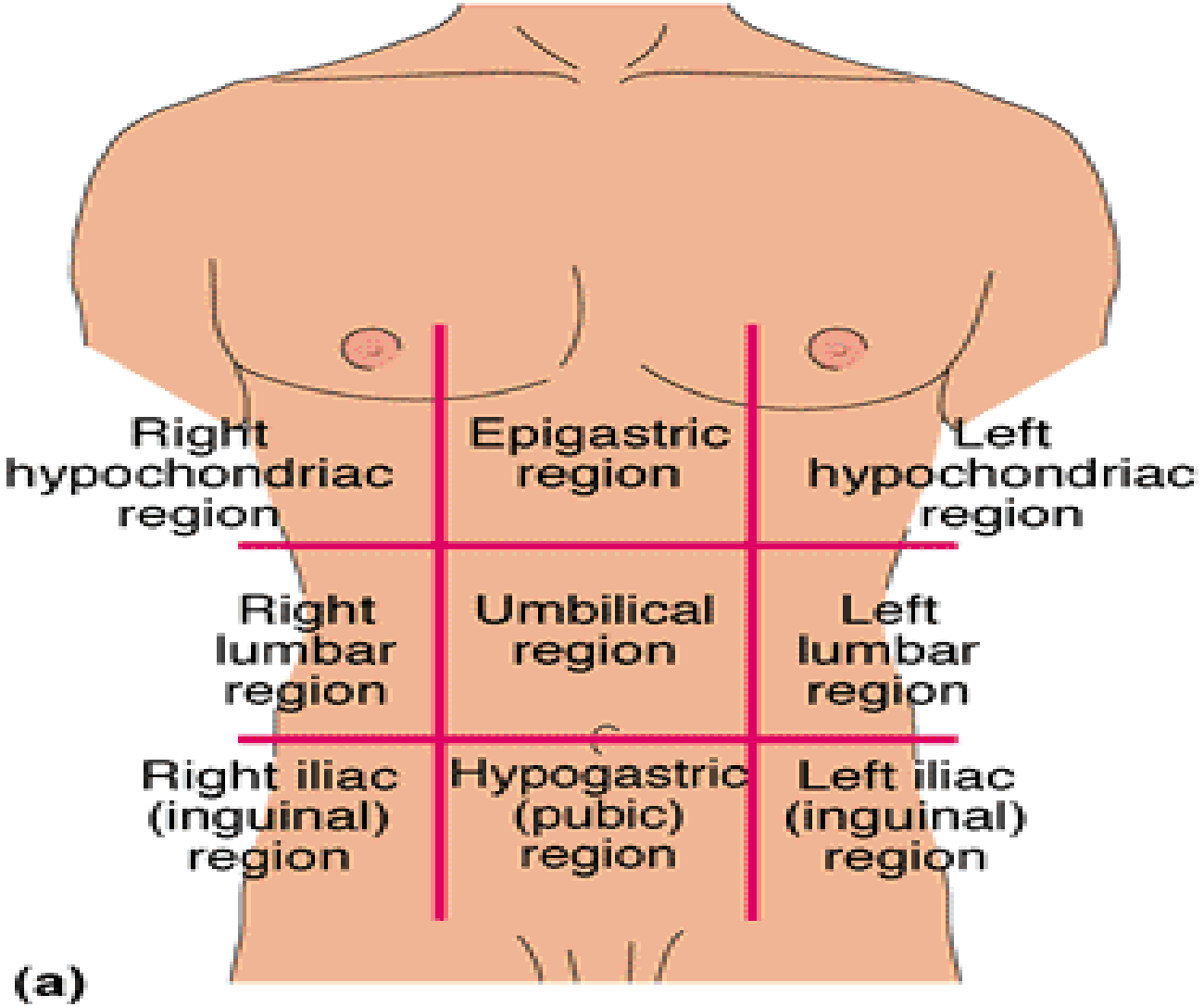
ABDOMINOPELVIC REGIONS

- To describe the location of organs easily, the abdominopelvic cavity may be divided into **nine regions** by drawing four imaginary lines

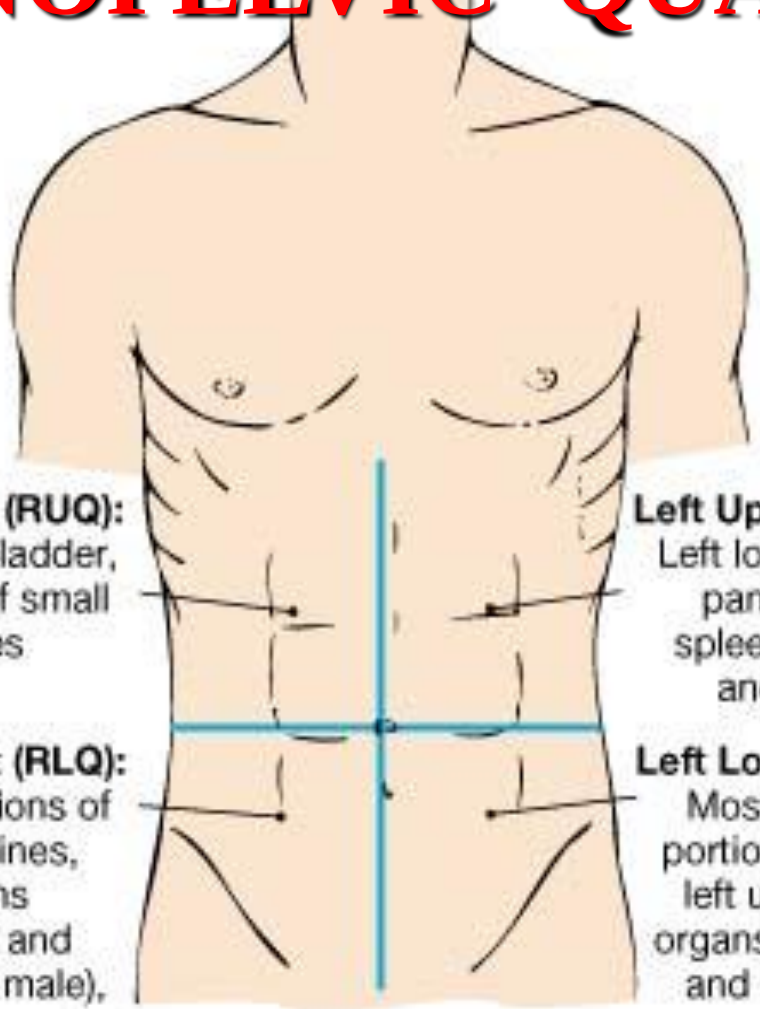
REGIONS


Right hypochondriac region
Epigastric region
Left hypochondriac region
Right lumbar region
Umbilical region
Left lumbar region
Right iliac (inguinal) region
Hypogastric (pubic) region
Left iliac (inguinal) region
(a)

ABDOMINOPELVIC QUADRANTS

- To locate the site of an abdominopelvic abnormality in clinical studies, the abdominopelvic cavity may be divided into **quadrants** by passing imaginary horizontal and vertical lines through the umbilicus.

ABDOMINOPELVIC QUADRANTS



Right Upper Quadrant (RUQ): Right lobe of liver, gallbladder, right kidney, portions of small and large intestines

Left Upper Quadrant (LUQ): Left lobe of liver, stomach, pancreas, left kidney, spleen, portions of small and large intestines

Right Lower Quadrant (RLQ): Cecum, appendix, portions of small and large intestines, reproductive organs (right ovary in female and right spermatic cord in male), right ureter

Left Lower Quadrant (LLQ): Most of small intestine, portions of large intestine, left ureter, reproductive organs (left ovary in female and left spermatic cord in male)

(a)

FIGURE 1-8 **Abdominopelvic Quadrants and Regions. (a)** Abdominopelvic quadrants divide the area into four sections. These terms, or their abbreviations, are most often used in clinical discussions.

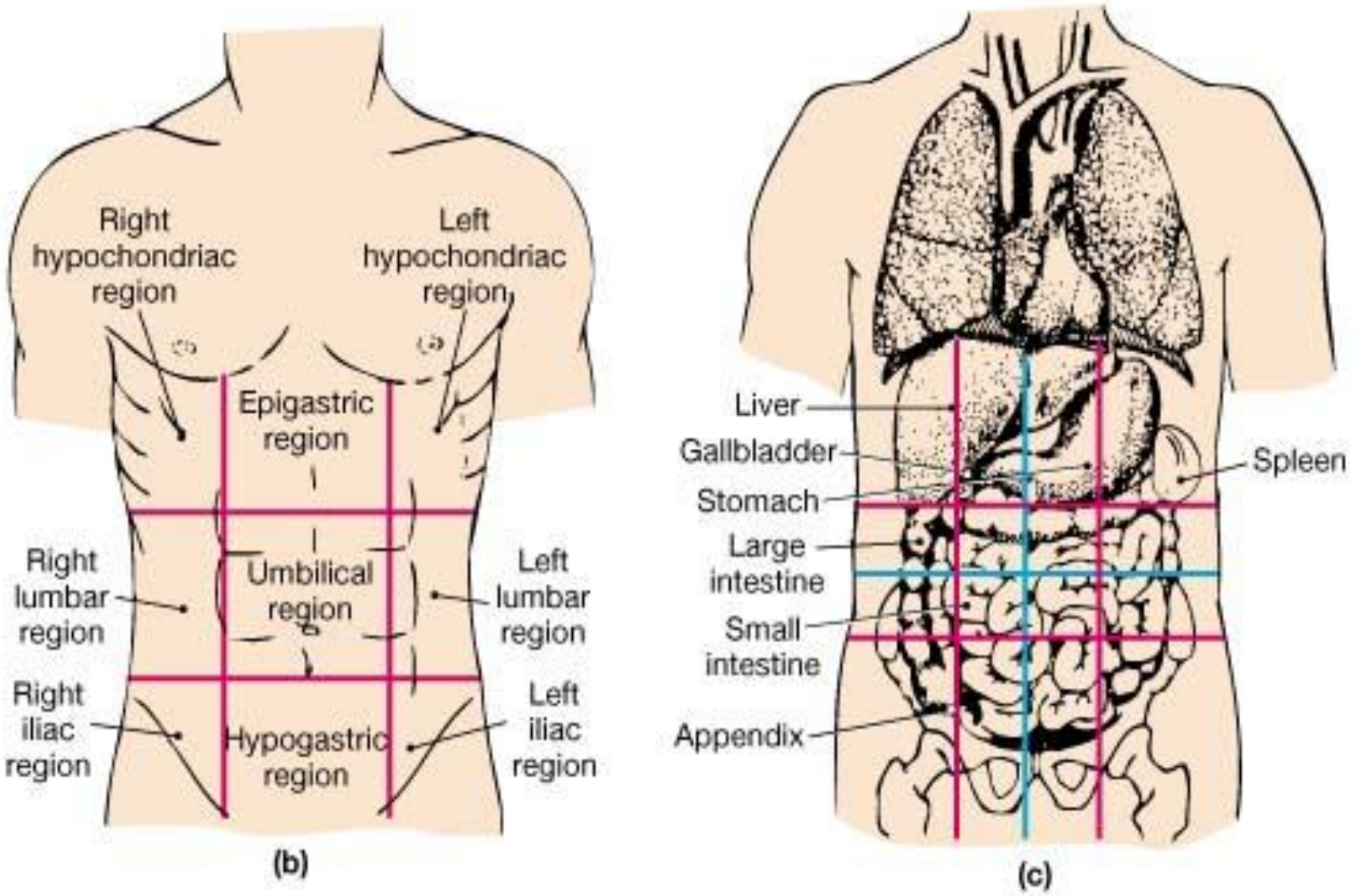


FIGURE 1-8 Abdominopelvic Quadrants and Regions. **(b)** More-precise regional descriptions are provided by reference to the appropriate abdominopelvic region. **(c)** Quadrants or regions are useful because there is a known relationship between superficial anatomical landmarks and underlying organs.

ABDOMINAL QUADRANTS