



INE | INSTITUTE OF
NUTRITIONAL
ENDOCRINOLOGY

Digestion: Small and Large Intestines – Anatomy and Physiology

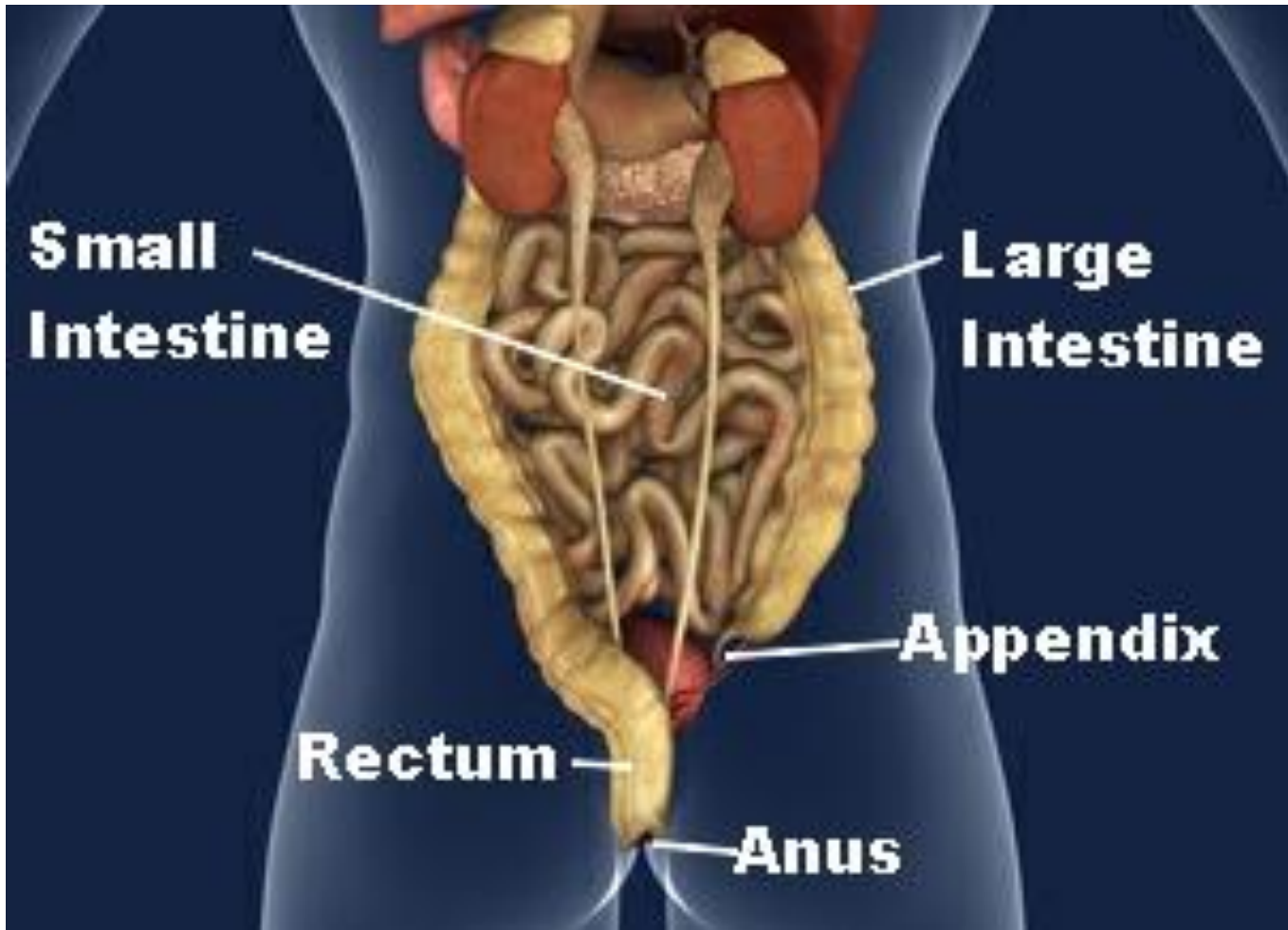
Dr. Ritamarie Loscalzo



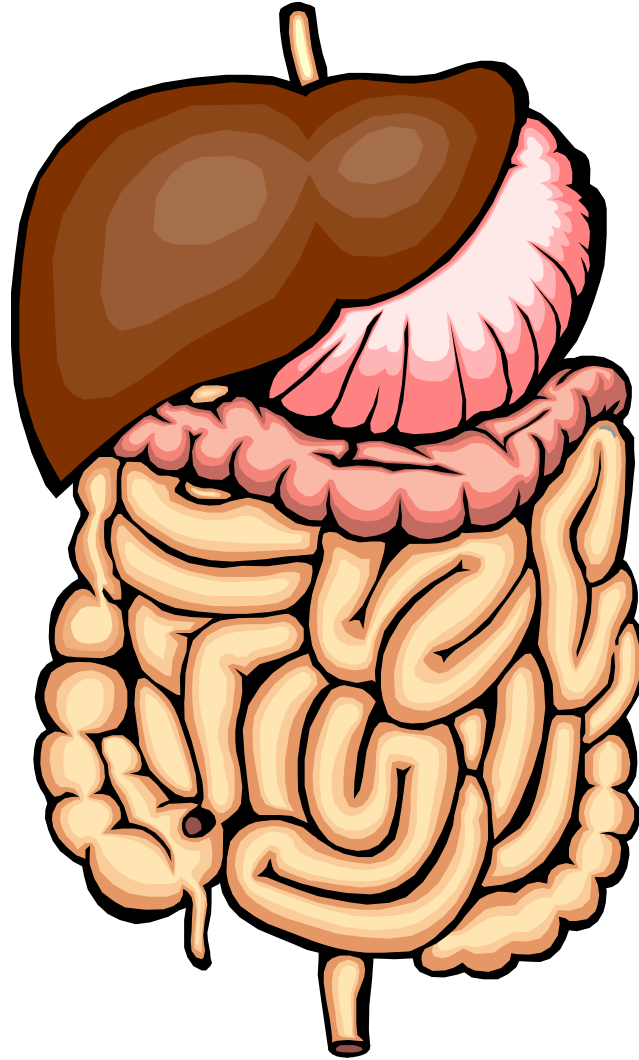
Medical Disclaimer: The information in this presentation is not intended to replace a one-on-one relationship with a qualified health care professional and is not intended as medical advice. It is intended as a sharing of knowledge and information from the research and experience of Dr. Ritamarie Loscalzo, drritamarie.com, and the experts who have contributed. We encourage you to make your own health care decisions based upon your research and in partnership with a qualified health care professional.



The Small and Large Intestines

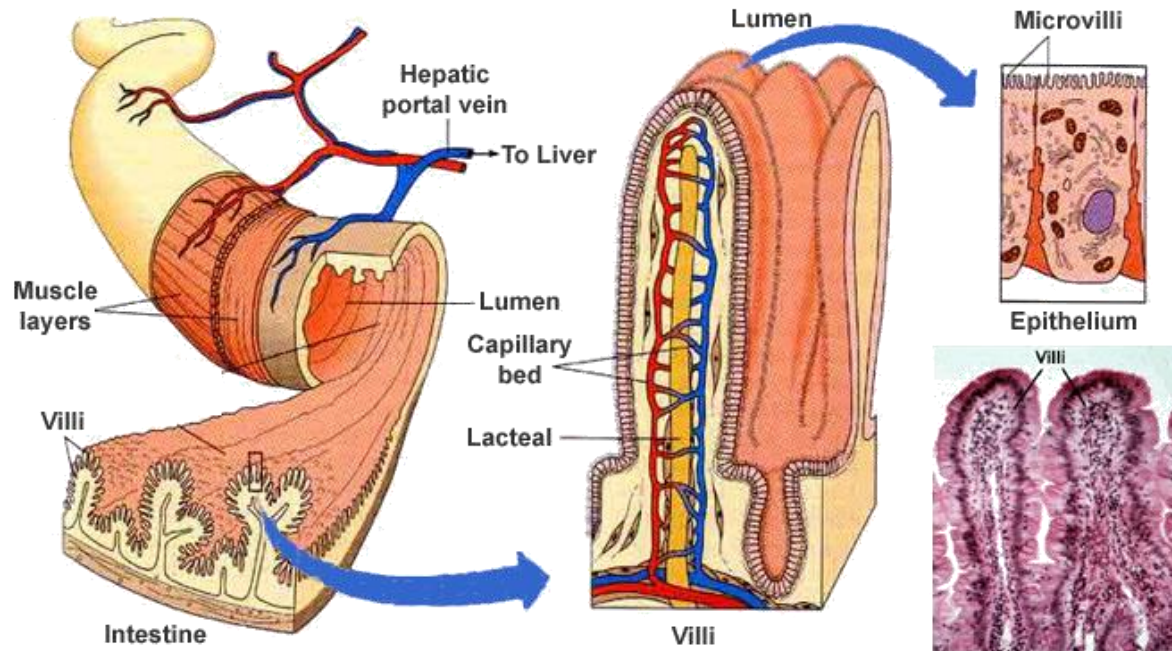


Small Intestine

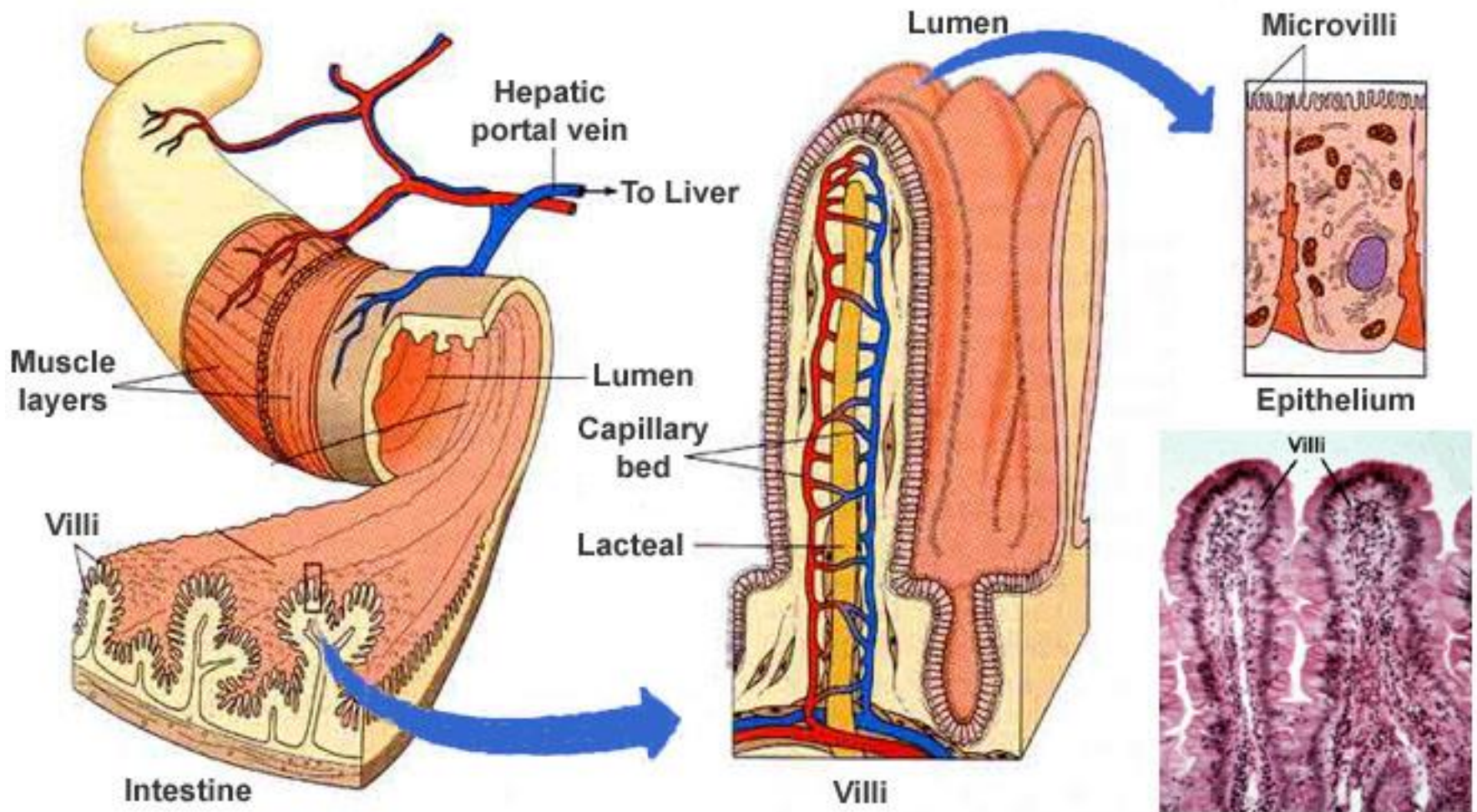


Small Intestine

- ✓ **Length:** Approximately 18 feet long and 1 inch in diameter
- ✓ **pH:** 8 (Alkaline)
- ✓ **Duodenum:** Digestion (first 10")
- ✓ **Absorption:** Jejunum
 - **Villi:** increase surface area to size of a football field
 - **Microvilli:** millions of fingerlike projections
 - **Capillaries:** absorb amino acids, vitamins, monosaccharides
 - **Lacteal:** absorbs fatty acids and glycerol → lymphatic system

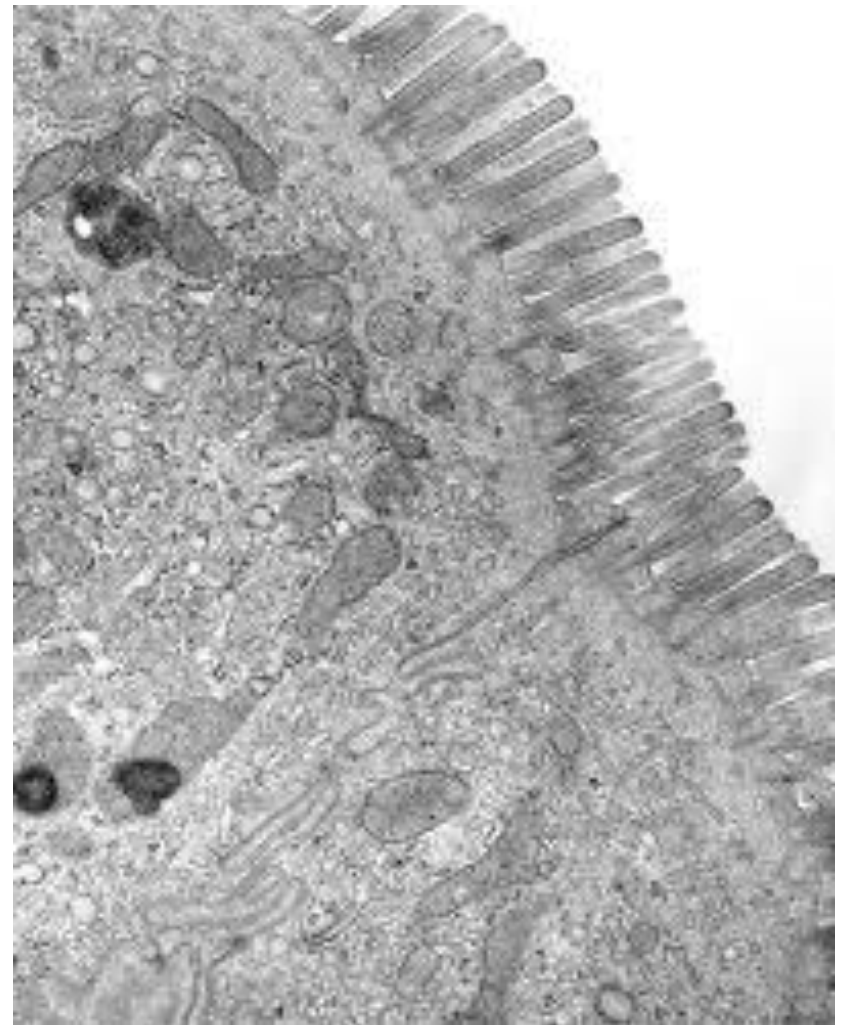
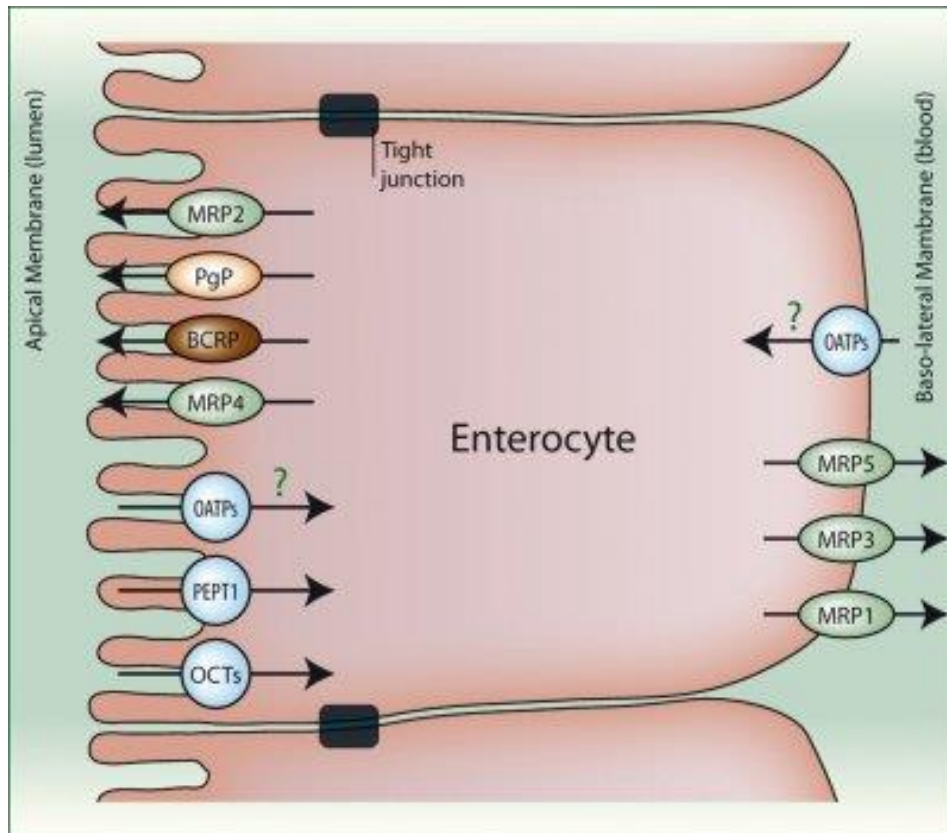


Jejunem



Enterocyte

- ✓ Basic cells lining small intestine and colon

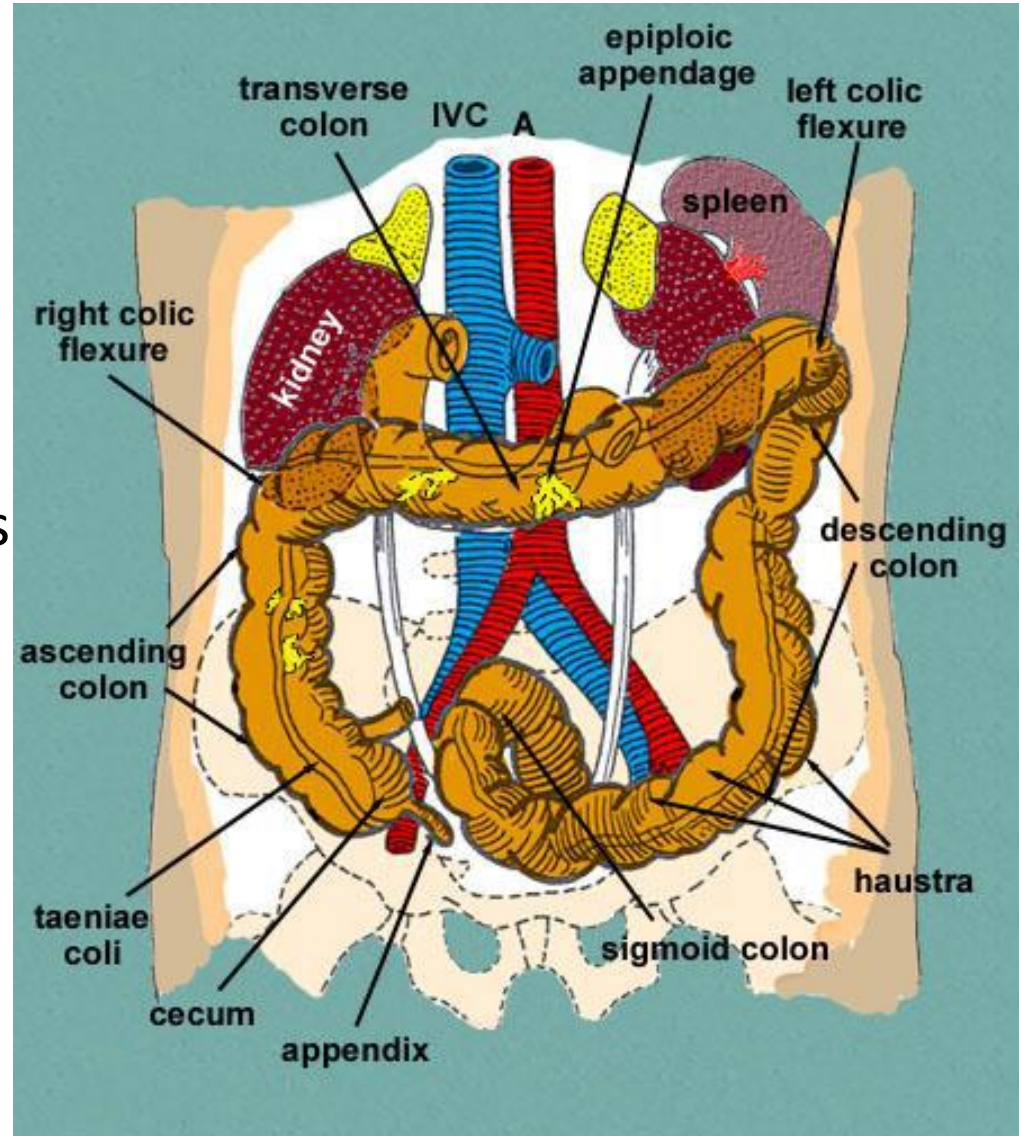


A Peek Inside the Small Intestine



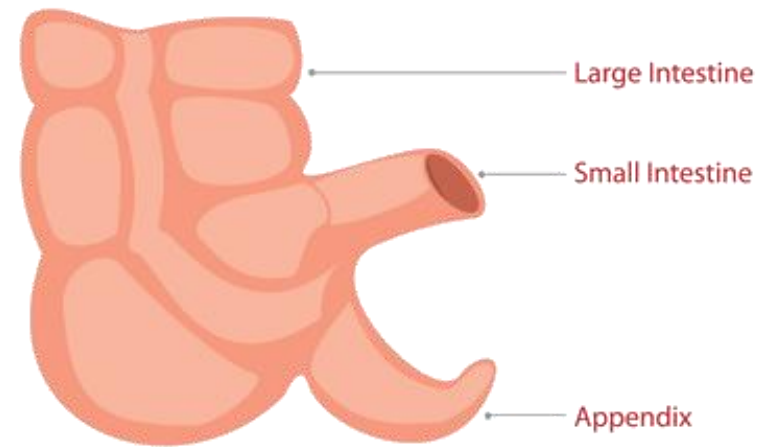
Large Intestine

- ✓ 1.5 m in length
(about 4 ½ feet)
- ✓ 5 cm in diameter
(twice the diameter of SI)
- ✓ Contains bacteria that make Vitamin K and B
- ✓ Absorbs water and minerals
- ✓ Eliminates remaining material: rectum – last 7-8 inches stores feces for release



The Appendix

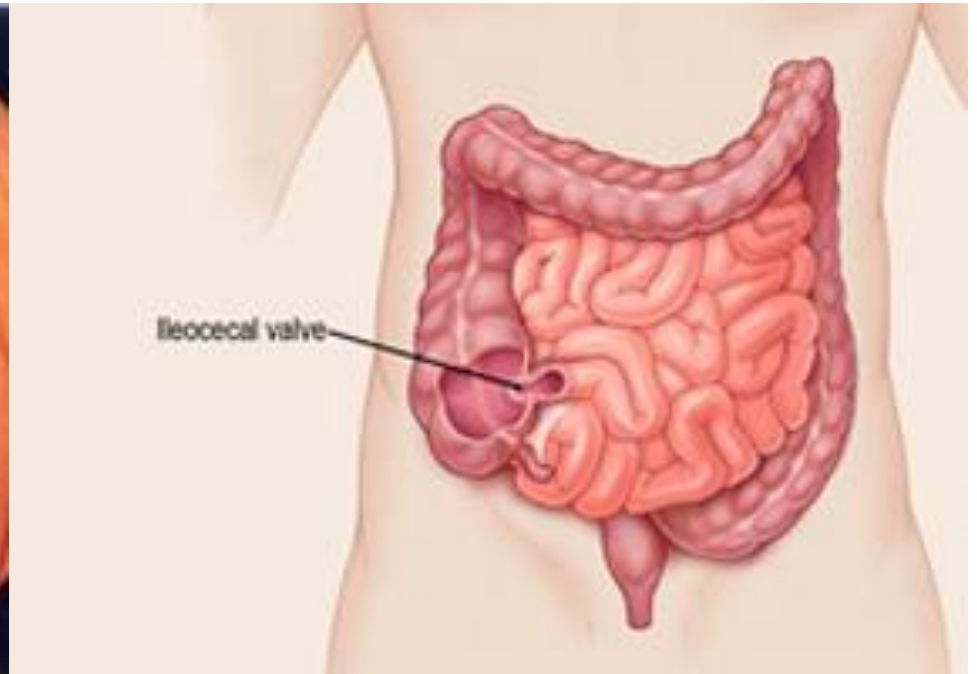
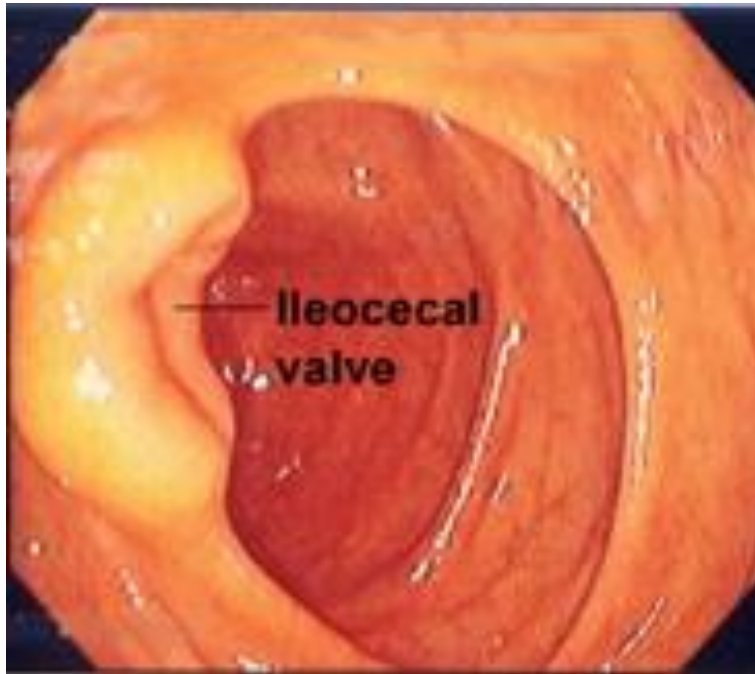
Position of Appendix



- ✓ Barely 4 inches long
- ✓ Controversial
- ✓ Has abundant infection-fighting lymphoid cells, which suggests immune function
- ✓ Believed to act like a bacteria factory, cultivating the good germs



Ileocecal Valve



Large Intestine Parts

- ✓ Cecum
- ✓ Ascending colon
- ✓ Transverse colon
- ✓ Descending colon
- ✓ Sigmoid colon
- ✓ Rectum
- ✓ Anus: exit

