Anatomy: Colon

The colon is approximately 1.5 meters in length, extending from the ileocecal valve to the dentate line of the anus. The right colon consists of the cecum, ascending colon, hepatic flexure, and proximal transverse colon while the left colon is comprised of the distal transverse colon, splenic flexure, descending colon, sigmoid colon, and rectosigmoid. The ascending and descending portions are retroperitoneal while the transverse and sigmoid colons are suspended within the peritoneum attached to their mesocolons. The cecum has the largest diameter, with the lumen tapering distally.

The colon wall consists of four layers: mucosa, submucosa, muscularis, and serosa. The muscularis propria is made of an inner circular layer and outer longitudinal layer. This longitudinal layer completely encompasses the colon’s circumference and at three points gathers into taenia coli—thick bands. Haustra, or sacculations, occur secondary to shortening of the colon by the taeniae and contractions of the inner circular muscle layer.

The blood supply of the right colon, from the cecum to the middle/distal transverse colon is provided by the superior mesenteric artery and its branches (ileocolic, right colic, and middle colic arteries). The left colon is supplied by the inferior mesenteric artery as it branches into the left colic artery and superior hemorrhoidal artery and its branches. The marginal artery of Drummond forms an anastomosis between the SMA and IMA. The vasa recta are the terminal arterial branches to the colon and run directly to the bowel wall. The vasa recta are the vessels associated with bleeding in diverticulosis.

The sympathetic nerve supply to the right colon arise from spinal levels T10-T12 and travel with the SMA while the left colon is supplied by sympathetic fibers arising in L1-3 and follow the IMA. The parasympathetic innervations to the right colon originate from the right vagus nerve, while the left colon is supplied by S2-4.

References: