

What is the Small Intestine?

Worksheet

The small intestine is a ~6-7 m long tube divided into the duodenum (~25 cm, C-shaped, receives bile and pancreatic secretions), the jejunum (~2.5 m, thick-walled and vascular), and the ileum (~3.5 m, thinner-walled with Peyer's patches), ending at the ileocecal valve.

Questions

1. Which segment of the small intestine is C-shaped and mostly retroperitoneal?
A) Jejunum
B) Ileum
C) Duodenum
D) Cecum
2. Where do bile and pancreatic secretions enter the small intestine?
A) Jejunum
B) Major duodenal papilla (duodenum)
C) Ileocecal valve
D) Ileum
3. Which segment contains Peyer's patches?
A) Duodenum
B) Jejunum
C) Ileum
D) Cecum
4. What structure connects the small intestine to the large intestine?
A) Pyloric sphincter
B) Ileocecal valve
C) Duodenojejunal flexure
D) Ampulla of Vater
5. An endoscopist identifies the major duodenal papilla, where bile and pancreatic secretions enter the gut. Which segment is this in?
6. A surgeon compares two loops of small bowel: one has thicker walls, larger diameter, and taller circular folds; the other is thinner with visible lymphoid patches. Which is the jejunum and which is the ileum?
7. If the small intestine is about 6 m long in total and the duodenum is 0.25 m, roughly what fraction of the remaining length is jejunum (2.5 m) versus ileum (3.25 m)?
8. Define: What are the three parts of the small intestine?
9. Define: Which part of the small intestine receives bile and pancreatic juice?
10. Define: How is the jejunum different from the ileum structurally?

Answer Key

1. C) Duodenum - The duodenum curves around the head of the pancreas and is fixed retroperitoneally.
2. B) Major duodenal papilla (duodenum) - They enter via the major duodenal papilla in the second part of the duodenum.
3. C) Ileum - Peyer's patches are lymphoid nodules concentrated in the ileum's wall.
4. B) Ileocecal valve - The ileocecal valve controls flow from the ileum into the cecum.
5. The major duodenal papilla (ampulla of Vater) is located in the second (descending) part of the duodenum. This is where the common bile duct and main pancreatic duct join and empty into the small intestine. Answer: the duodenum.
6. The jejunum has thicker walls, a wider lumen, and taller, more numerous plicae circulares - it is more vascular and redder in color. The ileum has thinner walls, a narrower lumen, and Peyer's patches (lymphoid nodules) in its wall. Answer: the thick-walled, taller-folded loop is the jejunum; the thin-walled loop with lymphoid patches is the ileum.
7. Remaining length after duodenum = $6 - 0.25 = 5.75$ m. Jejunum fraction $2.5 / 5.75 = 0.43$ (about 43%). Ileum fraction $3.25 / 5.75 = 0.57$ (about 57%). Answer: the ileum makes up a slightly larger share (~57%) of the post-duodenal small intestine than the jejunum (~43%).
8. Duodenum, jejunum, and ileum.
9. The duodenum, at the major duodenal papilla (ampulla of Vater).
10. The jejunum has thicker walls and taller plicae circulares; the ileum has thinner walls and Peyer's patches.

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