**Anatomy of the Intestines**

The anatomy of the Gastrointestinal tract include:

- Mouth
- Oesophagus
- Stomach
    - In ruminants this is made up of four compartments:
        - The rumen
        - The reticulum
        - The omasum
        - The abomasum
- Small intestine: duodenum, jejunum, and ileum
- Large intestine: cecum, colon, rectum
- Anus

Flow of the Digestive tract:

→ Duodenum: extends cranially from the pylorus, continues caudally to the cranial duodenal flexure → descending duodenum to the caudal flexure to become the ascending duodenum
→ Duodenojejunal flexure
→ Jejunum: runs ventrally and caudally, forms many coils and loops
→ Ileum
→ Cecum: blind diverticulum at the beginning of the colon
→ Ceco-colic orifice: opening from the cecum into the colon
→ Colon: ascending →transverse →descending
→ Rectum
→ Anal canal →anus

Species differences

- Small intestine:  grossly similar in domestic animals
    - Sigmoid loop:  S shaped curve of the cranial part of the duodenum, in the horse, ruminants and pigs
    - Duodenal ampulla: dilated cranial part of the horse's duodenum
    - Flange of the bovine small intestine: the part with the longest mesentery
    - Ileocecal opening: into the cecum of horses
    - Ileocolic opening, into the ascending colon of carnivores and ruminants
- Large intestine:
    - Carnivores: short, straight ascending colon
    - Pigs and ruminants: form a coil (spiral colon)
    - Horse: double horseshoe shaped loop colon
    - Openings of the colon, in horses, there are two; ileocecal and cecocolic openings
    - Anal sac, present in cats and dogs
- Bands (taeniae): smooth muscle bands on the horse and pig cecum, the horse's colon, and part of the pig's ascending colon
- Rectal ampulla: dilated terminal part of the rectum in the horse, dog, and ox

Anatomy of the Small and large intestines: https://youtu.be/ccNmFrcgCbI

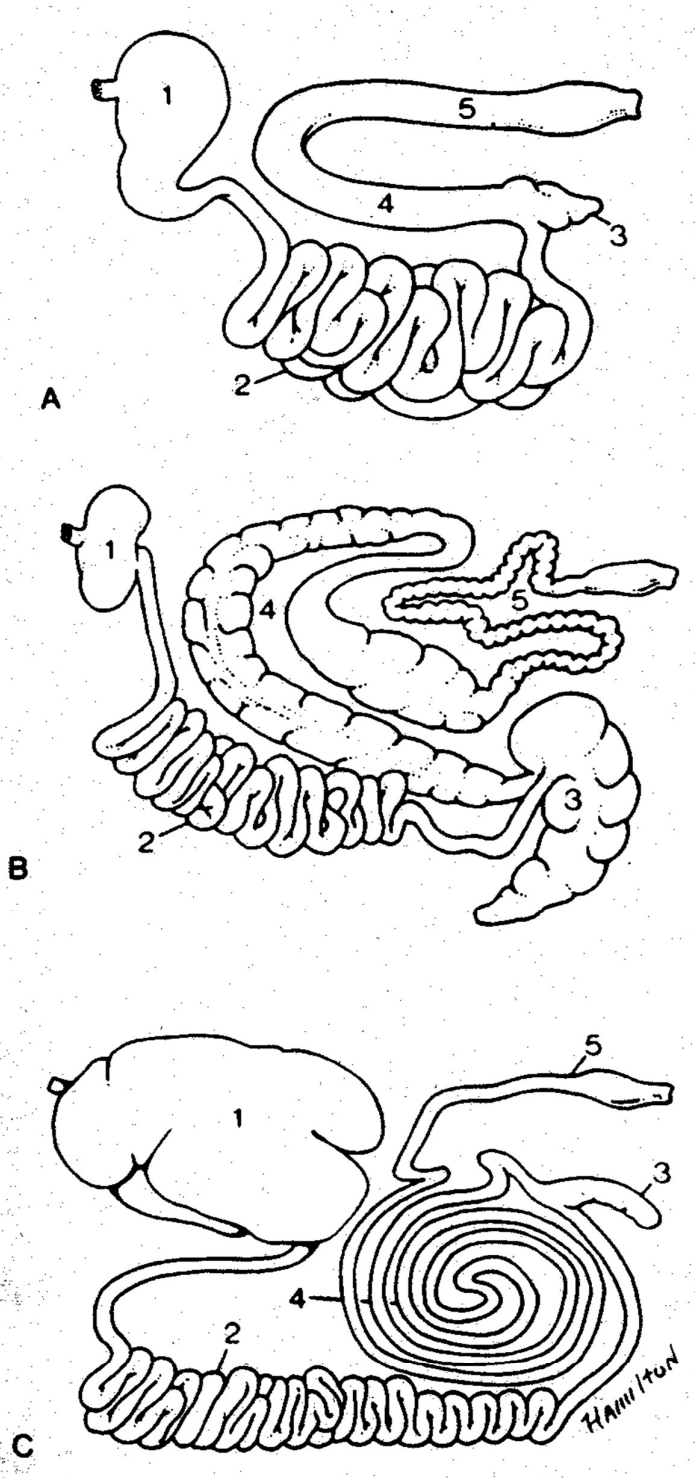


*Figure 10.1.* Comparisons of gastrointestinal tracts of the dog (**A**), of the horse (**B**), and of cattle (**C**). *1*, Stomach; *2*, small intestine; *3*, cecum; *4*, ascending colon in dog; large colon in horse; coiled colon (ansa spiralis) in cattle; *5*, descending colon. From Dyce KM, Sack WO, Wensing CJG. Textbook of veterinary anatomy. 2nd ed. Philadelphia: WB Saunders, 1996.

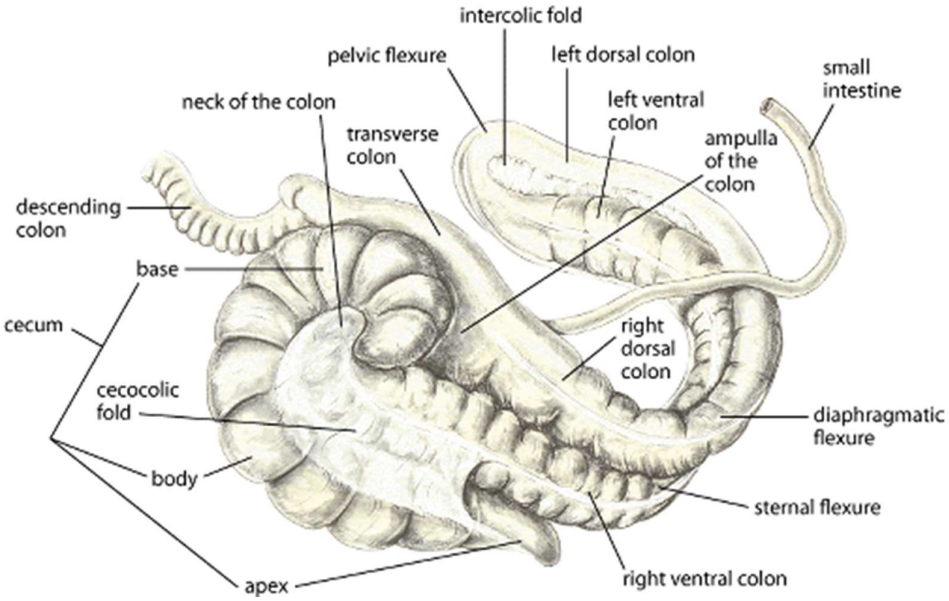


Figure 2, anatomy of the small and large intestine of a horse

Blood supply

1. Cranial mesenteric.
    a. Caudal pancreaticoduodenal artery
    b. Ileocolic artery, branches to form Middle colic, right colic, colic branch of the ileocolic artery, antimesenteric ileal artery
    c. Jejunal and ileal branches
2. Caudal mesenteric

**Importance**: intestinal resection and anastomoses: when removing piece of the jejunum and the reconnecting between the cut ends, cut the antimesenteric side shorter than the mesenteric side to keep the vasculature from being compromised

Lymphatics -> visceral trunks which drain the digestive organs

- Pancreaticoduodenal lymph nodes
- Cranial mesenteric lymph centre: jejunal, cecal and colic lymph nodes
- Cranial mesenteric lymph nide
- Caudal mesenteric lymph centre: drains the descending limb of the colon

Muscle of the abdominal wall

1. External abdominal oblique
2. Internal abdominal oblique
3. Transversus abdominus
4. Rectus abdominus

The tunica flava abdominus:

- Consists mostly of elastic tissue
- Blends with aponuerosis of external abdominal oblique
- Assists in support of viscera
- Yellow structure that can be in a location where you would do surgery and can be difficult to get it back to "normal" position, so you want to make sure that you get a good "bite" of it when closing the incision

Linea Alba-> most surgical incisions are made through this part to avoid excessive bleeding when cutting muscle

- Formed from aponeuroses of abdominal muscles (located down the middle of the ventral aspect of an animal)