**LARGE INTESTINE**

These parts lie between the ileum and the anus belong to the large intestine in sequences they are cecum ,appendix, colon(ascending+transvers +descending)

And the anal canal

**COLON**

**MUCOSA**

The mucosa of the colon free from the villi the surface epithelium consist of three type of the cells

1-simple columnar absorptive cells have a thin striated border

2-goblet cells intercalate between the absorptive cells increase in number in the more distal segments of the colon

3-undiffrentiated epithelial cells in the bases of the intestine gland(stem cells)

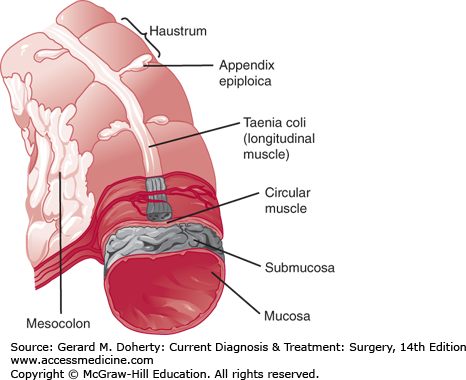
The lamina propria is similar to that in the small intestine except the solitary lymph nodules are larger and more numerous because of their size they often bulge in the submucosa ,the muscularis has the typical 2 layers of smooth muscles

**SUBMUCOSA**

Contain no glands , it has no essential differences

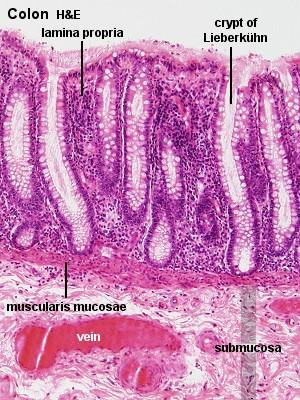
**MUSCULARIS EXTERNA**

The inner layer circular and the outer longitudinal muscularis externa have the taeniae coli are three separate longitudinal ribbons of smooth muscle on the outside of the ascending, transverse, descending and sigmoid colons. They are visible and can be seen just below the serosa .



**SEROSA**

Because the ascending and descending colon are pressed against the body wall by the peritoneum the serosa is incomplete present only on their anterior surface these region attached with the body by adventitia the other regions transverse and pelvic colon have serosa .

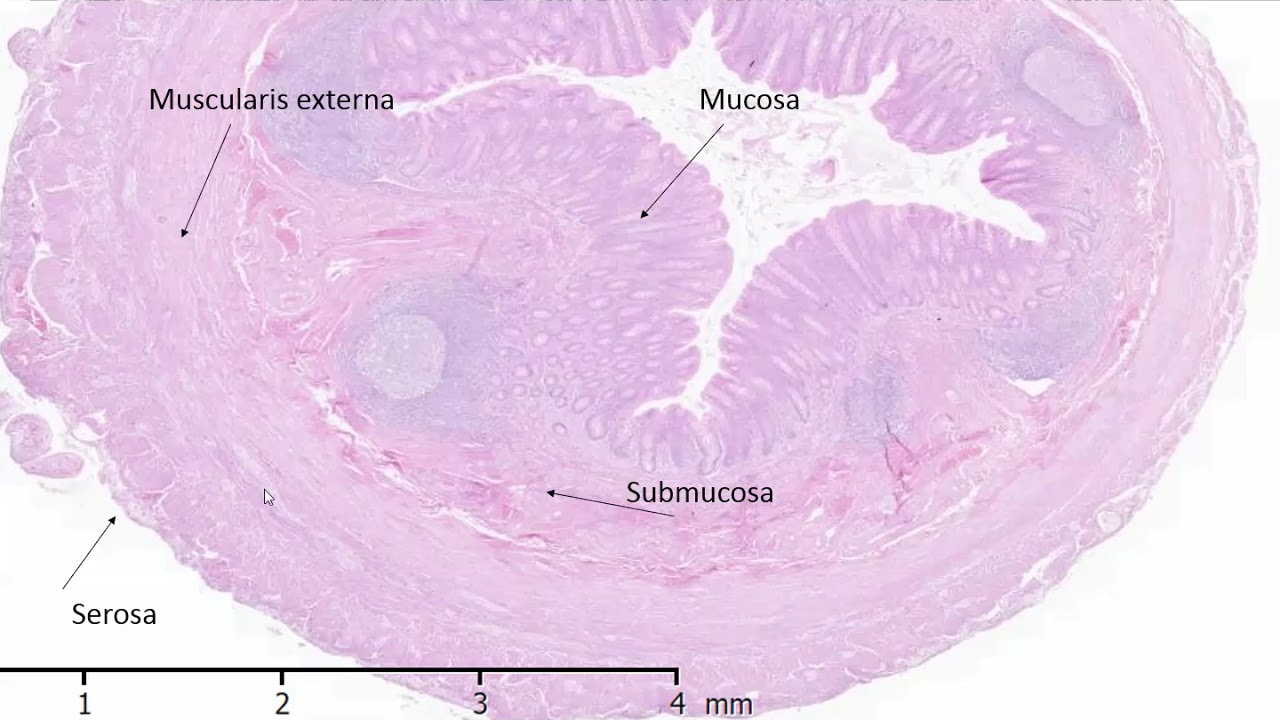


**CECUM**

The beginning of the large intestine is the cecum large sac it is similar to transverse colon including serosa

**APPENDIX**

It is small worm shaped tube projection from the end of the cecum it has lymphatic nodules in the lamina propria they may also occupy the submucosa and reduce the lumen appendix to the narrow ,stellate slit .



**RECTUM**

Some structural changes gradually occur in the colon in making the transition to rectal structure :

Teniae coli flatten out to form uniform , longitudinal sheets of muscle , the mucosa is thicker , lymphoid nodules are less

**ANAL CANAL**

Presents longitudinal folds, **anal valves** , the epithelium changes from the simple columnar of the rectum , to simple cuboidal at the anal valves , to stratified squamous at the anus .

The submucosa is rich in vascular supply , while the muscularis externa forms the internal anal sphincter muscle , an adventitia connects the anus to the surrounding structures .

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