



**INE** | INSTITUTE OF  
NUTRITIONAL  
ENDOCRINOLOGY

# **Digestion: Small and Large Intestines – Anatomy and Physiology**

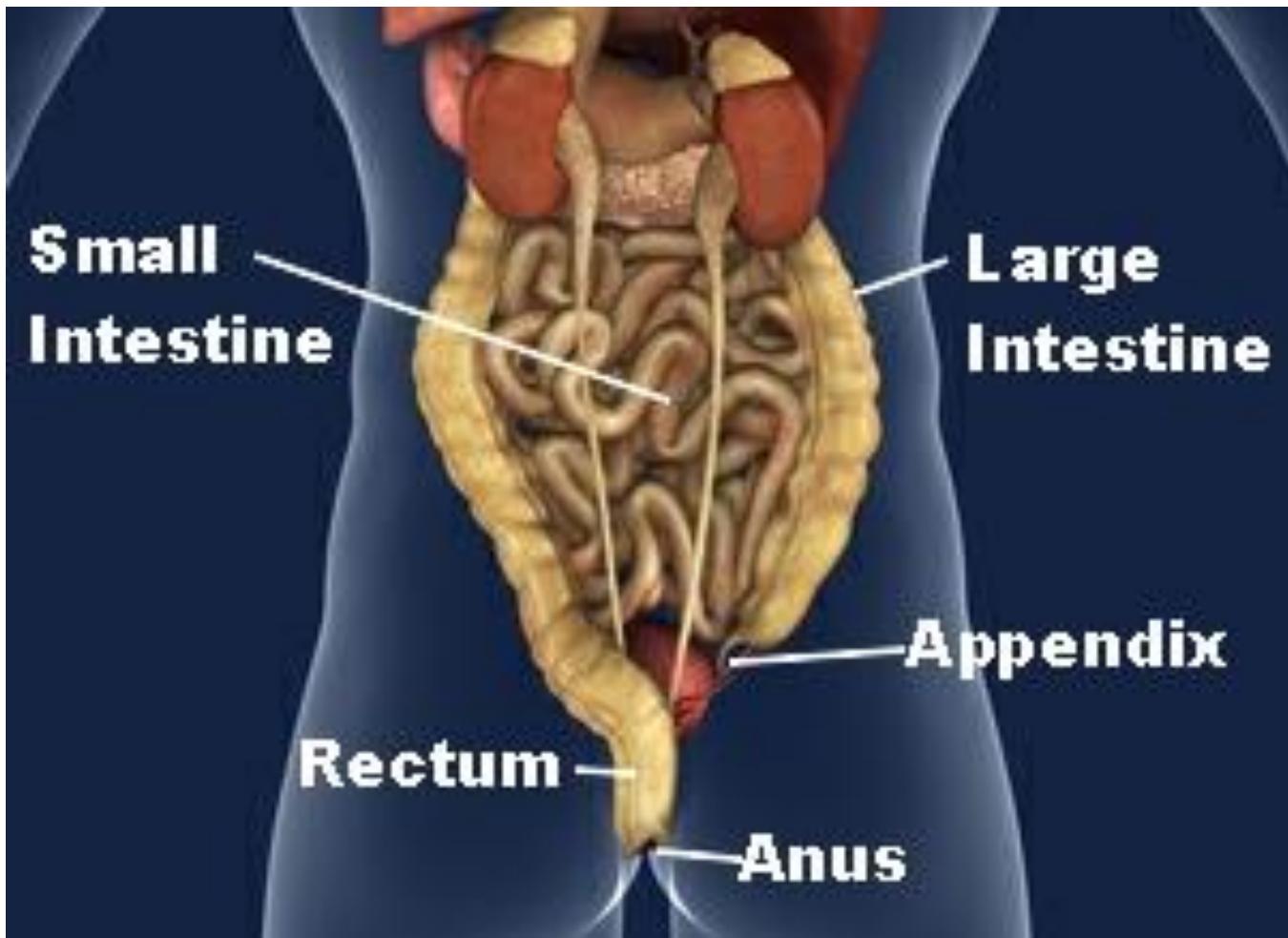
**Dr. Ritamarie Loscalzo**



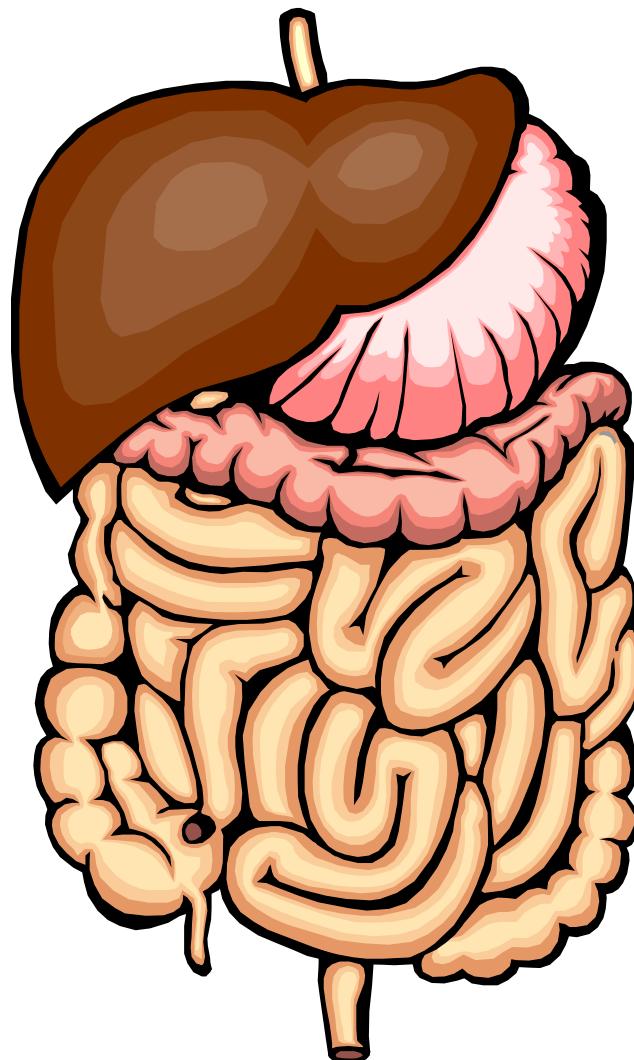
**Medical Disclaimer:** The information in this presentation is not intended to replace a one-on-one relationship with a qualified health care professional and is not intended as medical advice. It is intended as a sharing of knowledge and information from the research and experience of Dr. Ritamarie Loscalzo, [drritamarie.com](http://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")

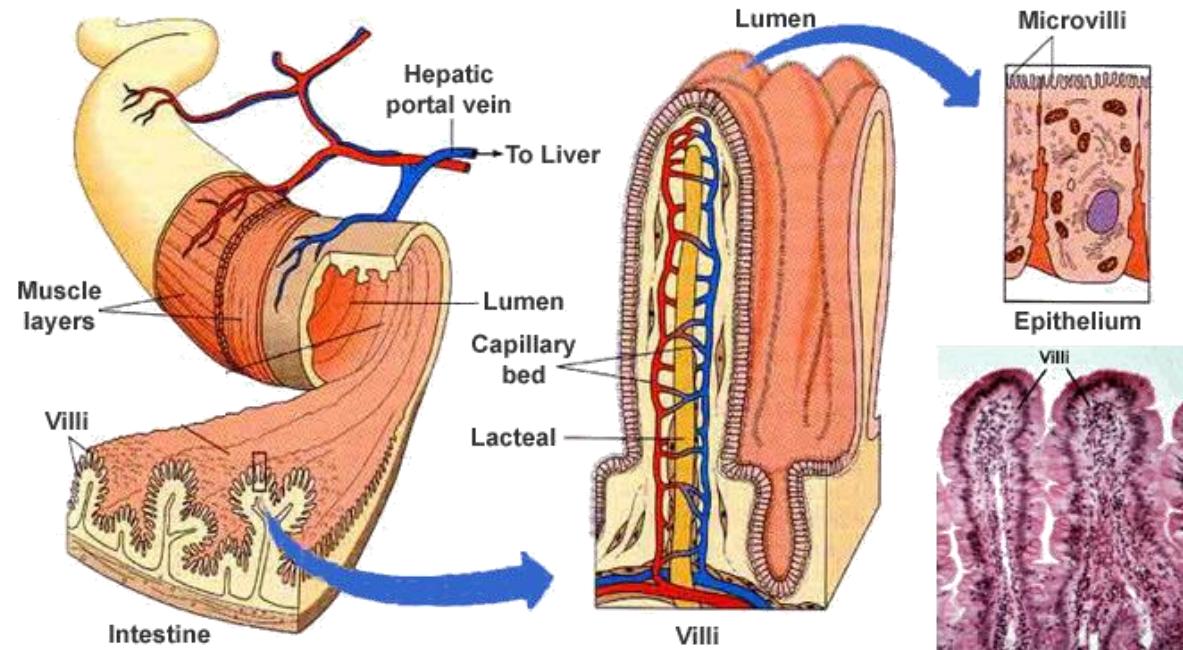
✓ **Absorption:** Jejunum

➤ **Villi:** increase surface area to size of a football field

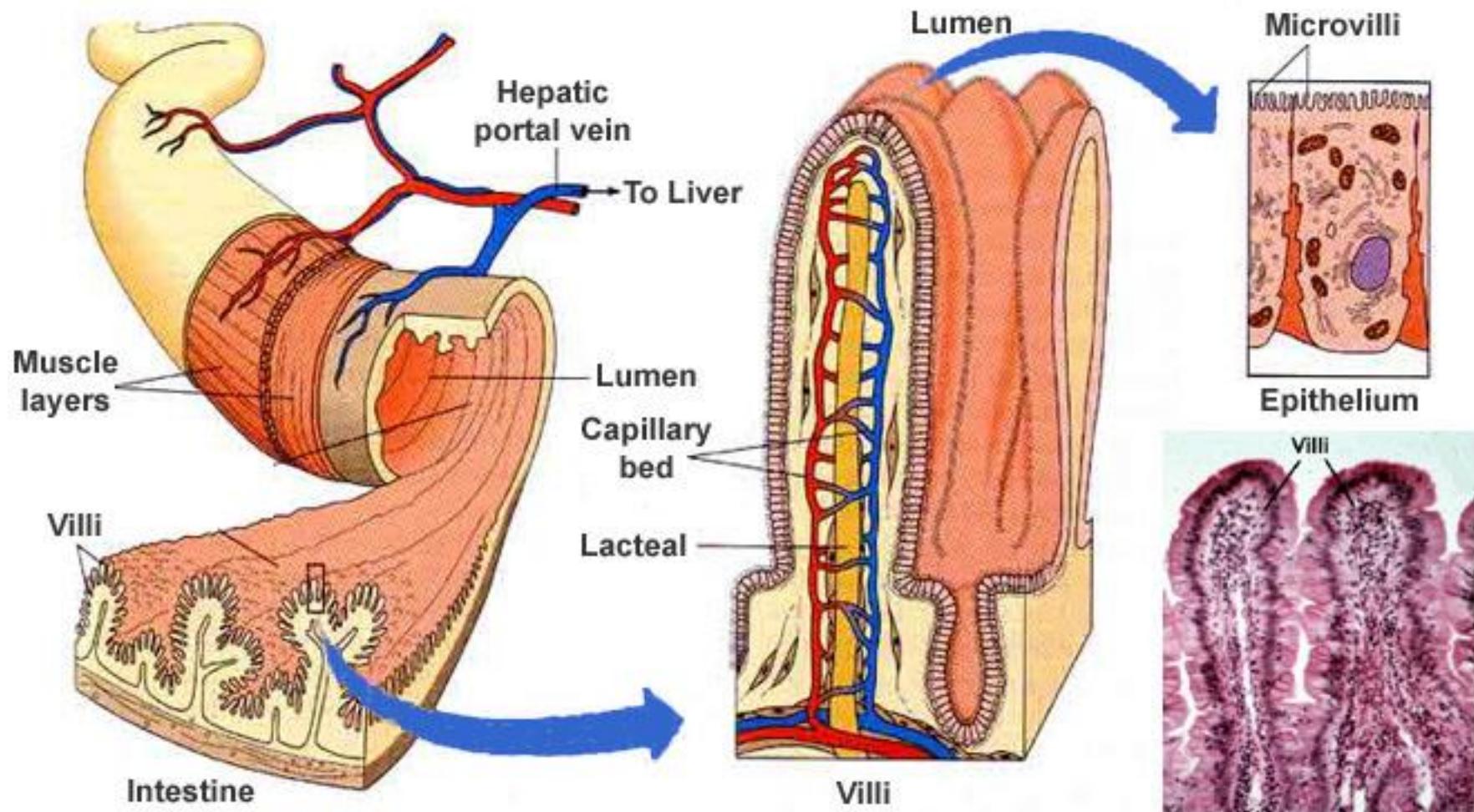
➤ **Microvilli:** millions of fingerlike projections

- **Capillaries:** absorb amino acids, vitamins, monosaccharides

- **Lacteal:** absorbs fatty acids and glycerol → lymphatic system

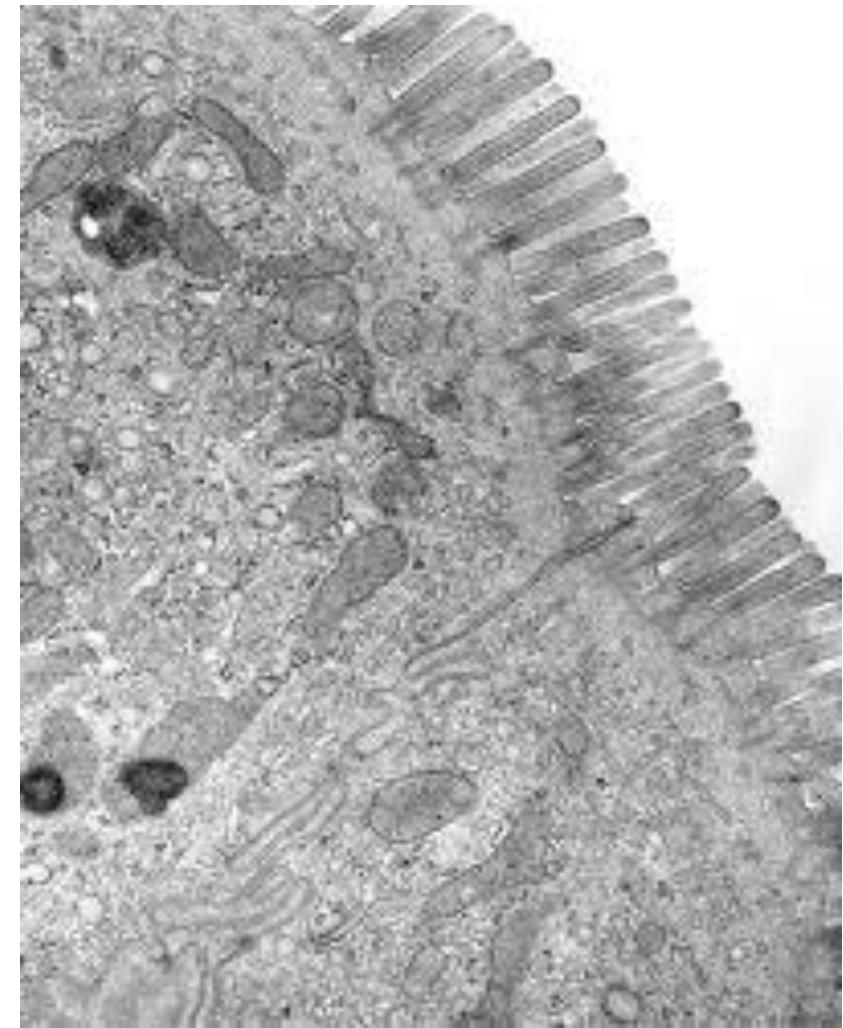
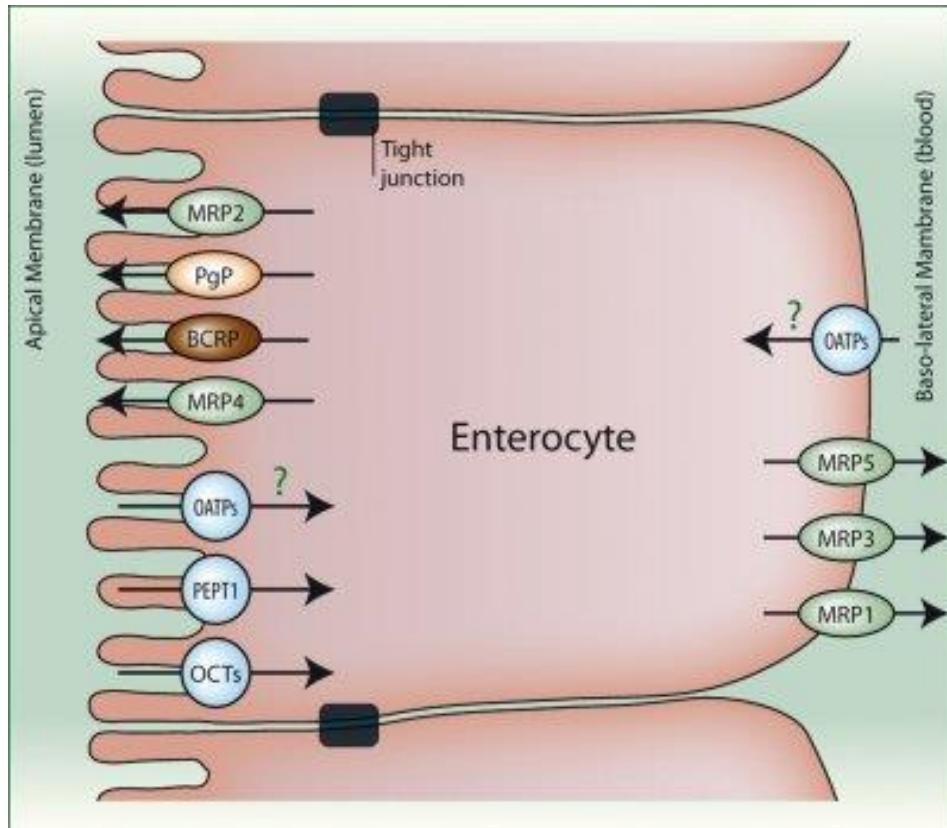


# Jejunem



# Enterocyte

✓ Basic cells lining small intestine and colon

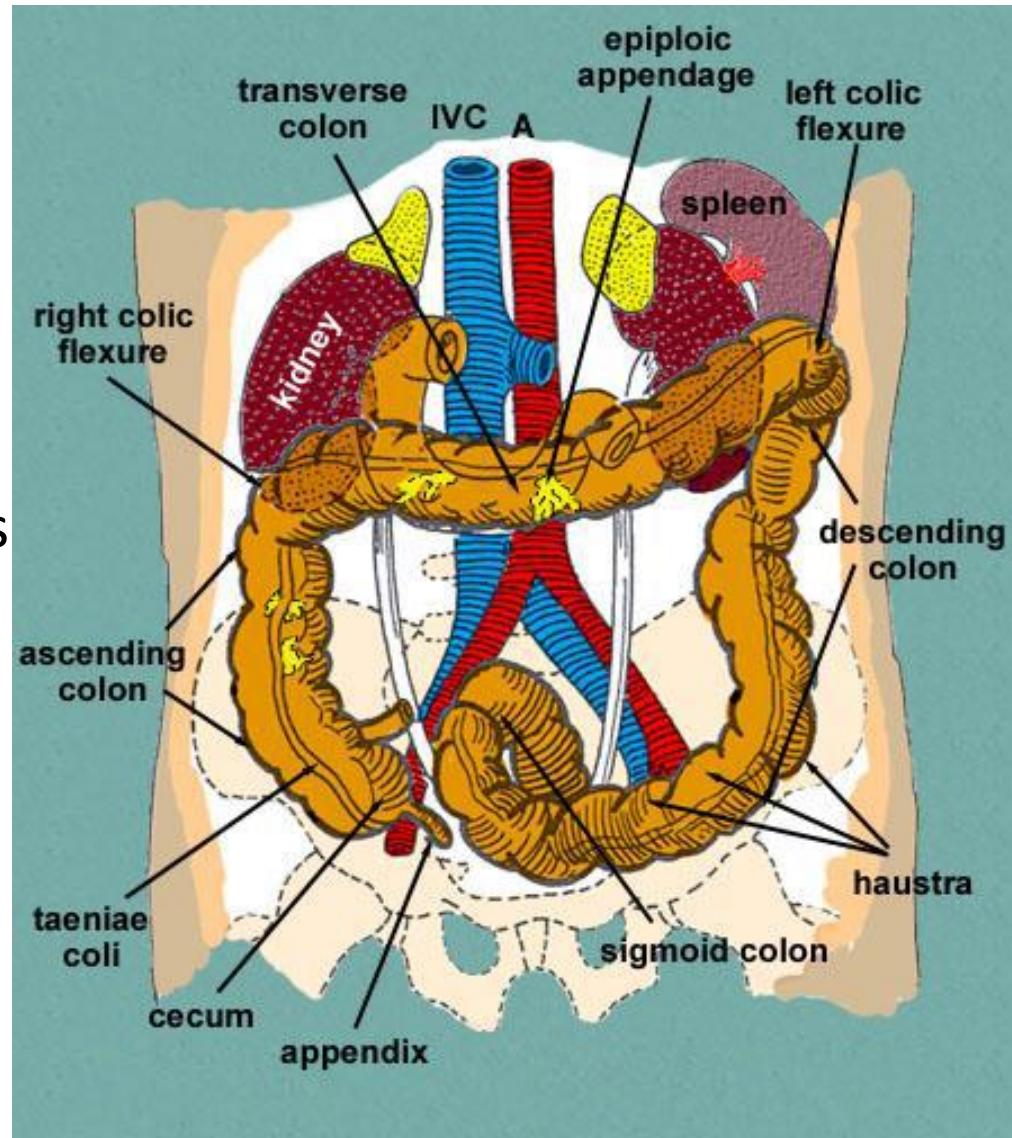


# A Peek Inside the Small Intestine



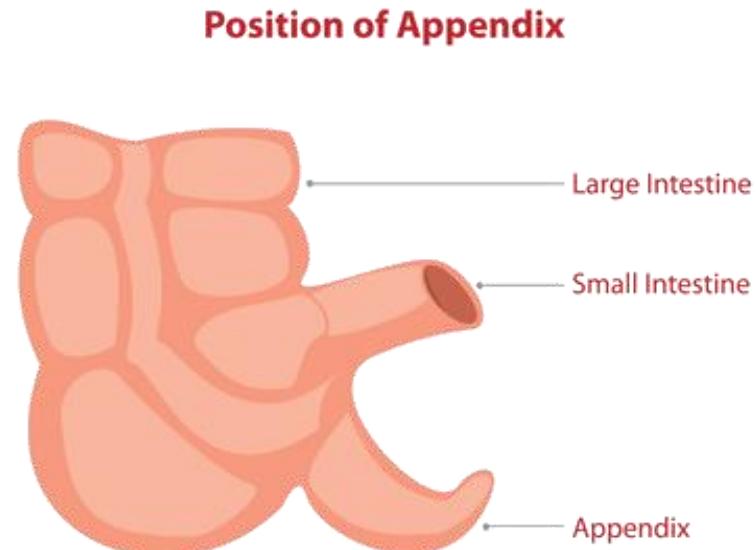
# Large Intestine

- ✓ 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

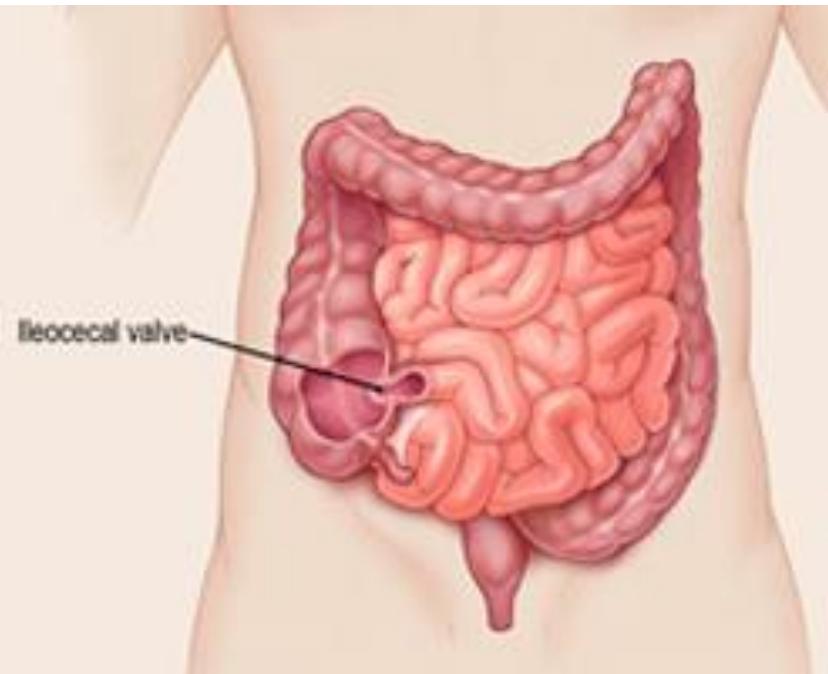
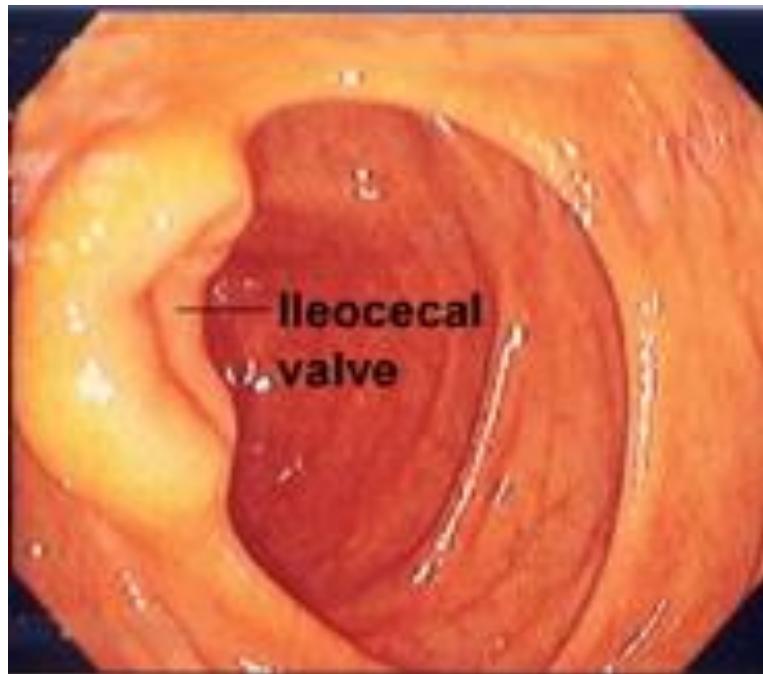


# The Appendix

- ✓ 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

