

Anatomy, continued**Anatomy of the colon wall (refer to Figure 4)**

The intestinal tract is a tube-like structure characterized by a wall with four layers. The layers are described below from the inner surface of the tube which is the closest layer to the fecal stream. Colon cancer starts on the inside of the intestinal tube, called the lumen, a cavity/channel within a tube and grows outward through the bowel wall where it can spread to adjacent structures and the regional lymph nodes. Staging of colon cancer and prognosis are based on the depth of invasion of the tumor through the layers of the muscular wall.

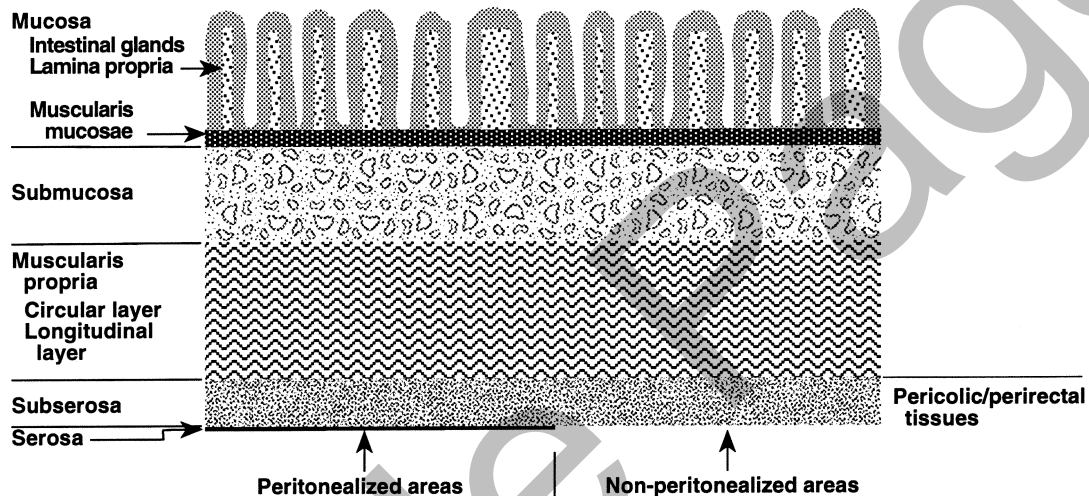
Layers of Colon and Rectum Wall

Figure 4. Layers Of Colon And Rectum Wall

Mucosa—the mucous lining of the inside of the intestine. It has the appearance of finger-like fimbria that allows for water absorption. The mucosa is composed of three layers:

Surface epithelium—inner-most layer of mucosa (in-situ lesions are confined to this layer)

Lamina propria or basement membrane—lies outside the epithelium, composed of connective tissue (blood vessels and lymphatic vessels). This is the dividing line for determining in-situ and invasive lesions.

Muscularis mucosae—the outer layer of mucosa is a thin layer of smooth muscle

Submucosa—lies outside the mucosa; contains connective tissue in which are embedded blood vessels, lymphatics and nerve vessels. The potential for metastasis increases if this layer is invaded by the tumor.

Muscularis propria—consists of two muscle layers

Circular layer of muscle—smooth muscle provides squeezing or kneading action

Longitudinal layer of muscle—in three bands called taenia coli, which provide propelling action (through the bowel wall=through the muscularis propria)

Subserosa—sometimes called pericolic fat, subserosal fat, connective fatty tissue, serosal connective tissue, serosal adipose tissue

Serosa—also called visceral peritoneum; single cell layer on outside of colon

Retroperitoneal fat—also called pericolic fat/mesenteric fat, is located within the posterior body wall behind a layer of parietal peritoneum; not part of the colon and rectum wall

Note: the term pericolic fat is used for subserosal fat as well as retroperitoneal fat and mesenteric fat.