

Large intestine

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Extends from ileocecal valve to anus and 100cm long

Parts

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

Wall has 4 layers

- Serous, muscular-outer longitudinal and inner circular, sub mucus and mucus
- The fibers of muscularis externa in colon are collected into three longitudinal bundles-**Teniae coli**
- These bands are shorter than the rest of colon. So the wall of colon forms out pouchings called **haustreae**.

Ileocecal valve marks the point where ileum ends in colon or cecum. This portion of ileum projects into cecum and muscular coat is thickened to form ileocecal sphincter. This sphincter remains slightly constricted and slows down the emptying of ileal contents into the colon.

Gastroileal reflex

When food leaves the stomach the cecum relaxes and ileocecal valve opens and allows chyme into the colon. This reflex is called gastroileal reflex

Large intestinal juice

Thick viscus, alkaline with a pH of 8

Composition

Water-99.5% , Solids-0.5% (No enzymes)

Functions of large intestine

- **Lubrication and neutralization**-colonic glands are lined by columnar epithelial cells and large number of goblet cells which secrete mucus. The mucus lubricates fecal matter and protects mucus membrane from mechanical injury.
Mucus and HCO_3 neutralize strong acids formed by the bacterial action in large intestine

- **Absorption**
Absorbs water, electrolytes, vitamins, short chain fatty acids, glucose, certain drugs
Proximal half of colon-**Absorptive colon**-absorbs 90% of fluid -7 liters of fluids and electrolyte/day
Distal half of colon-**Storage colon**
- **Synthesis of vitamins**
B-complex, vit.K, folic acid by intestinal bacteria and absorbed from here in significant amount
- **Formation and storage of fecal matter**
1-2 liters of chime to 200-250ml of semisolid feces/day
- **Formation of gases**
Co₂, h₂, H₂s, CH₄ etc which forms flatus and formation of indole, shkatole, h₂S
- **Excretory function**-heavy metals

Topics of interest for further reading

- Intestinal bacteria or intestinal flora-Advantages and disadvantages
- Dietary fibre-Significance

Reference:

- Essentials of medical Physiology:K.sembulingam Prema sembulingam,Eighth edition
- Text book of Physiology:Prof.A.K.Jain,Fourth edition