

• superior mesenteric artery

The **duodenum proximal** to the entry of the bile duct receives its arterial supply from the **superior pancreaticoduodenal** artery, a branch of the gastroduodenal artery which in turn branches from the common **hepatic** artery which comes off the celiac trunk. The **distal portion** of the duodenum receives its arterial supply from the **inferior pancreaticoduodenal** artery, which branches from the superior mesenteric artery.

The arterial supply of the **jejunum** and **ileum** is from branches of the **superior mesenteric artery**. The intestinal branches arise from the left side of the artery and run in the mesentery to reach the gut. They anastomose with one another to form a series of arcades. The lowest part of the ileum is also supplied by the ileocolic artery.

The **large intestine** extends from the ileum to the anus. The large intestine is divided into the cecum, the appendix, the ascending colon, the transverse colon, the descending colon, and the sigmoid colon. The blood supply to these areas is as follows:

- **Cecum:** the arterial blood supply is from the anterior and posterior cecal arteries, which are branches of the ileocolic artery, a branch of the superior mesenteric artery
- **Appendix:** the arterial supply is by means of the appendicular artery, a branch of the posterior cecal artery
- **Ascending colon:** the arterial blood supply is from the ileocolic and right colic branches of the superior mesenteric artery
- **Transverse colon:** the arterial blood supply of the proximal two-thirds is from the middle colic artery, a branch of the superior mesenteric artery. The distal third is supplied by the left colic artery, a branch of the inferior mesenteric artery
- **Descending colon:** the arterial blood supply is from the left colic and sigmoid branches of the inferior mesenteric artery
- **Sigmoid colon:** the arterial blood supply is from the sigmoid branches of the inferior mesenteric artery

Note: The arterial blood supply to the **rectum** is from the superior, middle, and inferior rectal arteries. The superior rectal artery is a direct continuation of the **inferior mesenteric artery**. The middle rectal artery is a small branch of the internal iliac artery. The inferior rectal artery is a branch of the internal pudendal artery in the perineum. The arterial blood supply to the **anus** (anal canal) is from the superior and inferior rectal arteries.