

# **Histology of Large Intestine**

By

**Muhammad Adan Asghar**

# **:Objectives**

Basic Histology of Organs -

Histogenesis of Large Intestine-

Appendix-

Anal Canal-

# ORGAN S

## SOLID

stroma-

parenchyma-

## HOLLOW

mucosa-

submucosa-

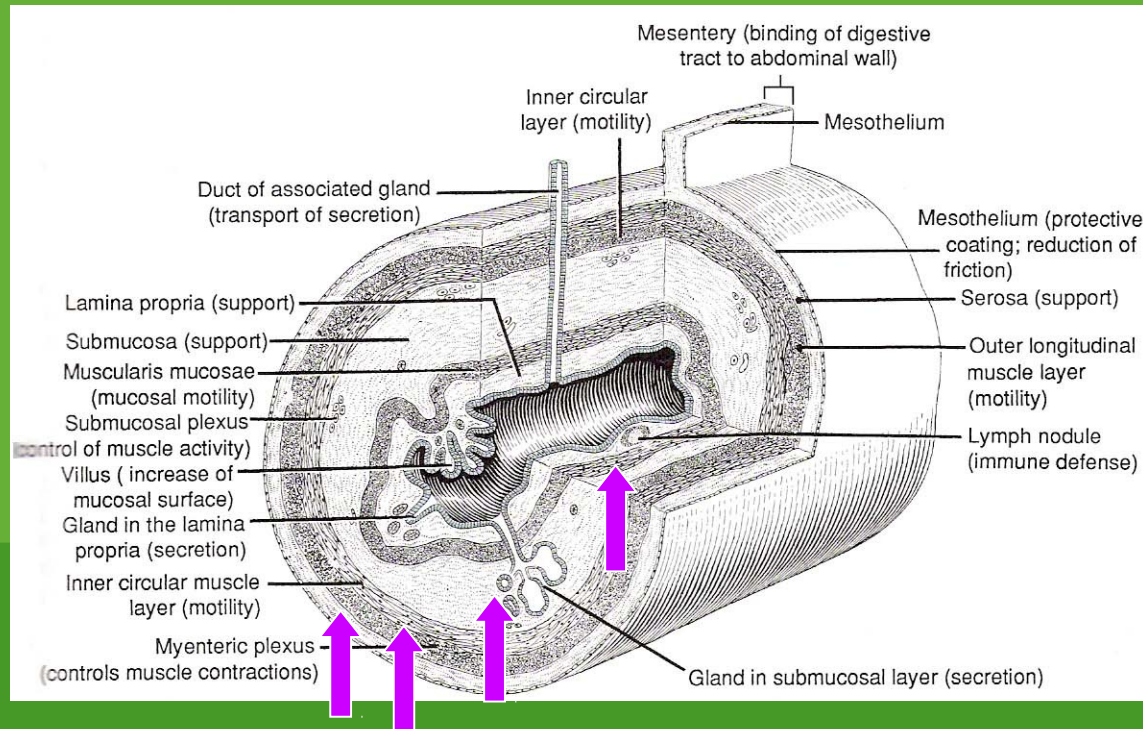
muscularis externa-

fibrosa-

# Histology of GIT

- Schematic diagram showing different layers of GIT

1. Mucosa
2. Submucosa
3. Muscularis
4. Serosa



# Tract

## Common Characteristics:

- **Hollow tube** composed of a **lumen** whose diameter varies.
- Surrounded by a wall made up of 4 principal layers:
  - **Mucosa**
    - Epithelial lining; A lamina propria of loose connective tissues rich in blood, lymph vessels and smooth muscle cells; Muscularis mucosae.
  - **Submucosa**
    - Dense connective tissues with many blood and lymph vessels.
  - **Muscularis**
    - Contains smooth muscle cells, divide into 2 layers; internal (circular); external (longitudinal)
  - **Serosa**
    - Thin layer of loose connective tissue rich in blood and lymph vessels and adipose and single squamous covering epithelium (mesothelium)

# The large intestine

- The large intestine formed of the following organs:
- **The cecum**
- **The colon**
- **The rectum**
- **The anal canal**

# **The function of the large intestine**

**The absorption of water**

**Excluded of the waste product**

# The histological structure of the large intestine

- **The mucosa:** the epithelium formed of simple columnar ciliated epithelium which is folded and formed straight glands
- the epithelium cell formed of two types **mucus cells** for secretion of mucus and **brush cells** for absorption of water the mucus cells increas and the brush cells decrease toward the anal canal



# The lamina propria

- It formed of collagen fibers rich in blood vessels and peyer,s patches

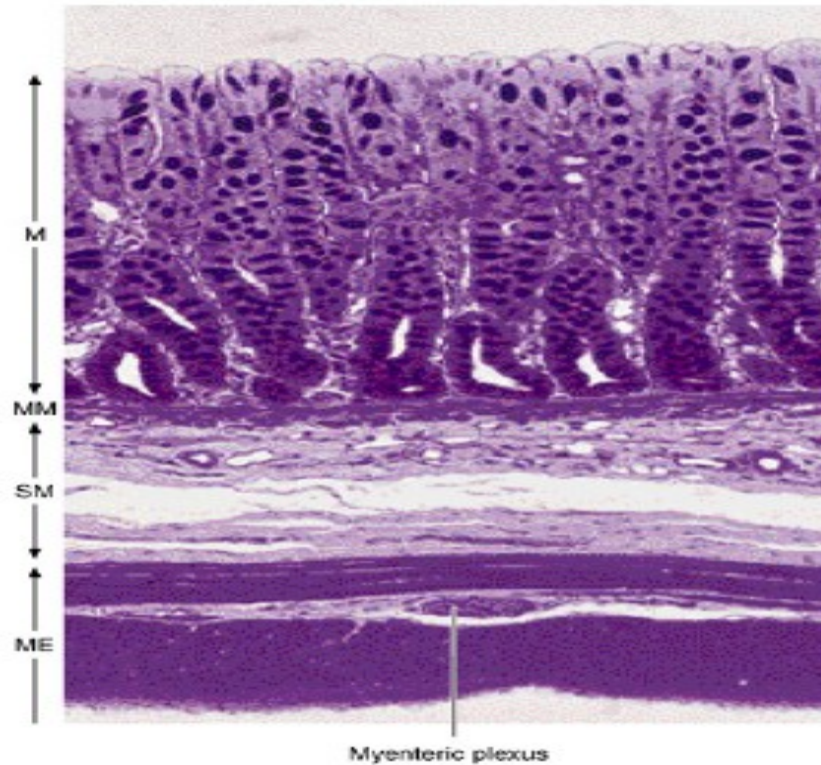
- **The muscularis mucosa:** formed of sheet of smooth muscle it is function the conduction of the gland secretion

- **The sub mucosa:** formed of loose areolar tissue contain blood vessel, nerve fibers, and lymphatic tissue

- **The musculosa:** formed of two layers of smooth muscle inner circular and outer longitudinal. The longitudinal muscle collected into bands called tena colli

- **The serosa:** formed of mesothelium

# Large intestine (cross section)



# Appendix

## Star shaped lumen

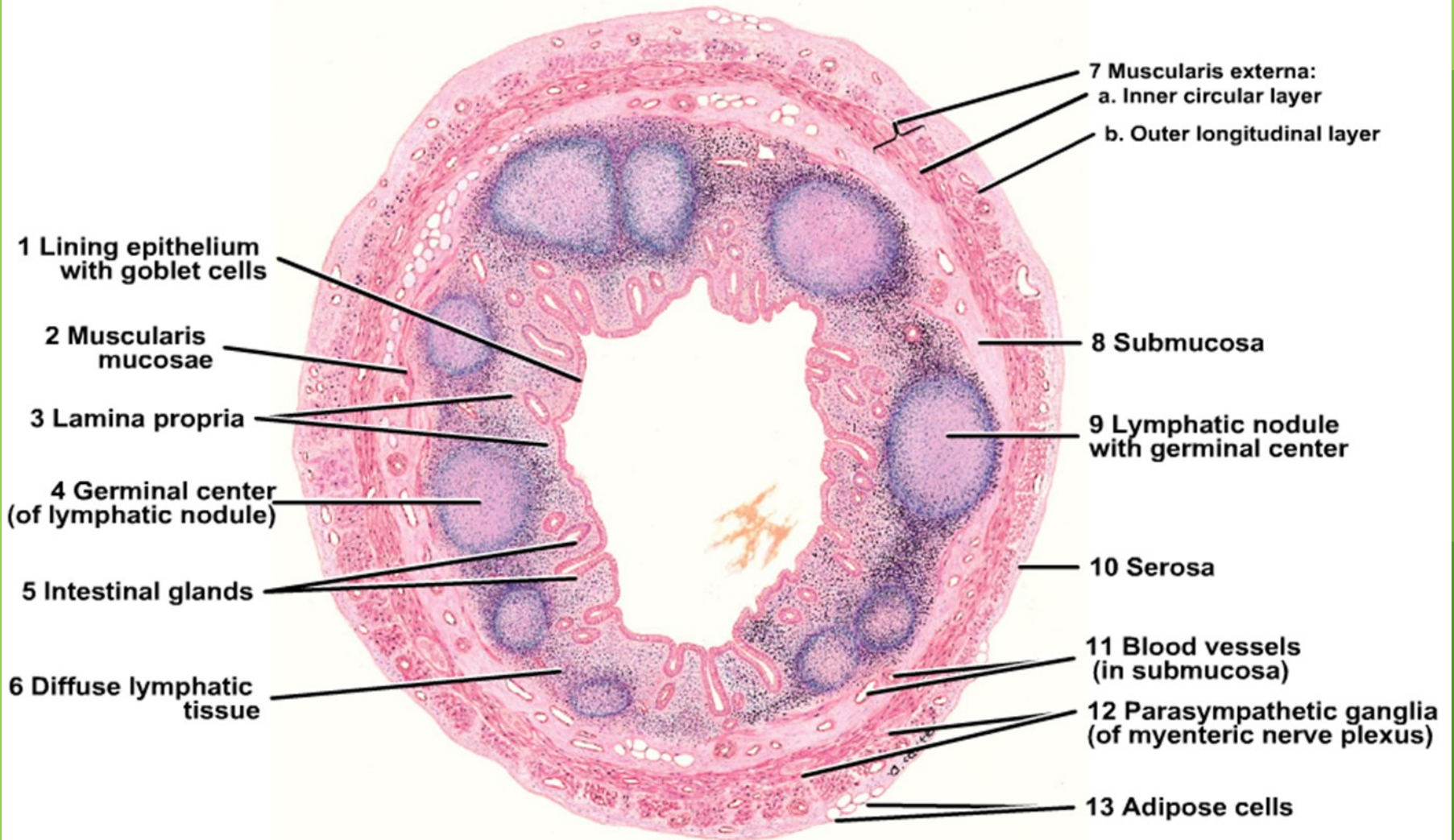
Mucosa: Simple columnar epithelium with many goblet cells, Lamina Propria, Muscularis Mucosae

Submucosa: Contain blood vessels and nerves

Muscularis Externa: Inner circular and outer longitudinal muscles. No taenia coli

Serosa: Visceral layer of peritoneum

# Appendix



# The anal canal

- **Definition:** it is the lower part of the large intestine
- It is function to give passage for the feces out side the body

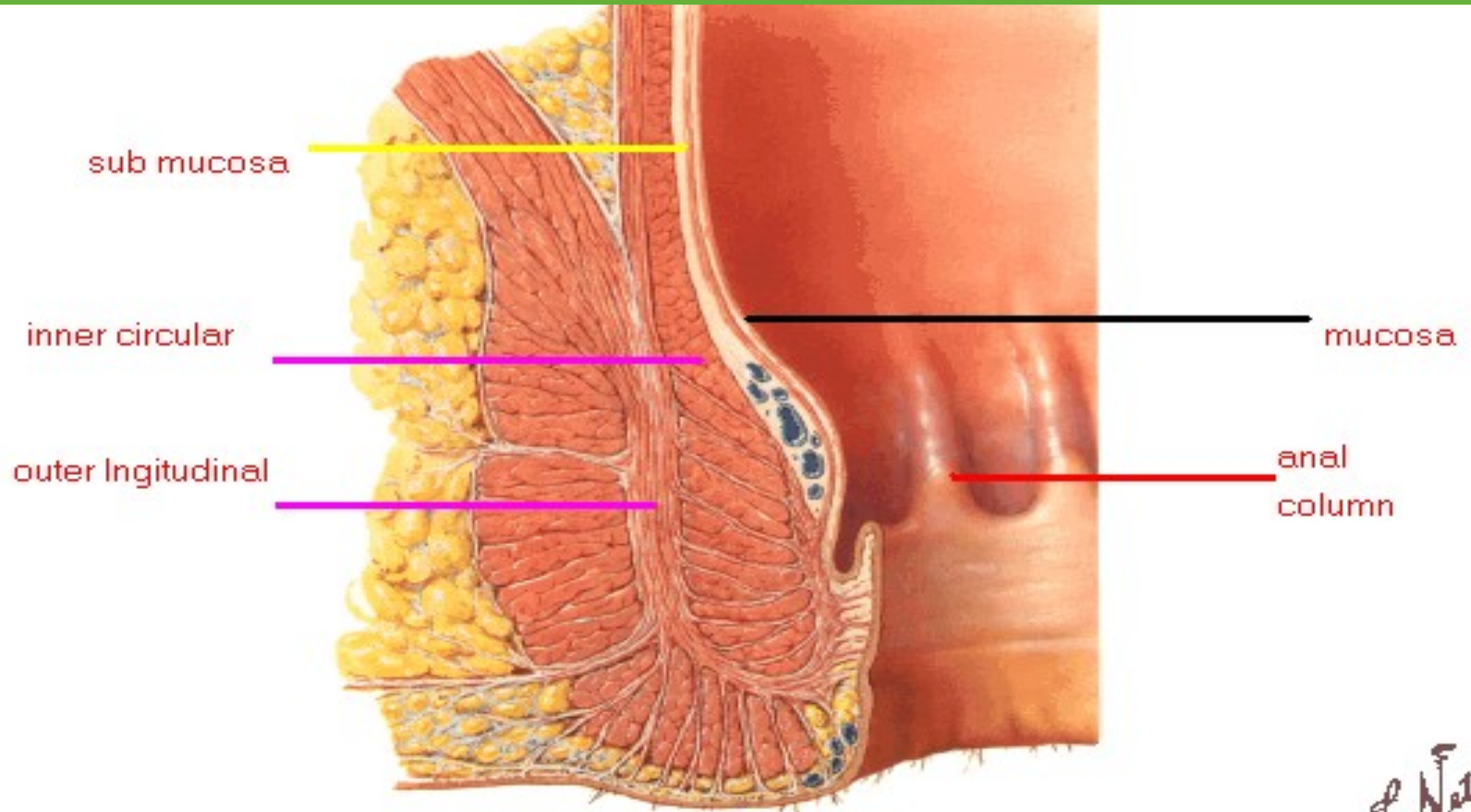
# The histological structure of the anal canal

- **The mucosa:** the upper part of the anal canal lined by simple columnar while the middle part lined by stratified squamous non keratinized epithelium and the lower part lined by skin
- The mucosa fold and formed the anal columns
- **The lamina proporia:** formed of collagen fibers support the mucosa
- **The sub mucosa:** it is formed of loose tissue contain blood vessel, nerve fibers and lymphatic

# The musculosa

- It is formed of inner circular layer which is thick at the lower part and outer longitudinal layer. There is skeletal muscles cover the outer longitudinal layer
- **The serosa:** formed of connective tissue to support the anal canal with the surrounded tissue

# Anal canal





Thank You

