

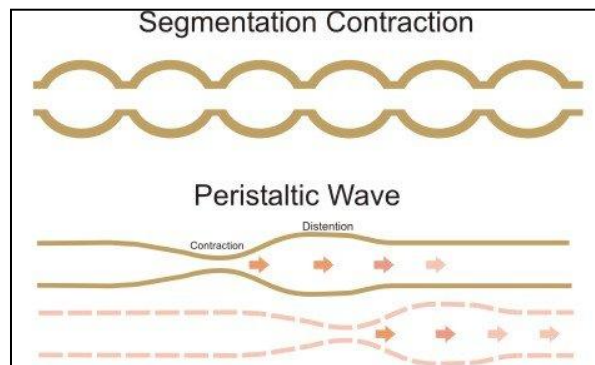


- What are the major functions of the colon?

- **Digestive:** represented by:
 - ✓ Carbohydrate fermentation.
 - ✓ Amino acids fermentation and protein breakdown.
- **Absorptive:** represented by:
 - ✓ Absorption of all what is mentioned above in addition to: bile acids, Na⁺, K⁺, Cl⁻, H₂O and HCO₃
- **Excretory:** represented by:
 - ✓ Biomass.
 - ✓ Excretion of epithelial cells.
 - ✓ Toxic waste.
- **Hormonal:**
 - ✓ Neurotensin.
 - ✓ PYY.
 - ✓ Somatostatin.
- **Synthesizing group B vitamins in addition to vitamin-K.**
- **Storage of feces.**

- Colon motility:

- Segmentation contractions create bulges (haustrations) along the colon.
- Mass movements, which are propulsive (دفعي), are more prolonged than the peristaltic movements of the small intestine.



- Migrating myoelectric complex (MMC):

- A propulsive movement initiated during fasting that begins in the stomach and moves undigested material from the stomach and small intestine into the colon.
- Repeats every 90-120 minutes during fasting.
- When one movement reaches the distal ileum, a new one starts in the stomach.
- Correlated with high circulating levels of motilin, a hormone of the small intestine.
- This movement prevents the backflow of bacteria from the colon into the ileum and its subsequent overgrowth in the distal ileum.

- Defecation:

- Defecation is a reflex involving the central nervous system.
- A mass movement in the terminal colon fills the rectum and causes a reflex relaxation of the internal anal sphincter and a reflex contraction of the external anal sphincter.
- Voluntary relaxation of the external sphincter accompanied with propulsive contraction of the distal colon complete defecation.
- lack of a functional innervations of the external sphincter causes involuntary defecation when the rectum fills.

