



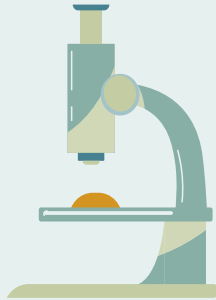
MED439
KING SAUD UNIVERSITY

Revised & Approved



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جامعة
الملك سعود
King Saud University



Histology Team
439

GNT OSPE

Color index:

Slides



Important



Doctors notes



Extra



Editing file

Important notes:

- According to the females doctor, you will be asked about identify and list features
- Do I need to remind you to write the full name and don't use shortcuts?
- You should study the original file first, this file is for revision only and it's made by students

Esophagus

★ Q1/ Identify the structure?

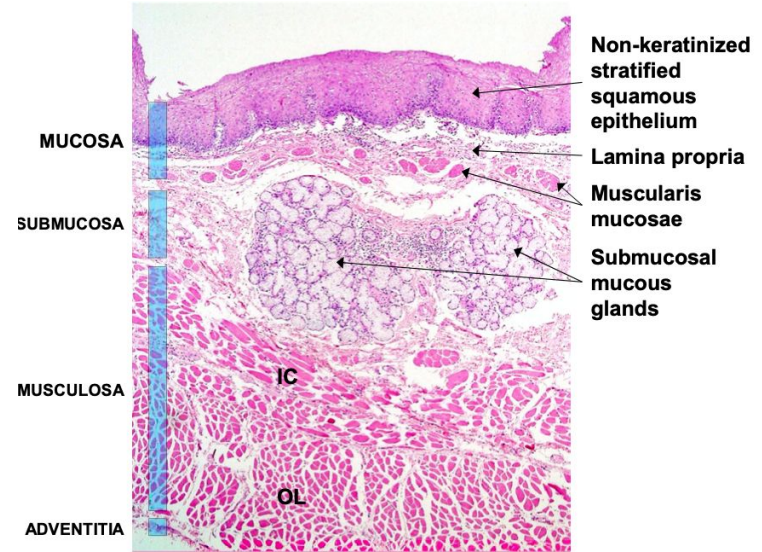
Esophagus (human)

Q2/ What is the type of Epithelium in this structure?

Non Keratinized Stratified Squamous Epithelium.

★ Q3/ What are the features of the structure?

1. Non-keratinized stratified squamous epithelium.
2. Muscularis mucosae is very well developed.
3. Submucosal mucous glands.
4. Musculosa is formed of two layers; inner circular and outer longitudinal layers.
5. In the upper third, musculosa is formed of striated muscles.



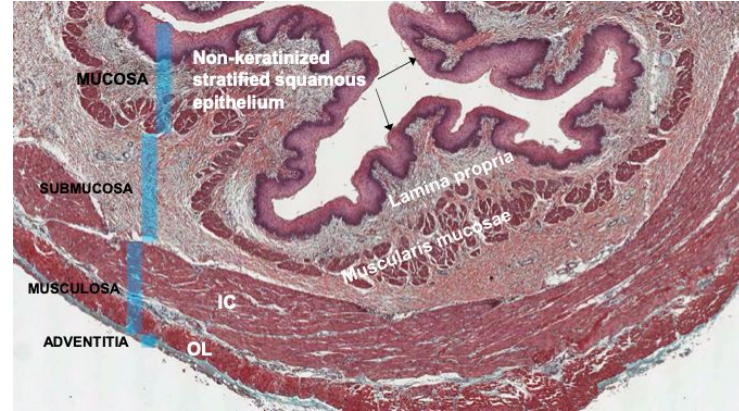
Esophagus

Q1/ Identify the structure?

Esophagus (cat) oh now I know the histology of a cat esophagus! I'm so proud!

Q2/ What are the features of the structure?

1. Non-keratinized stratified squamous epithelium.
2. Muscularis mucosae is very well developed.
3. No submucosal mucous glands.
4. Muscularosa is formed of two layers; inner circular and outer longitudinal layers.
5. In the upper third, muscularosa is formed of striated muscles.



Stomach

★ Q1/ Identify the structure?

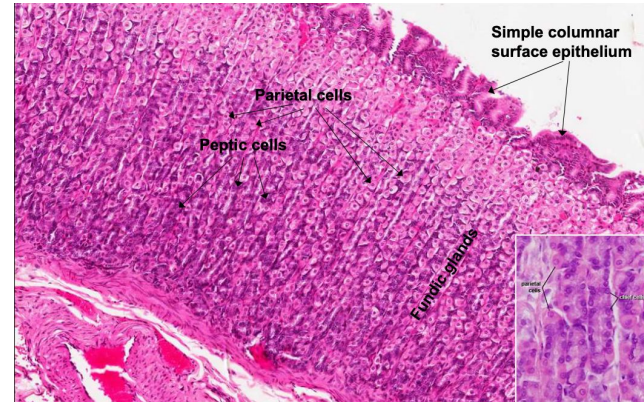
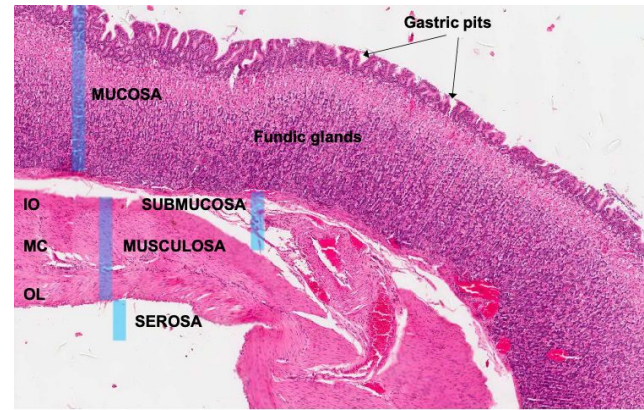
Fundus of the stomach

Q2/ What is the type of Epithelium in this structure?

Simple columnar Epithelium.

★ Q3/ What are the features of the structure?

1. Gastric pits.
2. Simple columnar surface epithelium.
3. NO villi.
4. NO goblet cells.
5. NO glands in submucosa.
6. Peptic (chief) cells; basophilic.
7. Parietal (oxyntic) cells; acidophilic.



Stomach

★ Q1/ Identify the structure?

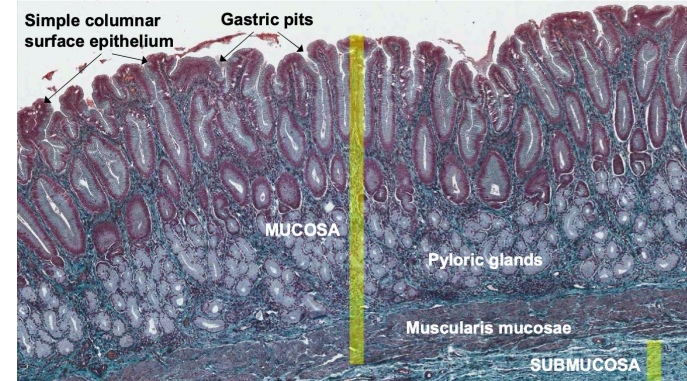
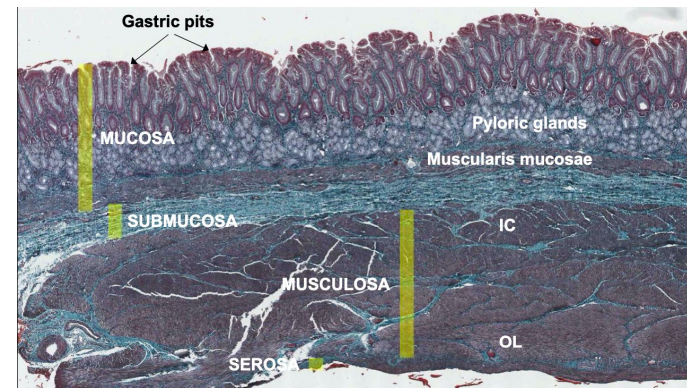
Pylorus of the stomach

Q2/ What is the type of Epithelium in this structure?

Simple columnar Epithelium.

★ Q3/ What are the features of the structure?

1. Gastric pits.
2. Simple columnar surface epithelium.
3. NO villi.
4. NO goblet cells.
5. NO glands in submucosa.
6. Mucus-secreting cells



Duodenum

★ Q1/ Identify the structure?

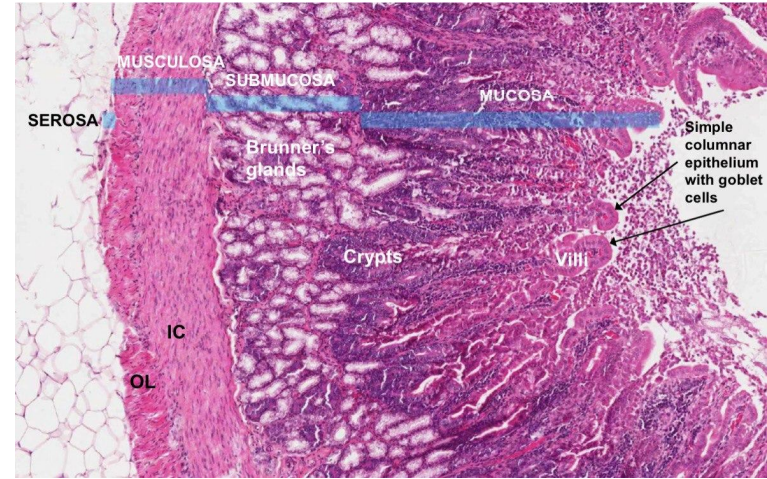
Duodenum

Q2/ What is the type of Epithelium in this structure?

Simple columnar Epithelium with goblet cells

★ Q3/ What are the features of the structure?

1. Villi.
2. Crypts.
3. Simple columnar epithelium with goblet cells.
4. Brunner's glands in submucosa.



Ileum

★ Q1/ Identify the structure?

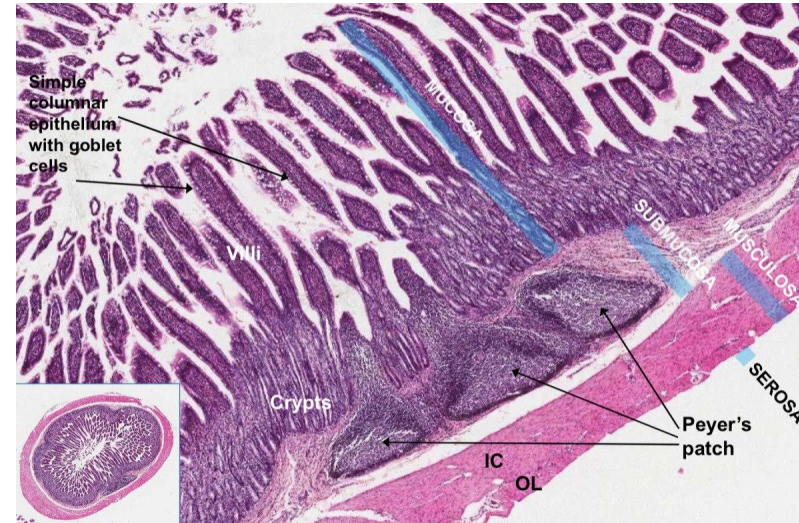
Ileum

Q2/ What is the type of Epithelium in this structure?

Simple columnar Epithelium with goblet cells

★ Q3/ What are the features of the structure?

1. Villi.
2. Crypts.
3. Simple columnar epithelium with numerous goblet cells.
4. Peyer's patch.
5. NO Brunner's glands in submucosa.



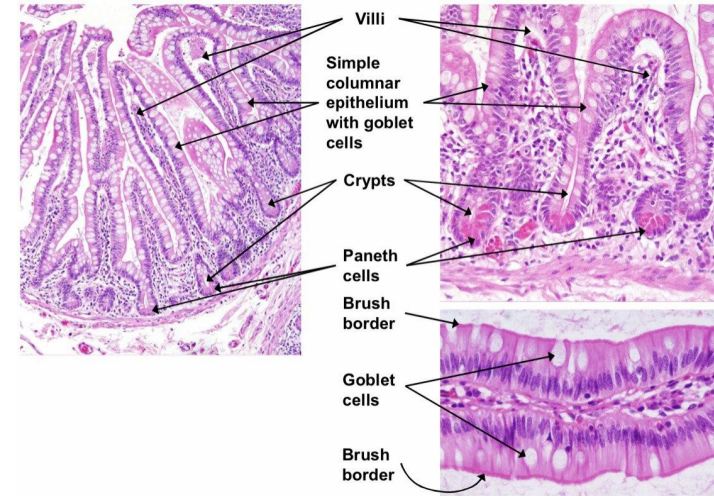
Villi and crypts

Q1/ Identify the structure?

Villi and crypts

Q2/ What are the features of the structure?

1. Villi (which are finger-like projections).
2. Crypts (which are simple tubular gland).



Q3/ What are the main types of cells in the covering and lining the villi and crypts?

1. Simple columnar absorptive cells
2. Goblet cells are mucus-secreting cells
3. Paneth cells are found only in the bottoms of the crypts.

Colon

★ Q1/ Identify the structure?

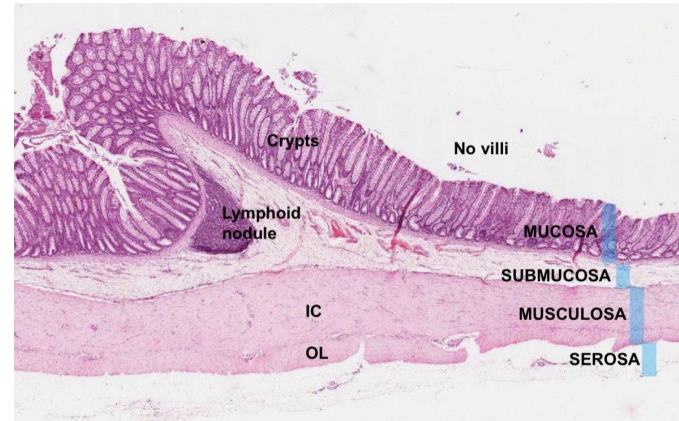
Colon

Q2/ What is the type of Epithelium in this structure?

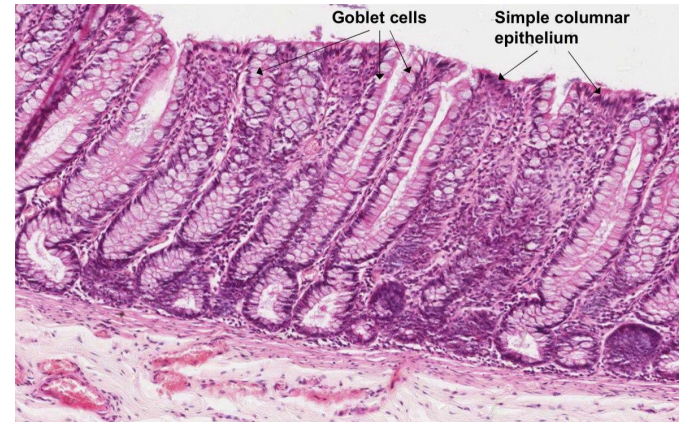
Simple columnar Epithelium with numerous goblet cells

★ Q3/ What are the features of the structure?

1. Crypts.
2. NO villi.
3. Simple columnar epithelium.
4. Numerous goblet cells.
5. Lymphoid nodules.
6. NO glands in submucosa.
7. The crypts contain NO panth cells.



IC: Inner circular layer
OL: outer longitudinal layer



Appendix

★ Q1/ Identify the structure?

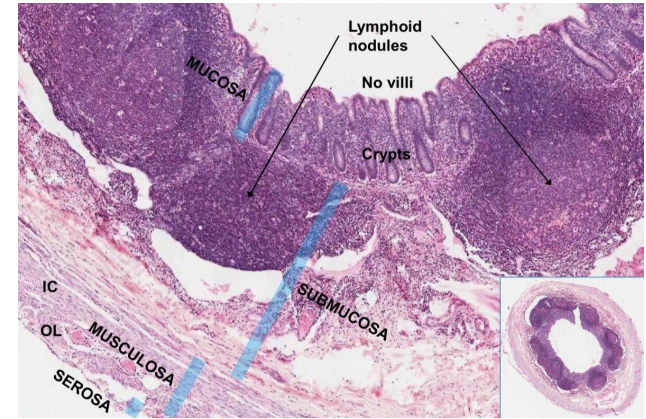
Appendix.

Q2/ What is the type of Epithelium in this structure?

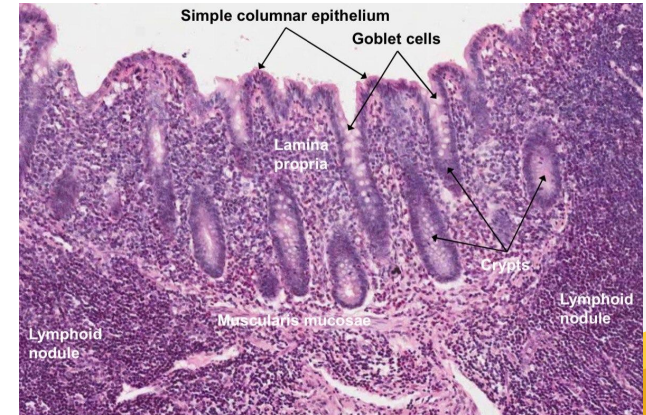
Simple columnar epithelium with few goblet cells.

★ Q3/ What are the features of the structure?

1. Crypts.
2. NO villi.
3. Simple columnar epithelium.
4. Few goblet cells.
5. Lymphoid all around nodules.
6. NO glands in submucosa.
7. The crypts contain NO panth cells.



IC: Inner circular layer
OL: outer longitudinal layer



Liver

★ Q1/ Identify the structure?

1. Liver - Classic hepatic lobules
2. Liver - Lobule structure
3. Liver - Portal area

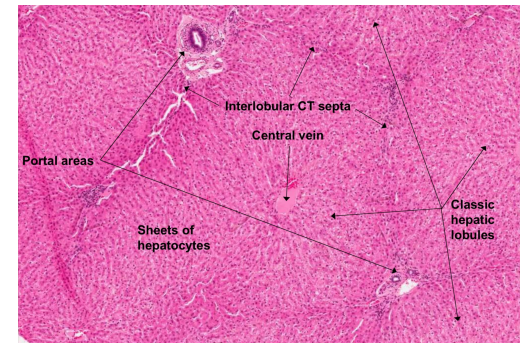
★ Q2/ What are the features of the structure?

1. Classic hepatic lobules.
2. Central veins.
3. Sheets of hepatocytes.
4. Blood sinusoids.
5. Portal areas and their contents: bile ducts, branches of hepatic artery, branches of portal veins.

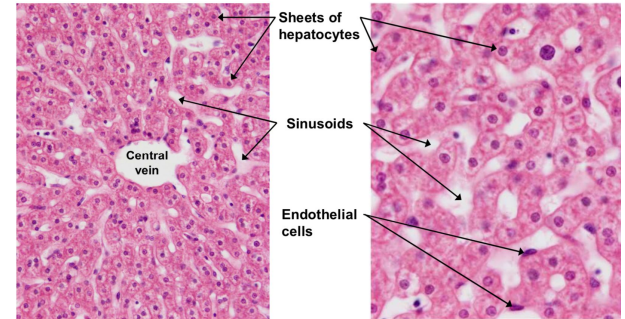
Q3/ What are the structures found in the portal area?

- A bile duct (lined by simple cuboidal or columnar epithelium).
- A branch of hepatic artery.
- A branch of portal vein.

1



2



3



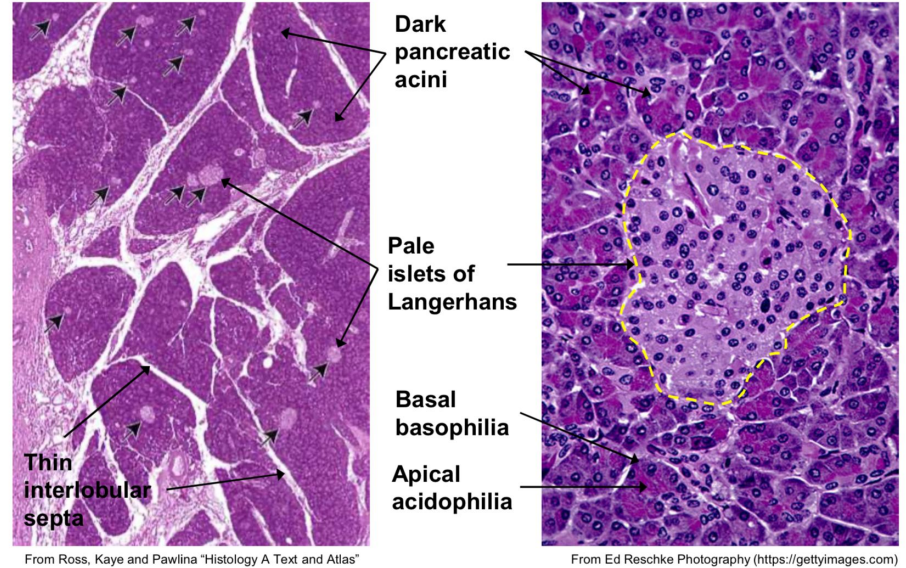
Pancreas

★ Q1/ Identify the structure?

Pancreas

★ Q2/ What are the features of the structure?

1. Pancreatic acini.
2. Islets of Langerhans.
3. Thin interlobular CT septa.
4. Acinar cells: basal basophilia and apical acidophilia.
5. Intralobular ducts NOT prominent



Gallbladder

★ Q1/ Identify the structure?

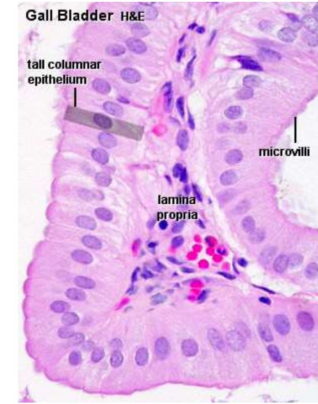
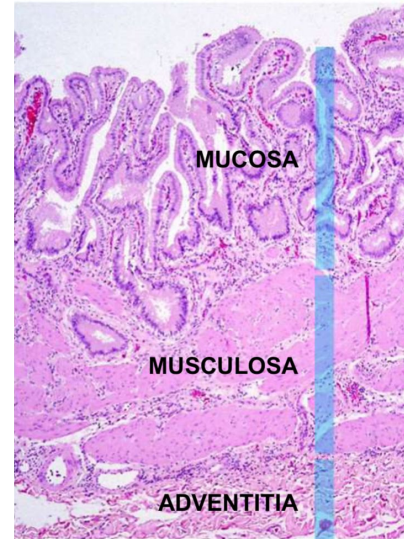
Gallbladder

Q2/ What is the type of Epithelium in this structure?

Simple columnar epithelium

★ Q3/ What are the features of the structure?

1. Highly folded mucosa.
2. Simple columnar epithelium.
3. NO villi.
4. NO crypts.
5. NO goblet cells.
6. NO muscularis mucosae.
7. NO submucosa.
8. NO glands.
9. Musculosa: smooth muscle fibers oriented in all directions.



Team leaders

- ✓ Mariam Alruhaimi
- ✓ Mohamed Albabtain

Team members

- | | |
|--------------------|------------------|
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| | Sumo Abdulrahman |