

ANATOMY OF THE SMALL INTESTINE

ANATOMY OF THE SMALL INTESTINE

Although the duodenum is anatomically indistinguishable from the rest of the small intestine, in surgical terms it may be regarded as a distinct structure and is discussed in Chapter 67. The small intestine lies between the duodenojejunal (DJ) flexure and the ileocaecal valve (Figure 74.1). It is difficult to establish the length of the small intestine. It varies widely between subjects (it is said to be longer in men) and estimates gathered at surgery, at postmortem and during radiological investigations have been noted to vary widely, even in the same individual. Most studies however describe a range between 300 and 850 cm. The proximal 40% of the small intestine is referred to as the jejunum and the remainder is the ileum. There is no clear demarcation between jejunum and ileum, as the character of the small intestine changes gradually from proximal to distal. The jejunum tends to have a wider diameter and a thicker wall, with more prominent mucosal folds (valvulae conniventes), while the ileum has a thicker, more fatty mesentery with more complex arterial arcades. The ileum also contains larger aggregates of lymph nodes (Peyer's patches), which can occasionally become the lead points in childhood intussusception. The small intestine has a rich blood supply, derived from the superior mesenteric artery (SMA), while venous drainage is via the portal venous system. The superior mesenteric vein joins the splenic vein to form the portal vein, which drains into the liver, carrying absorbed nutrients from the bowel for processing. The lymphatic drainage of the small intestine follows the arterial supply. The small intestine has a rich autonomic innervation arising from the splanchnic nerves, which contribute a dense network of sympathetic fibres around the SMA and its branches. Referred pain from the small intestine is usually felt in the peri-umbilical region (T10). The blood and nerve supplies to the small intestine run in its mesentery, which is attached to the posterior abdominal wall and runs obliquely downwards to the right between the DJ flexure to the left of the second lumbar vertebra and the right sacroiliac joint (Summary box 74.1 ; see Chapter 65).

Summary box 74.1 Important features of small bowel anatomy

The importance of non-surgical management of small • The principles of small intestinal surgery • That complex intestinal problems are best managed by a • Comprises jejunum and ileum Has valvulae conniventes Blood supply from SMA

Revision #1

Created 2025-12-31 15:27:19 UTC by Omar Ayman

Updated 2025-12-31 15:27:19 UTC by Omar Ayman