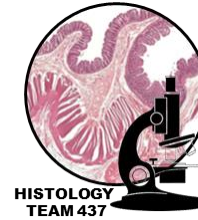




Alimentary Canal (3)

Large intestine



Red: important.

Black: in male | female slides.

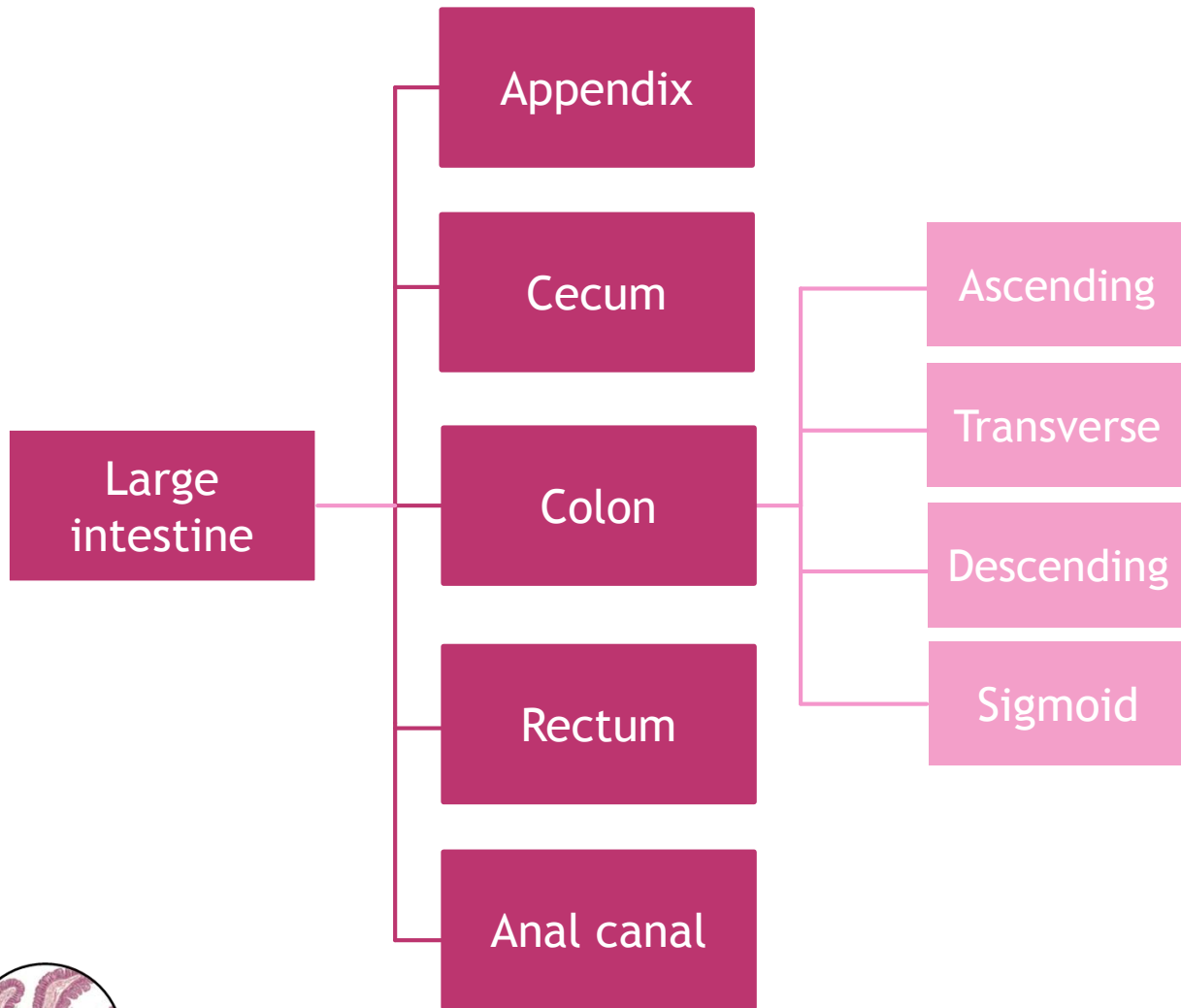
Gray: notes | extra.

Editing file

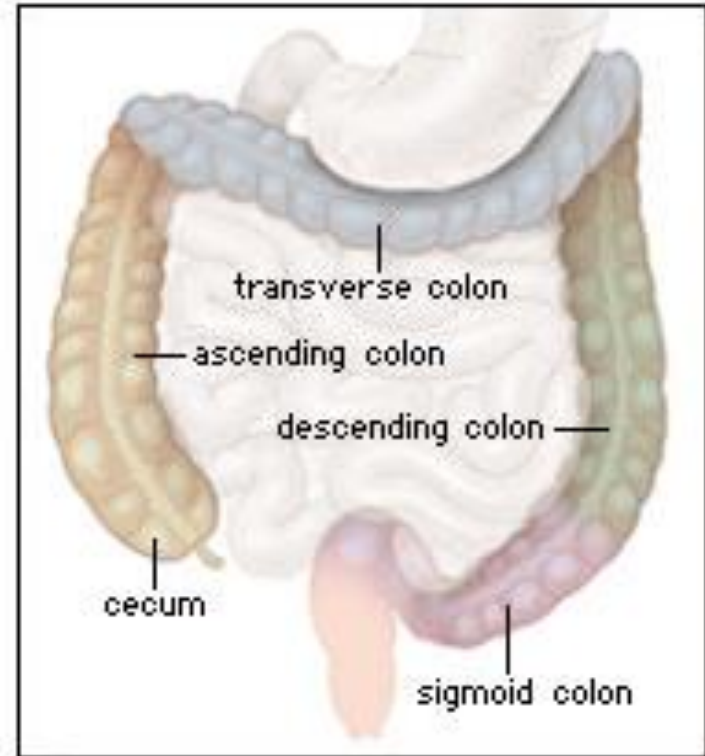
➤ OBJECTIVES

- **By the end of this lecture the student should be able to:**
 - 1. Identify the histological structure of the 4 layers of colon.**
 - 2. Identify the histological structure of the 4 layers of appendix.**

➤ LARGE INTESTINE

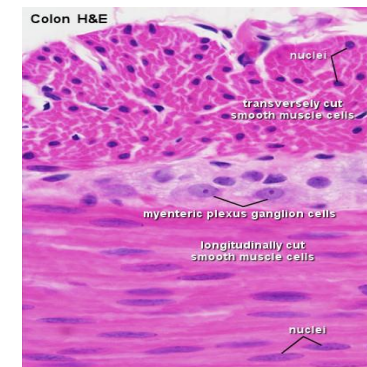
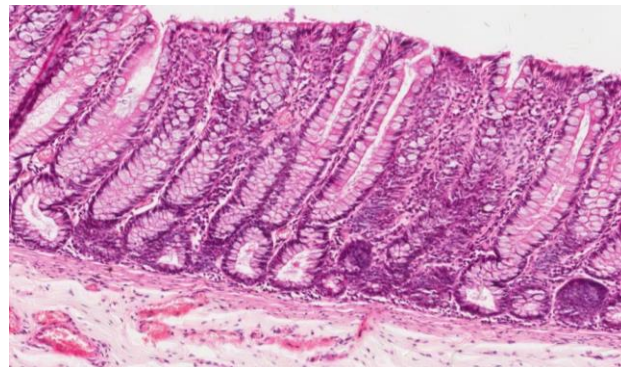
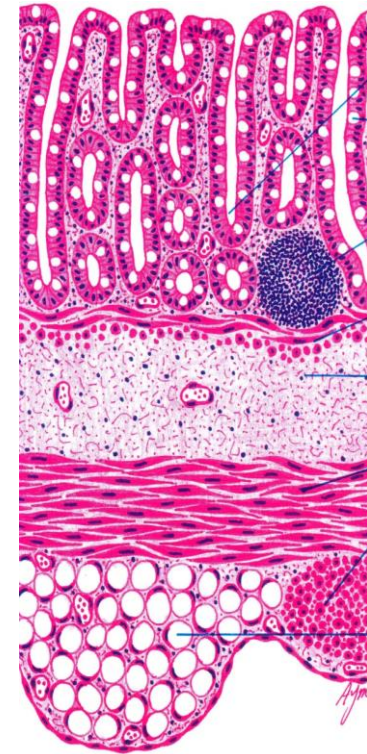


Regions of the large intestine



➤ COLON

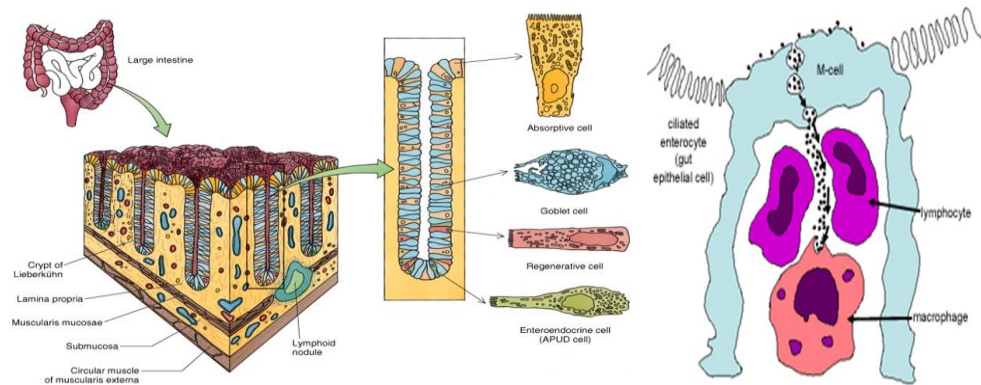
Mucosa	<ul style="list-style-type: none"> ○ Shows only crypts (NO villi) ○ Epithelium: <u>Simple columnar epithelium</u> with numerous goblet cells. ○ Lamina propria: <ul style="list-style-type: none"> • C.T containing numerous crypts. • Cells of the crypts are the same as in small intestine but <u>without Paneth cells</u>. • Lymphatic nodules (solitary): Frequent. ○ Muscularis mucosae: 2 layers of smooth muscle.
Submucosa	<ul style="list-style-type: none"> ○ No glands. (Submucosal glands are only in esophagus and duodenum) ○ Meissner's nerve plexus.
Muscularis Externa	<ul style="list-style-type: none"> ○ Inner circular & outer longitudinal smooth muscle layers. ○ The outer longitudinal layer is not continuous but in the form of <u>3 ribbons (teniae coli)</u> ○ Auerbach's nerve plexus.
Serosa	<ul style="list-style-type: none"> ○ C.T. covered by mesothelium. ○ Has fat-filled pouches (pendulous masses) called appendices epiploicae.



➤ Intestinal Crypts of Colon

Cells lining the crypts are:

1. Surface columnar absorptive cells. (the predominant cell)
2. Goblet cells.
3. Enteroendocrine cells.
4. Stem cells.
- 5- M-cells.



➤ VERMIFORM APPENDIX

- Similar to the colon, but with much smaller diameter, shallow crypts, more lymphoid nodules (aggregated lymphoid nodules, all around, in lamina propria and extending into submucosa), **Few goblet cells and more EE (DNES) cells.**
- **Muscularis mucosae: Not continuous.**
- **Muscularis externa: No teniae coli.**
(continuous, no 3 ribbons)
- It is invested by serosa.



➤ **QUESTIONS:**

Q1: the mucosa of the colon shows:

A) crypts B) villi C) both D) non of them

Q2: which of these cells are not found in the colon?

A) Goblet cells B) EE cells C) paneth cells D) M cells

Q3: the Lymphatic nodules are found in which layer of the colon?

A) Lamina propria B) Serosa C) Muscularis Externa D) all of them

Q4: how many layers of smooth muscles in Muscularis mucosae?

A) 6 layers B) 3 layers C) 4 layers D) 2 layers

Q5: Which layer of muscles are not continuous in the colon?

A) Muscularis mucosae B) Inner circular layer
C) outer longitudinal layer D) all of them

5-C
4-D
3-A
2-C
1-A



Q6: the appendices epiploicae is pouches that is filled with ?

- A) fat B) proteins C) glucose D) maltose

Q7: which of layer of muscles is not continues in Vermiform Appendix?

- A) Muscularis mucosae B) Inner circular layer
C) The outer longitudinal layer D) all of them

Q8: Which one of these layers contains fat-filled pouches called appendices epiploicae?

- A) Lamina propria B) Serosa C) Muscularis Externa D) all of them

B -8
A -7
A -6

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