

# Difference Between Intraperitoneal and Retroperitoneal

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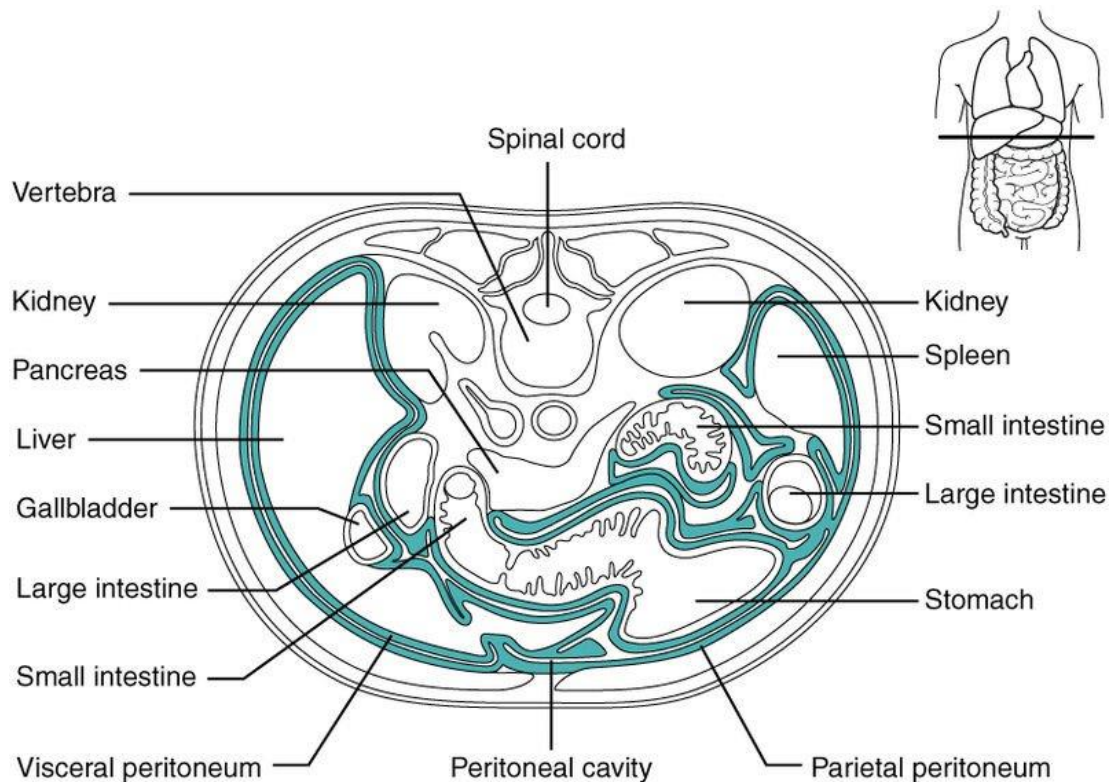
## Key Difference - Intraperitoneal vs Retroperitoneal

The [organs](#) of the gastrointestinal system include [esophagus](#), [stomach](#), [duodenum](#), [small intestine](#), [large intestine](#), rectum and anus. The stomach is composed of different layers of cells. The peritoneum is the serous membrane that forms the thin lining of the abdomen. The peritoneum is important in serving as a conduit for [blood vessels](#), lymph vessels and nerve endings and also provides support for the abdominal organs. Based on the position of the organs of the abdominal cavity of the gastrointestinal system, the organs can be divided into two broad groups namely intraperitoneal and retroperitoneal. Intraperitoneal organs are the organs situated in the interior part of the peritoneal membrane, and therefore they are covered by the peritoneum. Retroperitoneal organs are the organs situated behind the intraperitoneal space, and therefore, these organs are not covered by the peritoneum. The **key difference** between the intraperitoneal and the retroperitoneal organs is the location of the organs. **Intraperitoneal organs are situated in the intraperitoneal space and lined by the peritoneum, whereas retroperitoneal organs are situated behind the intraperitoneal space and not lined by the peritoneum.**

## What is Intraperitoneal?

Intraperitoneal or intraperitoneal organs of the abdomen are the organs that are situated in the intraperitoneal space. These organs are lined by the peritoneum. The intraperitoneal organs of the abdomen include;

- the stomach
- the first five centimetres and the fourth part of the duodenum
- the jejunum
- the [ileum](#)
- the cecum
- the appendix
- the transverse colon
- the sigmoid colon
- the upper third of the rectum.



**Figure 01: The Peritoneum**

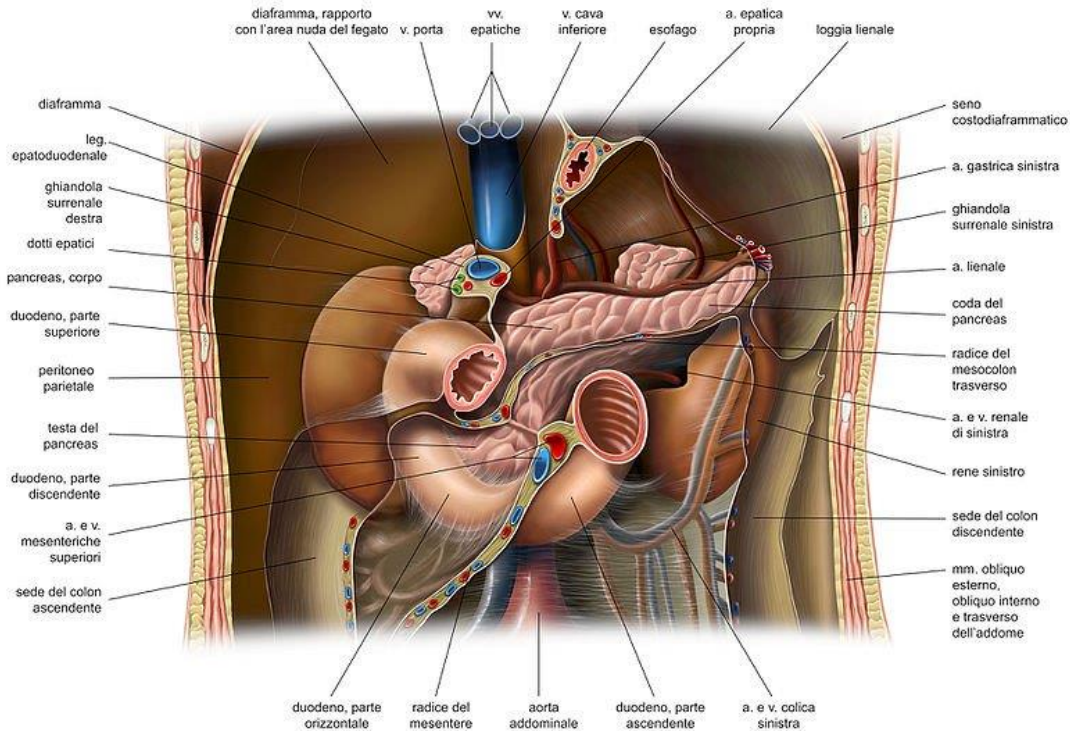
In addition to these primary organs, the [liver](#), [spleen](#) and the tail of the pancreas are also categorized as intraperitoneal organs. In females, the reproductive structures such as the [uterus](#), fallopian tubes, ovaries and the blood vessels are located in the intraperitoneum.

## What is Retroperitoneal?

Retroperitoneal structures are the structures of the abdominal cavity belonging to the gastrointestinal system and is situated behind the intraperitoneal space. Thus it is not lined by the peritoneum. These organs are mainly associated with posterior body wall that includes the [aorta](#), [inferior vena cava](#), [kidneys](#) and suprarenal glands.

Organs of the abdominal cavity situated in the retroperitoneal space include;

- the rest of the duodenum
- the ascending colon
- the descending colon
- the middle third of the rectum
- the remainder of the pancreas



**Figure 02: Retroperitoneal Space**

In addition, other retroperitoneal organs include kidneys, adrenal glands, proximal ureters, and renal vessels.

## What are the Similarities Between Intraperitoneal and Retroperitoneal?

- Both types of organs are separated by the intraperitoneal space.
- Both types of organs predominantly belong to the abdominal cavity.
- Both types of organs also consist of organs other than abdomen related organs.

## What is the Difference Between Intraperitoneal and Retroperitoneal?

### Intraperitoneal vs Retroperitoneal

Intraperitoneal organs are the organs situated in the interior part of the peritoneal membrane, and therefore they are covered by the peritoneum.

Retroperitoneal organs are the organs situated behind the intraperitoneal space, and therefore, these organs are not covered by the peritoneum

Examples	
Examples of intraperitoneal organs are the stomach and intestines.	Example for the retroperitoneal organ kidney.

## Summary - Intraperitoneal vs Retroperitoneal

Organs are categorized based on their location in human anatomy. The abdominal cavity is lined by the peritoneum that provides the surface for the blood vessels. Organs of the abdominal cavity are thus classified according to the place of organs with respect to the peritoneal space. Organs situated in the intraperitoneal space is termed as intraperitoneal organs. They are lined by the peritoneum. The organs situated behind the intraperitoneal space are retroperitoneal organs. These organs are not lined by the peritoneum. This is the difference between intraperitoneal organs and retroperitoneal organs.

### Reference:

1. Boundless. "The Peritoneum." The Peritoneum | Boundless Anatomy and Physiology. [Available here](#)
2. "Intraperitoneal and retroperitoneal organs." Master Of Medicine. [Available here](#)

### Image Courtesy:

- 1.'2403 The Peritoneum' By OpenStax College - Anatomy & Physiology, [Connexions Web site](#). , Jun 19, 2013., [\(CC BY 3.0\)](#) via [Commons Wikimedia](#)
- 2.'Topographic relations of the kidneys in the retroperitoneal space - FRANCESCO D'AGNELLO' By Francesco d'Agnello, [\(CC BY-SA 3.0\)](#) via [Commons Wikimedia](#)

### How to Cite this Article?

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