

# *Large Intestine*

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# FUNCTIONAL ANATOMY OF LARGE INTESTINE

➤ Large intestine or colon extends from ileocecal valve up to anus.

## ❑ PARTS OF LARGE INTESTINE

➤ Large intestine is made up of the following parts:

1. Cecum with appendix
2. Ascending colon
3. Transverse colon
4. Descending colon
5. Sigmoid colon or pelvic colon
6. Rectum
7. Anal canal.

# STRUCTURE OF WALL OF LARGE INTESTINE

➤ Wall of large intestine is formed by **four layers** of structures like any other part of the gut.

1. *Serous layer*: It is formed by peritoneum.

2. *Muscular layer*: Smooth muscles of large intestine are distributed in two layers, namely the **outer longitudinal layer** and **inner circular layer**.

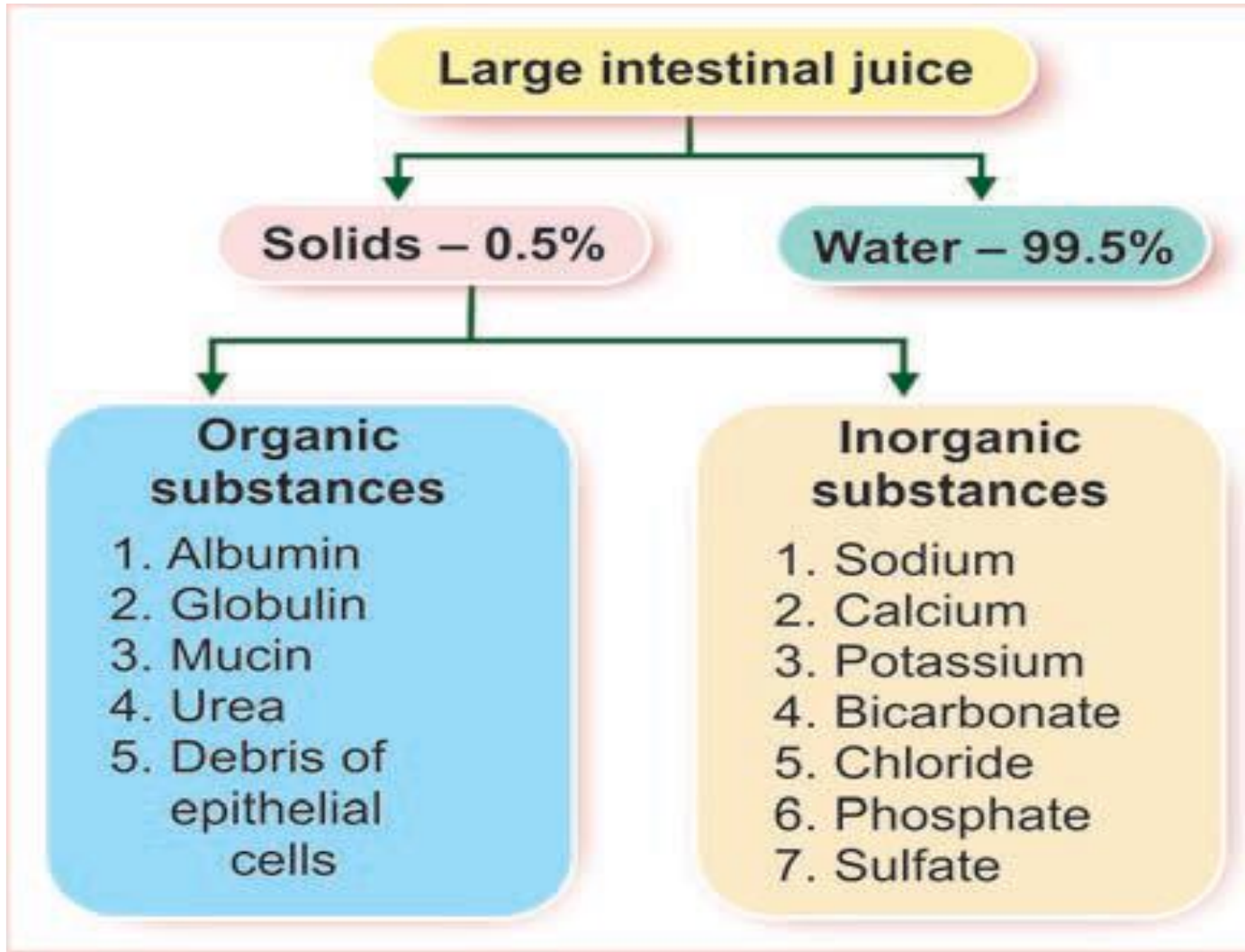
3. *Submucous layer*: It is not well developed in large intestine.

4. *Mucus layer*: The **crypts of Leiberkühn** are present in mucosa of large intestine.

But the villi, which are present in mucus membrane of small intestine, are **absent in the large intestine**.

# SECRETIONS OF LARGE INTESTINE

- Large intestinal juice is a watery fluid with pH of 8.0.



# FUNCTIONS OF LARGE INTESTINAL JUICE

## *1) Neutralization of Acids*

- Strong acids formed by bacterial action in large intestine are neutralized by the alkaline nature of large intestinal juice.
- The alkalinity of this juice is mainly due to the presence of large quantity of **bicarbonate**.

## *2) Lubrication Activity*

- Mucin present in the secretion of large intestine lubricates the mucosa of large intestine and the bowel contents; so that, the movement of bowel is facilitated.
- Mucin also protects the mucus membrane of large intestine by preventing the damage caused by mechanical injury or chemical substances.

# FUNCTIONS OF LARGE INTESTINE

## 1. ABSORPTIVE FUNCTION

➤ Large intestine plays an important role in the absorption of various substances such as:

i. Water

ii. Electrolytes

iii. Organic substances like glucose

iv. Alcohol

v. Drugs like anesthetic agents, sedatives and steroids.

## **2. FORMATION OF FECES**

- After the absorption of nutrients, water and other substances, the unwanted substances in the large intestine form feces.
- This is excreted out.

## **3. EXCRETORY FUNCTION**

- Large intestine excretes heavy metals like mercury, lead, bismuth and arsenic through feces.

## 4. SECRETORY FUNCTION

- Large intestine secretes mucin and inorganic substances like chlorides and bicarbonates.

## 5. SYNTHETIC FUNCTION

- Bacterial flora of large intestine synthesizes folic acid, vitamin B12 and vitamin K.
- By this function, large intestine contributes in **erythropoietic activity** and blood clotting mechanism.

*THANK YOU*