Car.

The Abdomen

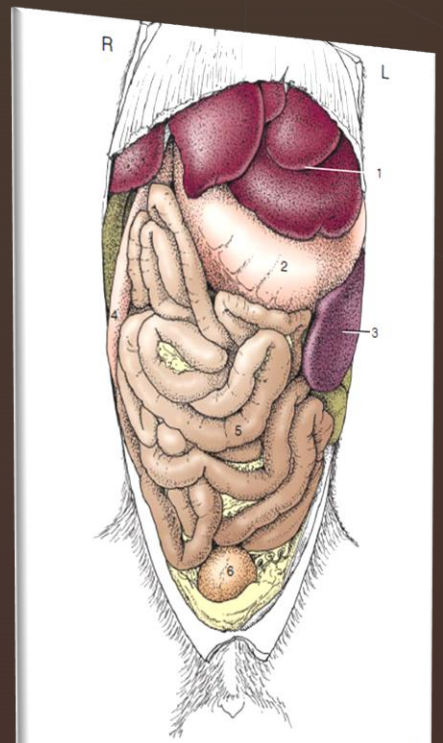
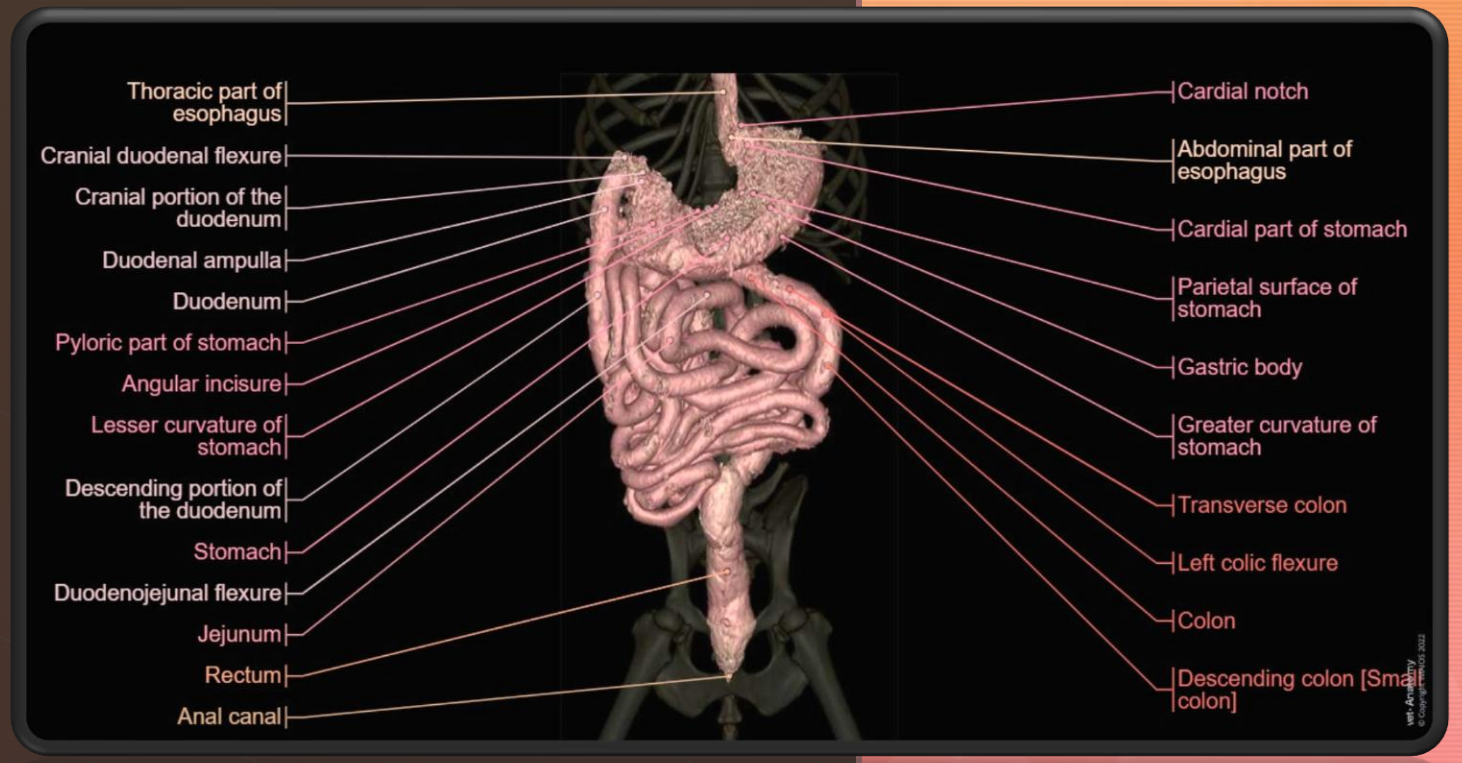


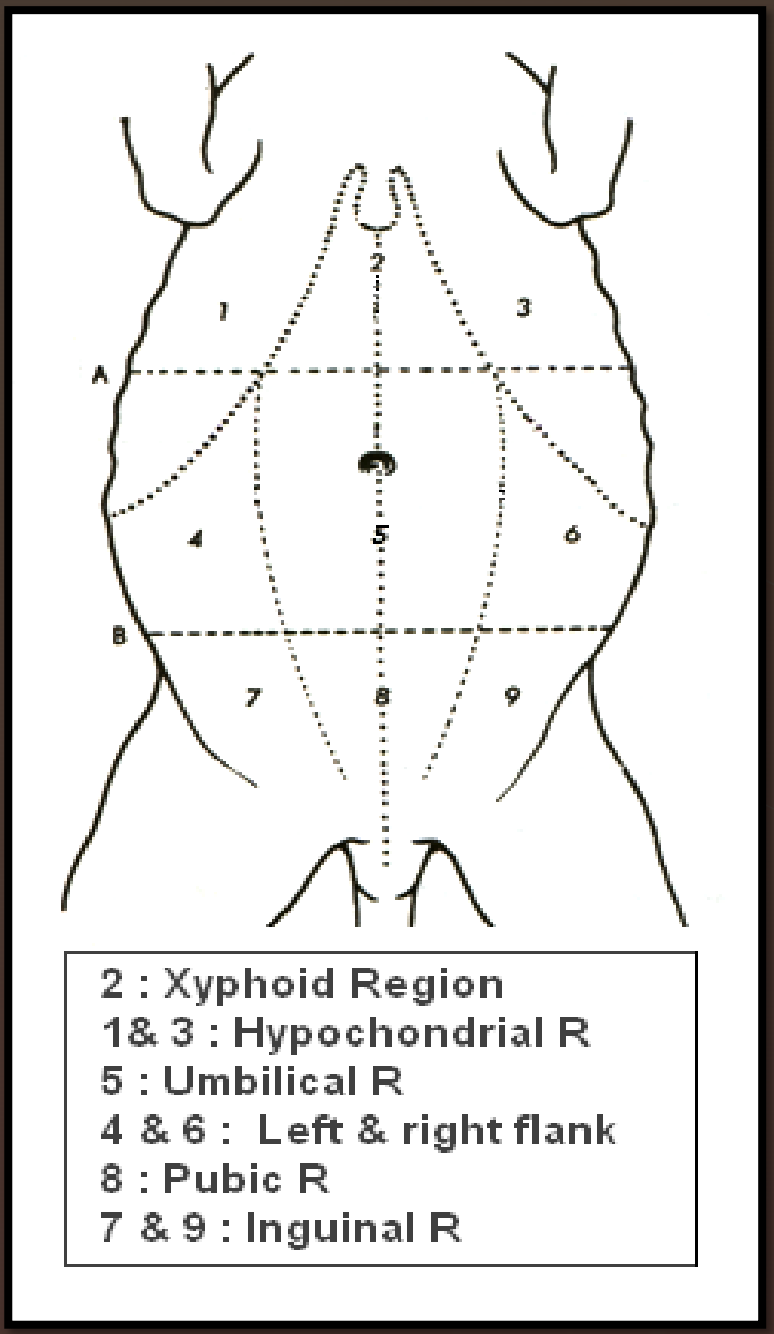
Figure 3–41 Ventral view of the abdominal organs of the dog after removal of the greater omentum. *1*, Liver; *2*, stomach; *3*, spleen; *4*, descending duodenum; *5*, jejunum; *6*, bladder; *7*, diaphragm.



https://download.noanimaltesting.ir/Virtual-Canine-Anatomy.iso

The most common abdominal surgeries performed on dogs are:

- 1. Exploratory laparotomy: This is a surgical procedure that involves opening the abdomen to examine the abdominal organs. It is usually used as a last resort when other diagnostic tests fail to indicate the underlying issue for abdominal disease.
- 2. Gastrotomy: A surgical incision into the stomach, often performed to remove a foreign body or biopsy the stomach wall.
- 3. Cystotomy: A surgical incision into the urinary bladder, commonly done to remove uroliths (bladder stones).
- 4. Splenectomy: Surgical removal of the spleen, which may be necessary for conditions such as splenic torsion or hematoma.
- 5. Intestinal resection and anastomosis: Removal of a damaged or diseased portion of the intestine and reconnecting the healthy ends.



Summary of Clinical Applications

- Guiding Physical Examination: Precisely locating pain, masses, or tenderness and identifying likely involved organs.
- Radiology and Ultrasound: Pinpointing organs and masses in imaging studies, diagnosing internal diseases, and guiding biopsies or aspirations.
- Surgery: Selecting surgical incision sites and accessing target organs based on the involved region.
- Differential Diagnosis: Narrowing down possible diseases based on the region where clinical signs appear.

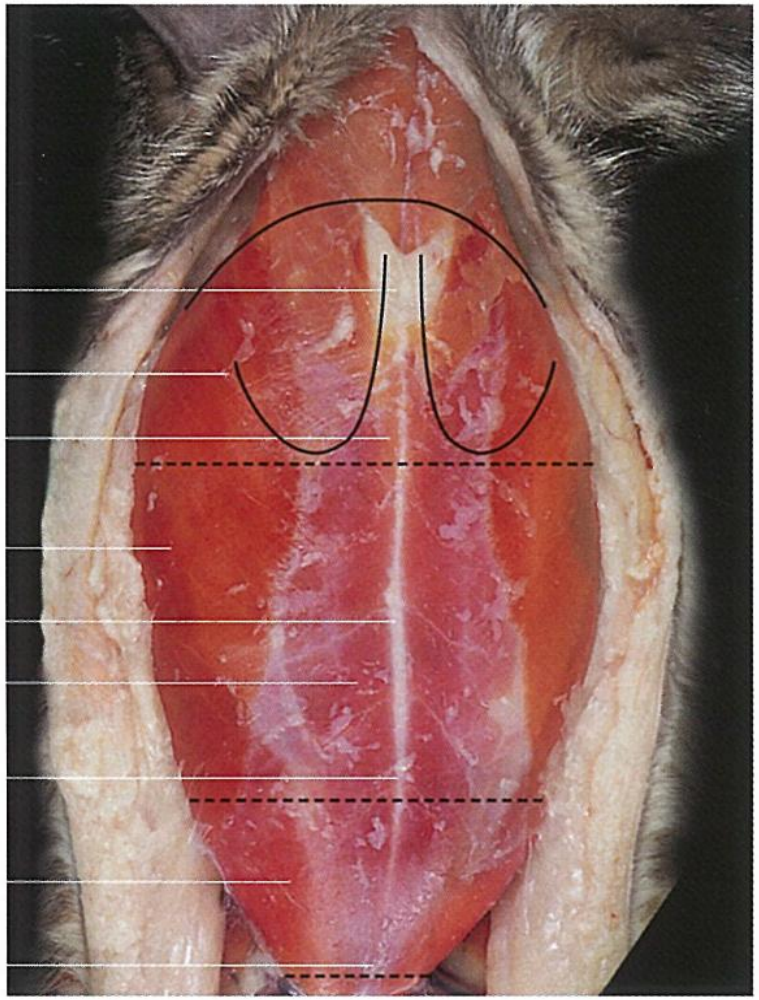


Fig. 6-17. Regions of the ventral abdomen shown on a cat (König, 1992).

1. Right Hypochondrium
- Examination of the liver, gallbladder, and part of the right kidney.
- Diagnosis of hepatomegaly, liver abscess, tumors, and gallbladder diseases.
- Assessment of pain or tenderness in hepatic and biliary disorders.

2. Xiphoid Region
- Examination of the stomach (fundus and body), part of the liver, and pancreas.
- Diagnosis of gastric dilation and volvulus (GDV), gastric ulcers, foreign bodies, and tumors.
- Evaluation of pain or distension in emergency conditions.

3. Left Hypochondrium
- Examination of the spleen, part of the stomach (fundus), and left kidney.
- Diagnosis of splenomegaly, splenic torsion or rupture.
- Detection of masses or traumatic injuries to the spleen.

4. Right Flank Region
- Evaluation of the ascending colon, part of the right kidney, and ureter.
- Diagnosis of constipation, intestinal obstruction, and renal diseases.

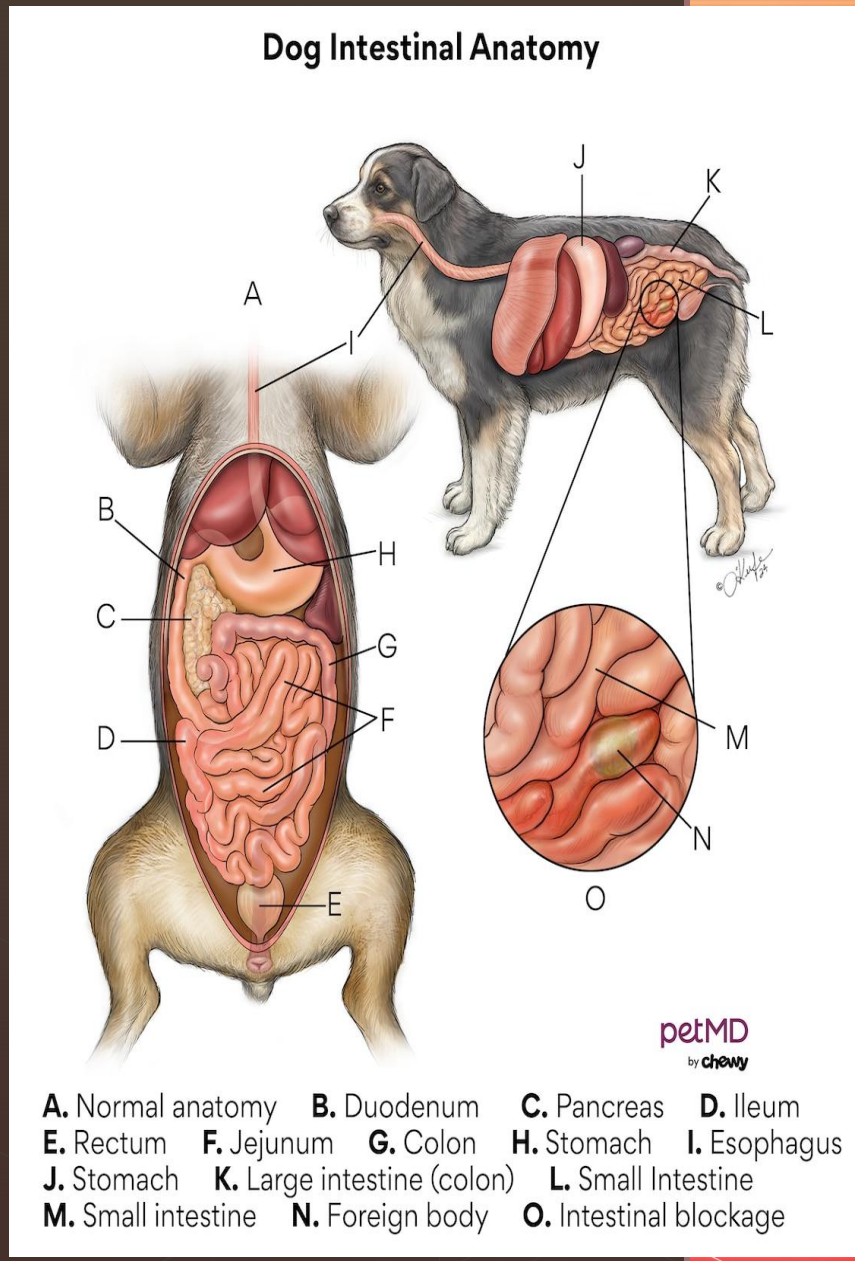
5. Umbilical Region
- Examination of the small intestine (jejunum and ileum), omentum, and part of the pancreas.
- Diagnosis of intestinal obstruction, umbilical hernia, and abdominal masses.
- Palpation of masses, ascites, or diffuse pain.

6. Left flank Region
- Evaluation of the descending colon, part of the left kidney, and left ureter.
- Diagnosis of constipation, tumors or obstruction of the descending colon, and renal diseases.

7. Right Inguinal Region
- Examination of the cecum, right ovary, part of the urinary bladder, and right ureter.
- Diagnosis of colitis, ovarian tumors, and urinary tract problems.

8. Pubic Region
- Evaluation of the urinary bladder, prostate, uterus, and part of the rectum.
- Diagnosis of cystitis, bladder stones, prostatic hyperplasia or tumors (in males), pregnancy or uterine infections (in females).

9. Left Inguinal Region
- Examination of the colon, left ovary, part of the urinary bladder, and left ureter.
- Diagnosis of ovarian tumors, colon disorders, and urinary diseases



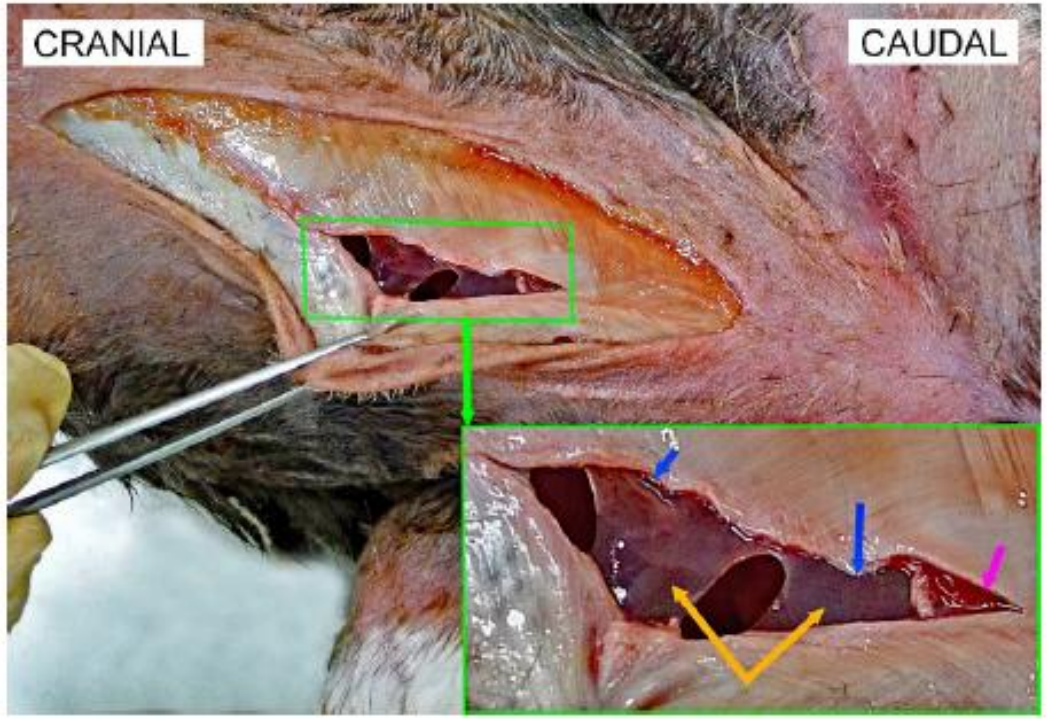


FIGURE 5.8-4 Ventral abdominal wall of a cat. The skin, subcutaneous tissue, and linea alba have been incised to reveal the thin, translucent parietal peritoneum, which lines the abdominal wall *(yellow arrows)*. The peritoneum was inadvertently punctured in two places in this prosection, which illustrates how readily the peritoneal cavity is entered on incising the linea alba *(blue arrows)*. Note, too, that the belly of the rectus abdominis muscle is exposed *(pink arrow)* in the caudal portion of the incision, which deviated slightly from midline.

- **Exploratory laparotomy**, also known as an ex-lap surgery, is a common surgical procedure performed on dogs to investigate and diagnose internal health issues that cannot be detected through external examination or diagnostic tests alone. During this procedure, the veterinarian makes an incision in the abdominal area to gain access to the organs and structures within the abdomen.
- **The standard approach is a ventral midline laparotomy incision extending from the xiphoid to the pubis**. This allows for a thorough exploration of the entire abdominal cavity in a systematic manner. The surgeon examines the abdominal organs, including the liver, spleen, intestines, and kidneys, for any abnormalities, tumors, or signs of disease. If concerning findings are observed, biopsies may be taken for further analysis to determine the precise diagnosis.
- The falciform ligament is often removed to improve visualization of the cranial abdomen.
- After the surgery, it is crucial to keep the dog quiet and restrict activity for at least 2-3 weeks to allow proper healing of the incision. The incision should be monitored for signs of infection, such as redness, swelling, or discharge. Licking or chewing at the incision site must be prevented by using an E-collar.

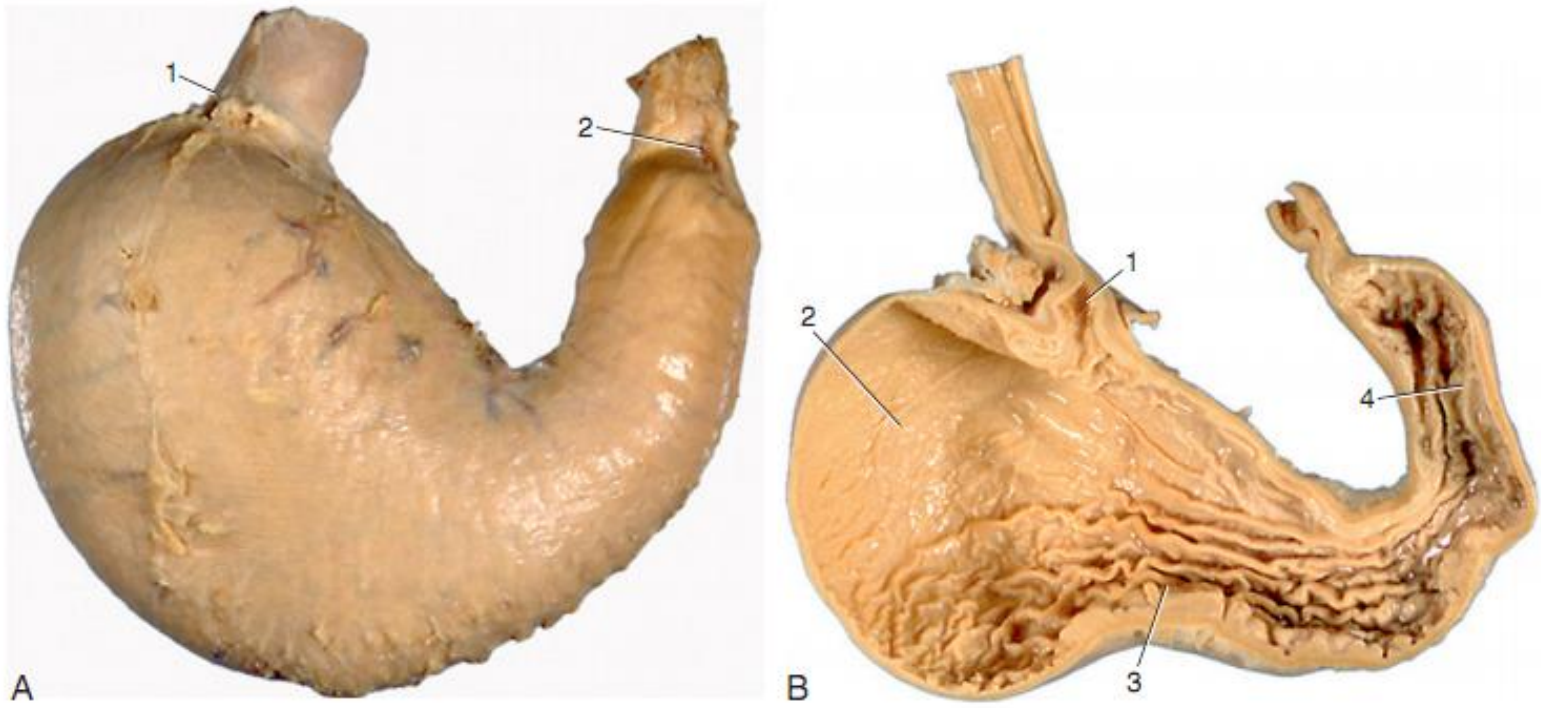


Figure 3–35 **A,** Visceral surface of stomach (dog). *1,* cardia; *2,* pylorus. **B,** Interior of stomach (dog). *1,* cardiac opening; *2,* fundus; *3,* body; *4,* pyloric antrum.

•On ultrasonography, the stomach wall in dogs measures 3–5 mm in thickness.

•The fundus is located in the left cranial abdomen, the body near the midline, and the pyloric antrum may extend to the right, especially if the stomach is distended.

•The pyloric sphincter can be identified by its hyperechoic mucosa.

•Palpation of the stomach is generally possible in thin or relaxed dogs, especially when the stomach is distended

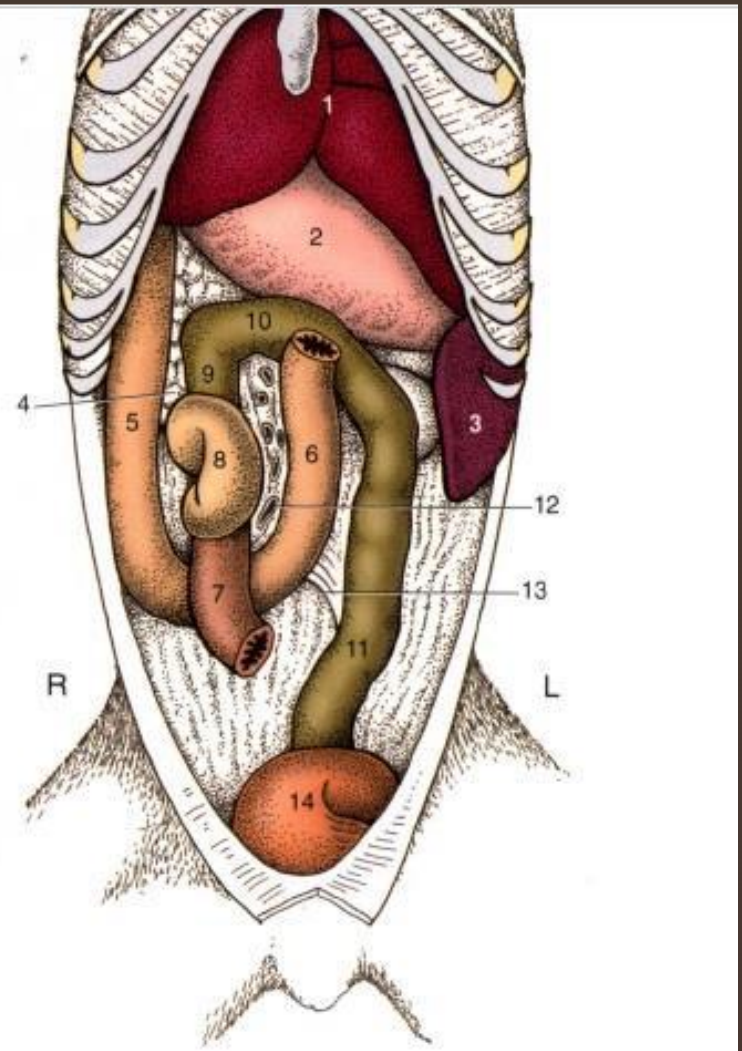
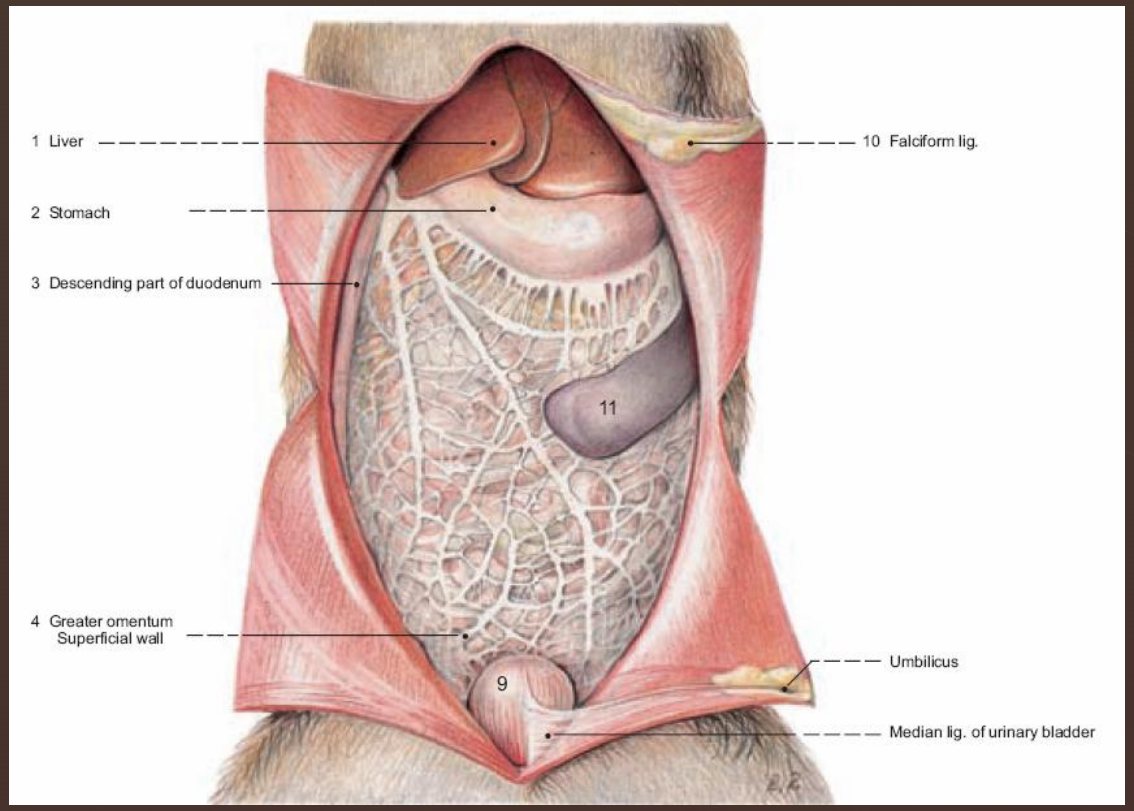
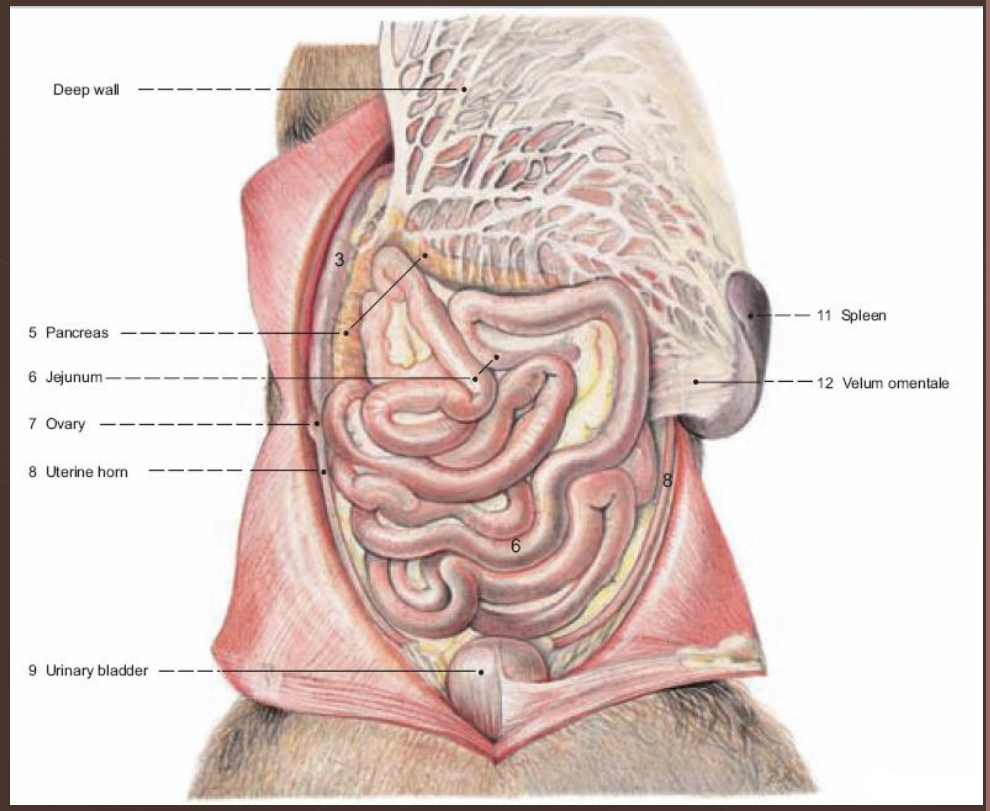
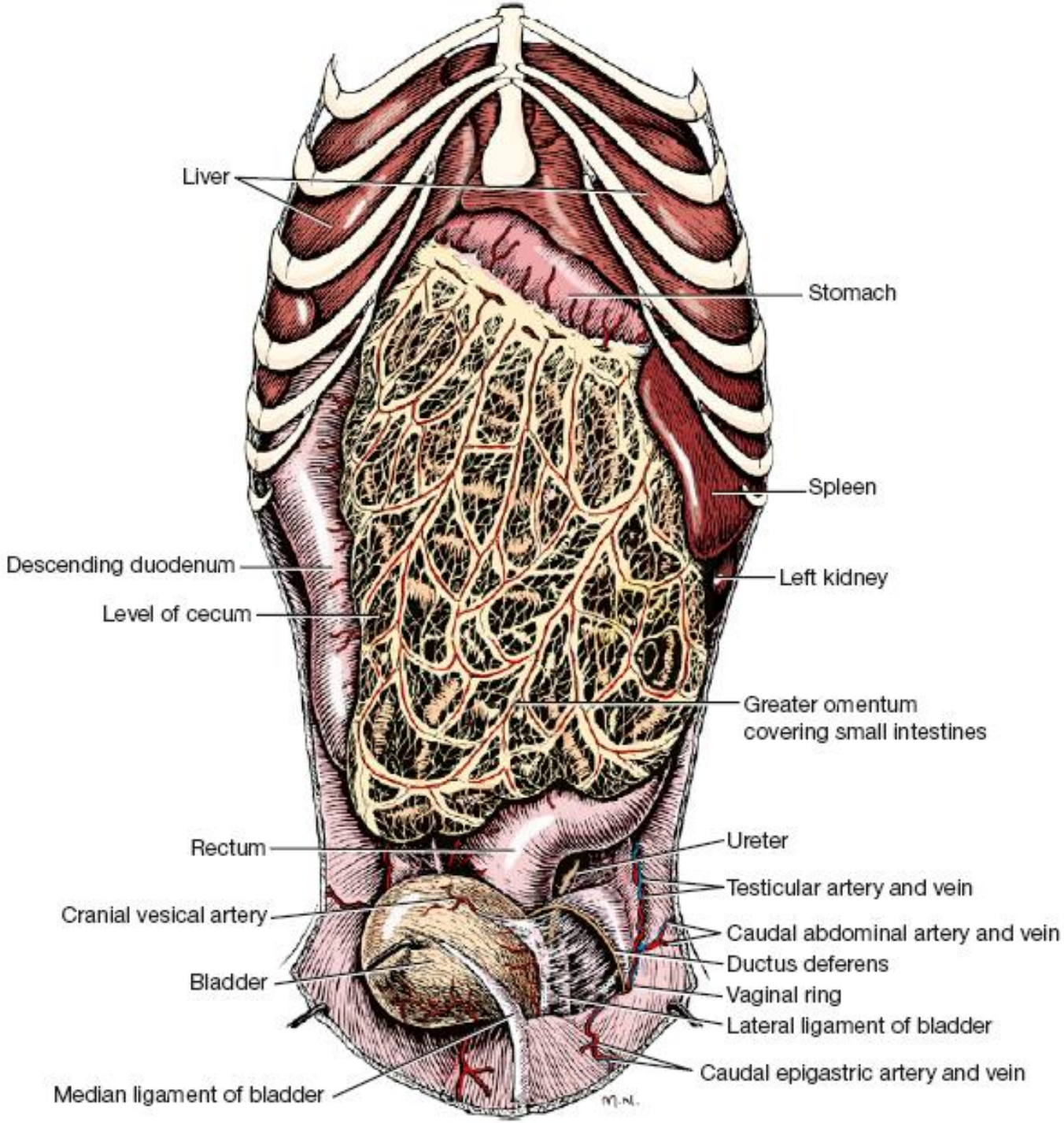


Figure 14–15 The canine duodenum, cecum, and colon in situ; ventral view. *1,* Liver; *2,* stomach; *3,* spleen; *4,* pancreas; *5,* descending duodenum; *6,* ascending duodenum; *7,* ileum; *8,* cecum; *9, 10, 11,* ascending, transverse, and descending colon; *12,* vessels in root of mesentery; *13,* duodenocolic fold; *14,* bladder.

The omentum plays a crucial role in immune response, tissue repair, and pathology due to its rich vascular and lymphatic supply and the presence of adipose tissue-derived stromal cells with regenerative potential.
It is widely used in veterinary surgery for procedures such as omentalization, where the omentum is used to fill or cover abscess cavities or wounds, promoting healing and controlling infection, as documented in treatment of sublumbar abscesses in dogs.
In summary, the canine omentum is a complex, vascularized, and lymphatic-rich peritoneal fold with important anatomical subdivisions and clinical utility in veterinary surgery, especially for its regenerative and immune functions.






Liver
Stomach
Spleen
Descending duodenum
Left kidney
Level of cecum
Greater omentum
covering small intestines
Rectum
Ureter
Testicular artery and vein
Cranial vesical artery
Caudal abdominal artery and vein
Ductus deferens
Bladder
Vaginal ring
Lateral ligament of bladder
Caudal epigastric artery and vein
Median ligament of bladder

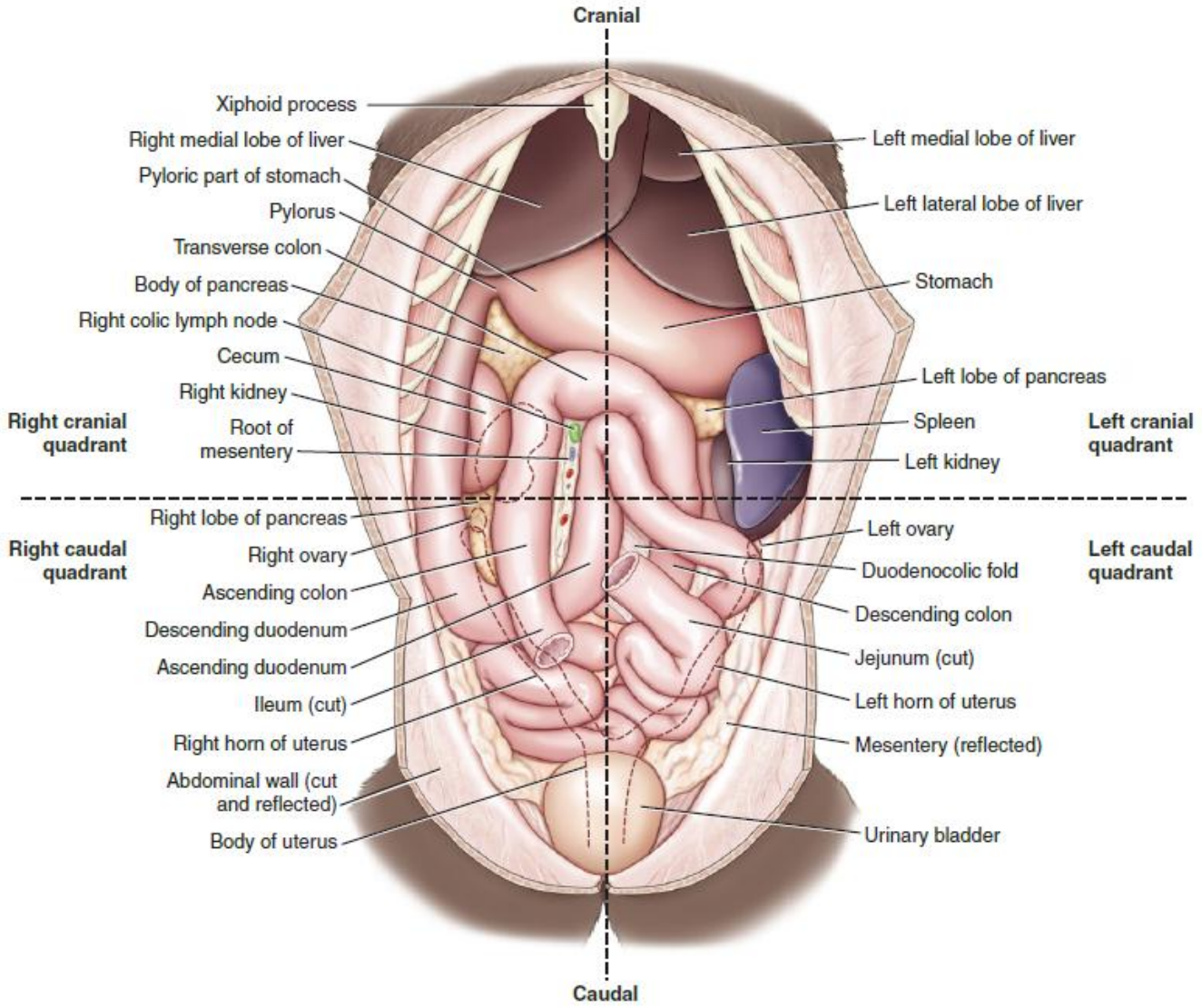
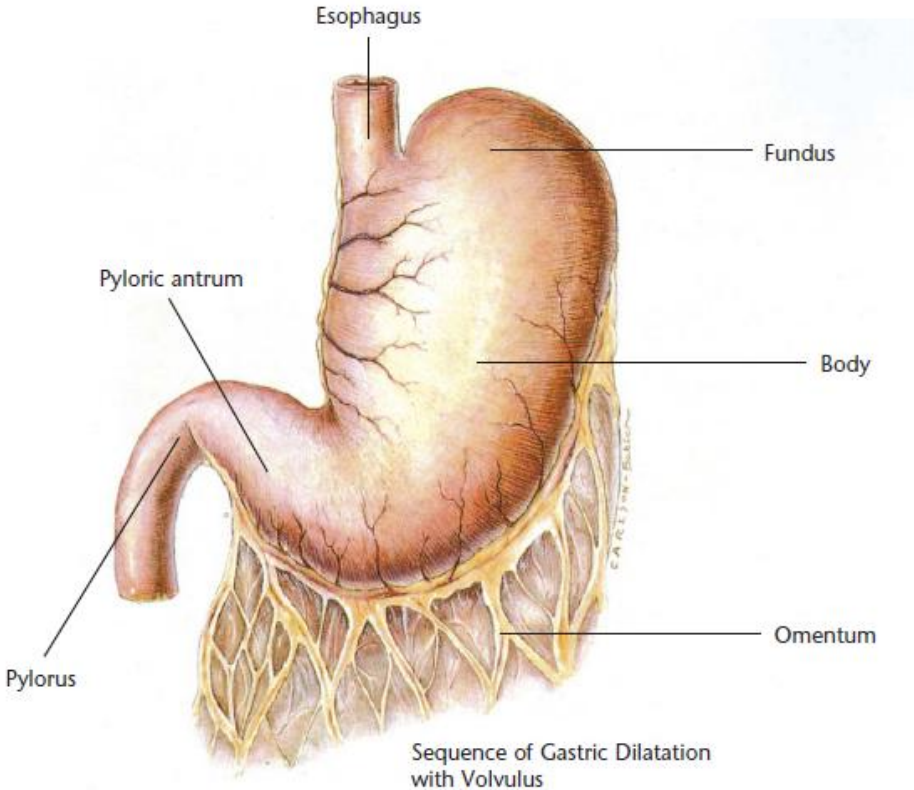
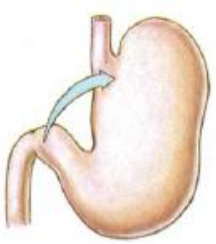


FIGURE 3A-8 Ventral view of the canine abdominal cavity.



Sequence of Gastric Dilatation with Volvulus

Clockwise rotation as viewed from a ventral position



The pyloric antrum is displaced downward.

The pylorus crosses the midline, passes underneath the distended proximal part of stomach, and moves upward along the left abdominal wall.

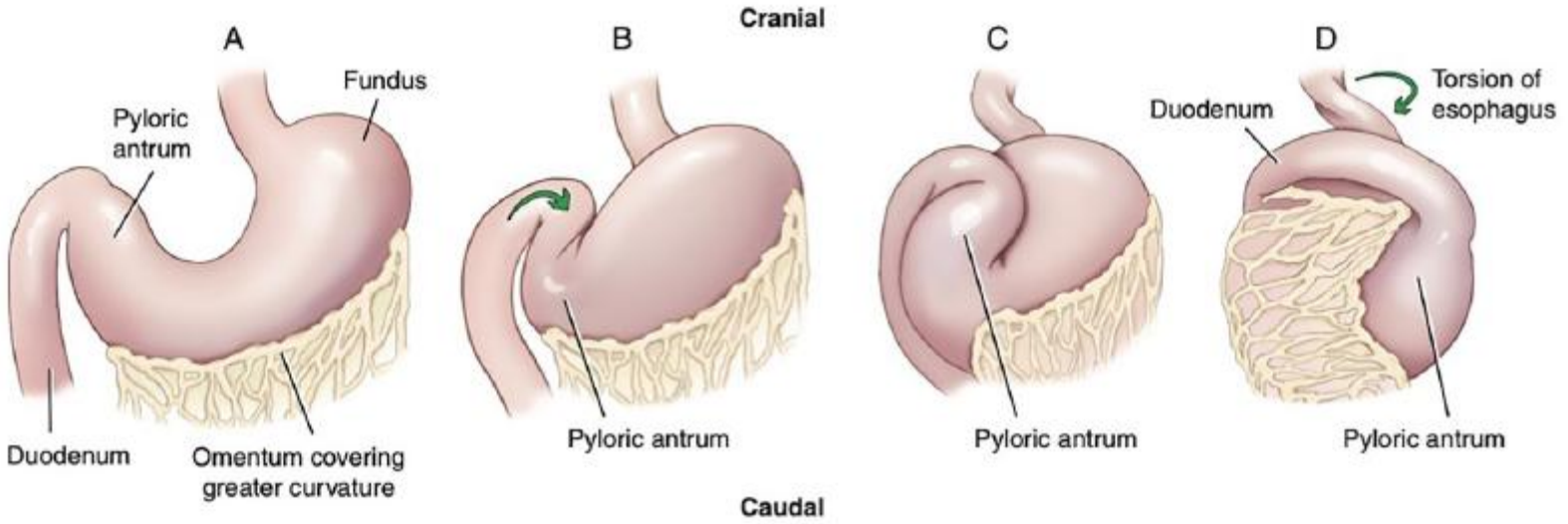


FIGURE 5.5-2 Direction of a "clockwise" stomach rotation in most dogs with gastric dilatation-volvulus as viewed ventrally. (A) The normal position of the esophagus, stomach, pylorus, and duodenum. (B) The pylorus rotates ventrally and laterally to the body of the stomach. (C) The pylorus moves upward, crossing the distended stomach toward the left abdominal wall and stretching the duodenum across the cardia as it crosses the midline. (D) The fundic part of the stomach moves dorsally, the greater curvature is displaced ventrally, and the ventral leaf of the greater omentum covers the ventral aspect of the stomach. This results in a clockwise torsion of the esophagus with the duodenum displaced to the left.

GASTRIC DILATATION AND VOLVULUS (GDV)

Gastric dilitation and volvulus is an acute, life-threatening condition. It most commonly occurs in large, deep-chested dogs including the German Shepherd, Standard Poodle, Great Dane, Boxer, Doberman Pinscher, Saint Bernard, and Irish Setter. It is most common in middle-age to older dogs.

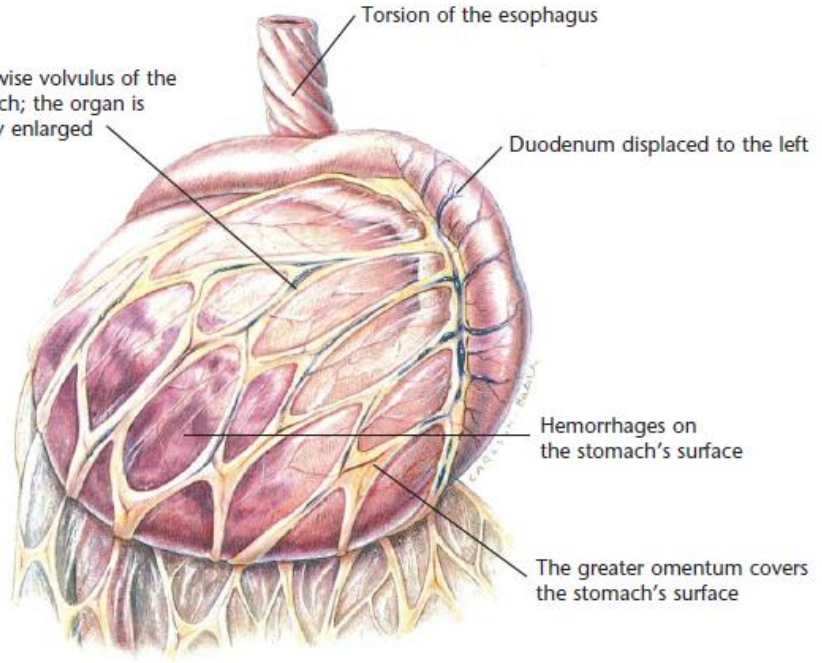
Etiologic factors associated with GDV include anatomic predisposition, hereditary factors, food-filled stomach with postprandial exercise, large amounts of water consumption, and weakened gastric supportive ligaments.

Risk factors associated with gastric dilatation are general anesthesia, aerophagia, high anxiety level, overeating, and gastric and duodenal obstruction.

With GDV, the stomach moves in a clockwise direction as viewed ventrodorsally and caudally. The degree of rotation usually ranges from 90 to 360 degrees, and occasionally rotates up to 540 degrees.

Hill's Atlas of Veterinary Clinical Anatomy

Canine Gastric Dilatation with Volvulus 21



The gastric fundus moves ventrally and becomes located in the ventral abdomen.

The continuing gastric dilatation displaces the greater curvature ventrally.

Gastric Dilatation with Volvulus

Diagnostic Plan
History
Physical examination
X-ray of the stomach
Blood work

Therapeutic Plan
Stomach distention relief
Shock therapy
Surgery

Dietary Plan
A low-residue diet, fed in small portions
Avoid excessive postprandial exercise

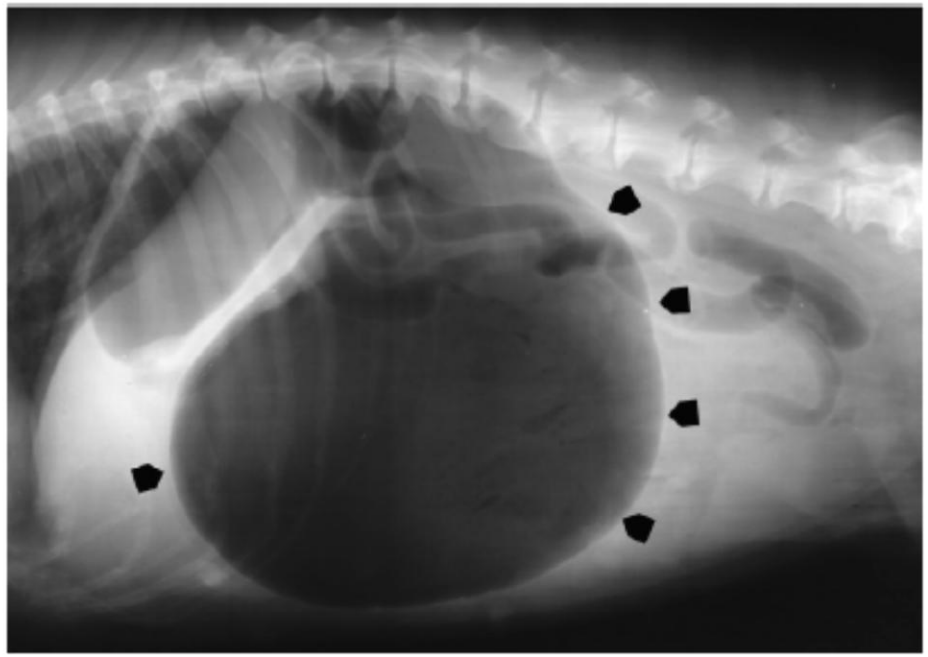


FIGURE 5.5-1 Right lateral radiograph of a 9-year-old male intact Doberman Pinscher with a gastric dilatation and volvulus. Multiple *black arrow heads* outline the gastric dilatation.

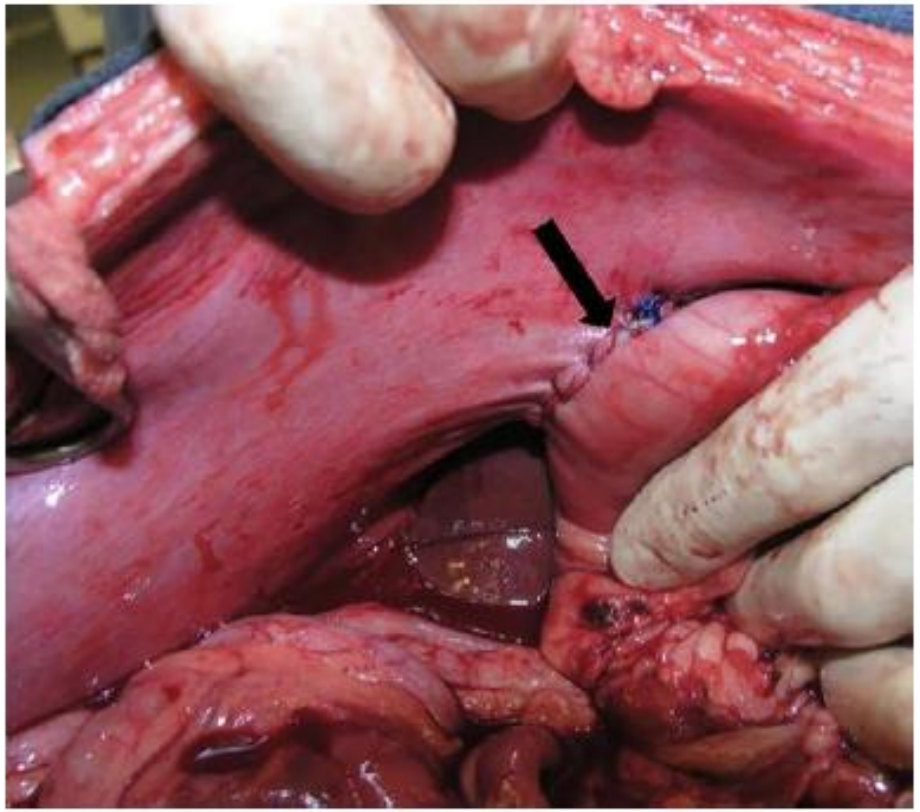


FIGURE 5.5-4 The seromuscular layer of the pyloric antrum is sutured to an incision in the peritoneum and the transversus abdominis muscle of the cranial right ventral abdomen *(arrow)*.

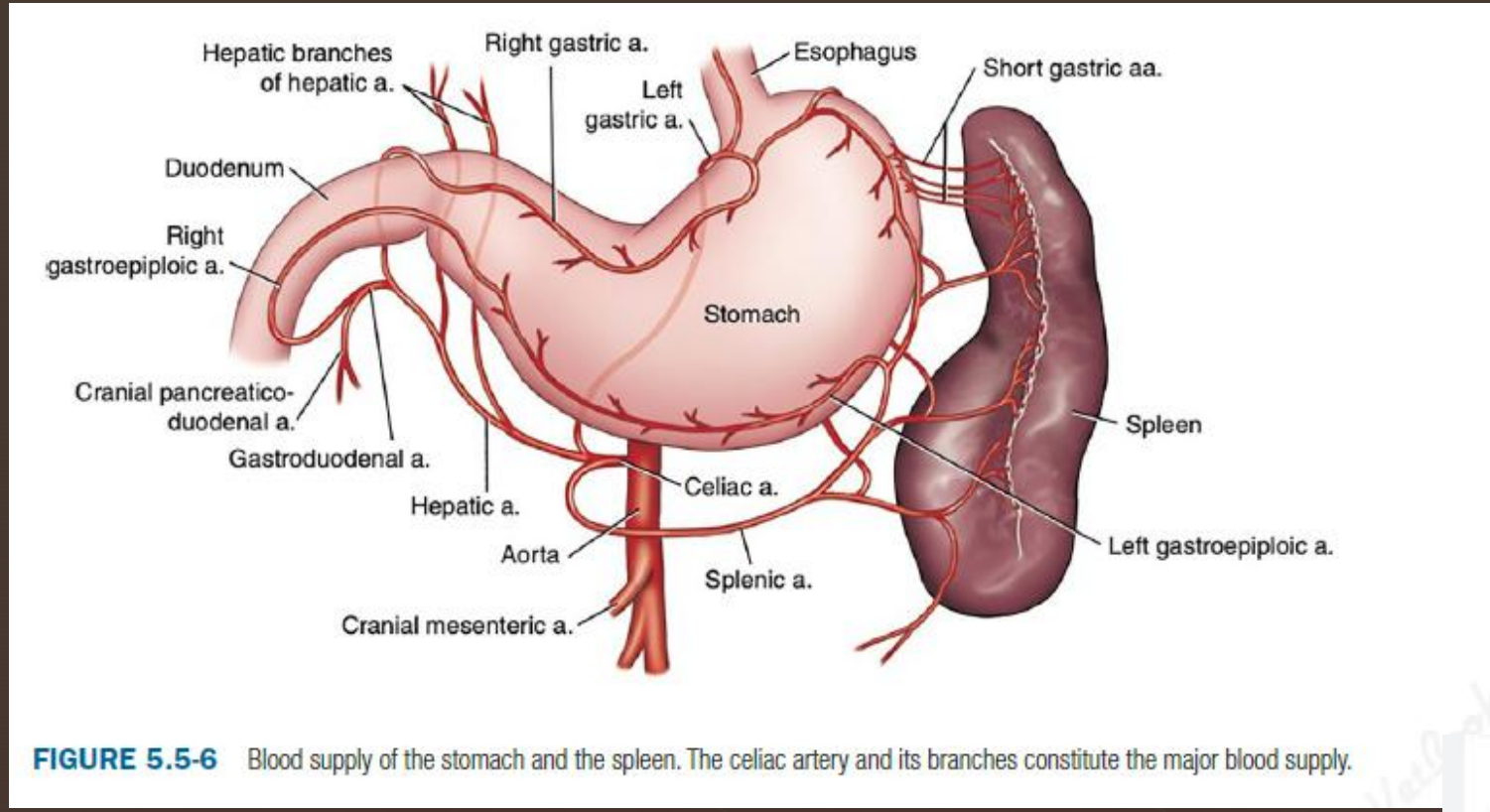
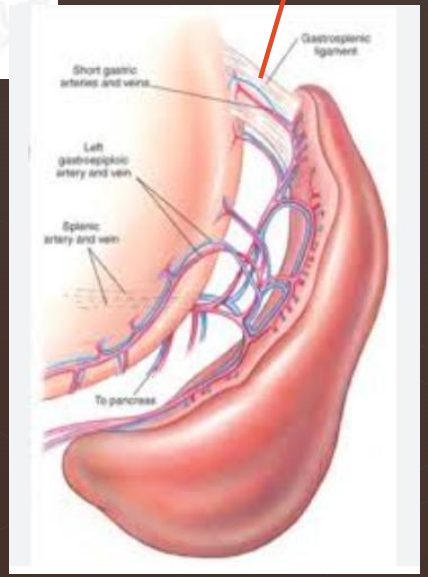


FIGURE 5.5-6 Blood supply of the stomach and the spleen. The celiac artery and its branches constitute the major blood supply.

Gastrosplenic ligament



The gastrosplenic ligament often tears with rupture of the short gastric arteries, as the spleen and stomach rotate in patients with GDV. It is not unusual to find blood in the abdominal cavity and bleeding along the greater curvature of the stomach due to rupture of the short gastric vessels. This may contribute to gastric wall necrosis, most often occurring along the fundus and greater curvature.

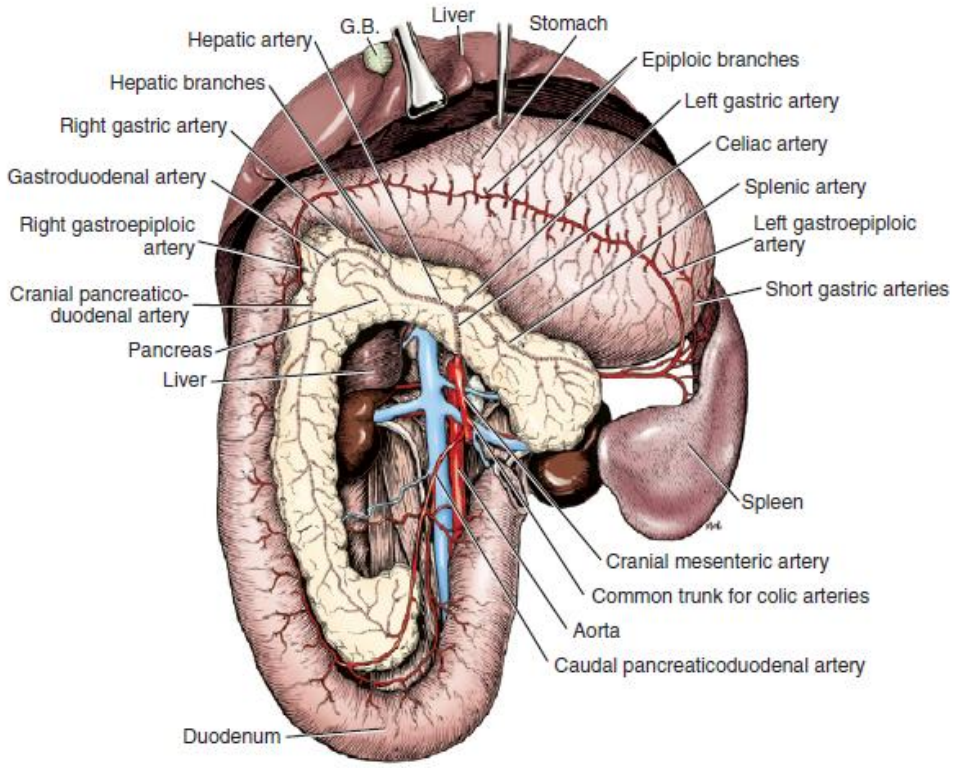


FIGURE 11-54 Celiac and cranial mesenteric arteries, ventral aspect. (Stomach reflected cranially.)

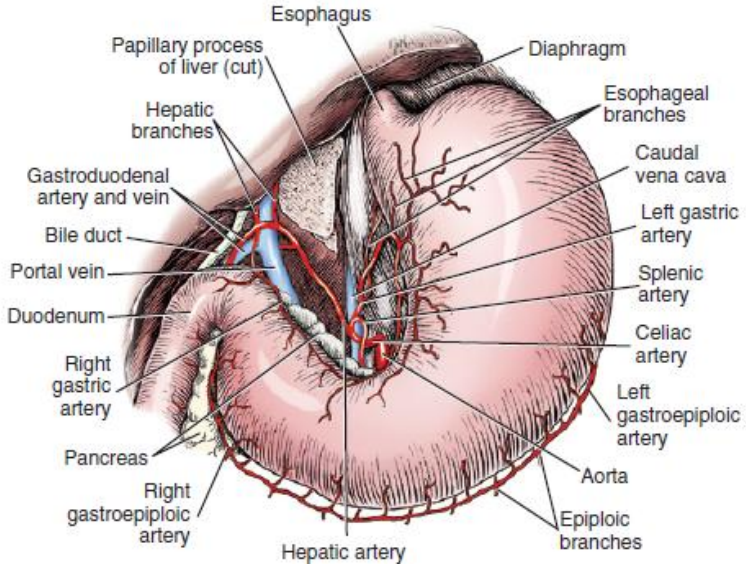


FIGURE 11-55 Celiac artery, ventral aspect. (Stomach displaced to left.)

The venous return is often compromised with GDV. As the stomach dilates in GDV, it can obstruct blood flow from the caudal vena cava and portal vein. This leads to sequestration of blood in the portal system, splanchnic circulation, and caudal vena cava—and a cascade of events resulting in a decrease in venous return, cardiac output, and arterial blood pressure and hypovolemia.

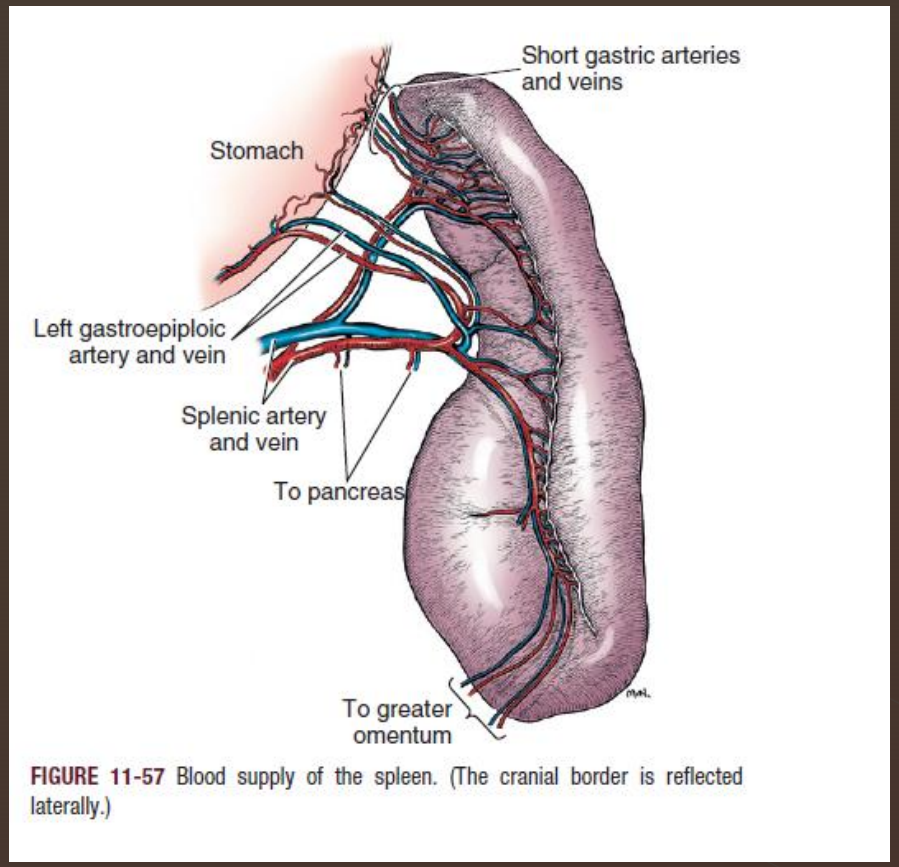


FIGURE 11-57 Blood supply of the spleen. (The cranial border is reflected laterally.)

Interestingly, even though the spleen provides many critical functions, its removal is well tolerated. The liver, lymph nodes, and bone marrow seem able to take over most of its physiological work.

A splenectomy is the surgical removal of the spleen in dogs. It is most commonly performed to treat:

1. Splenic tumors or masses, which can be either benign or malignant.
2. Splenic rupture or bleeding, often due to trauma and cancer. This can lead to life-threatening internal bleeding and requires emergency surgery. Splenic trauma (with subsequent rupture of the capsule/tearing of the parenchyma) can lead to substantial intraabdominal hemorrhage (and even death) due to the spleen's highly vascular nature.
3. Splenic torsion, where the spleen twists on itself, cutting off blood supply.
4. Gastric dilatation volvulus (bloat), where the stomach twists. The spleen often twists with it, requiring removal.

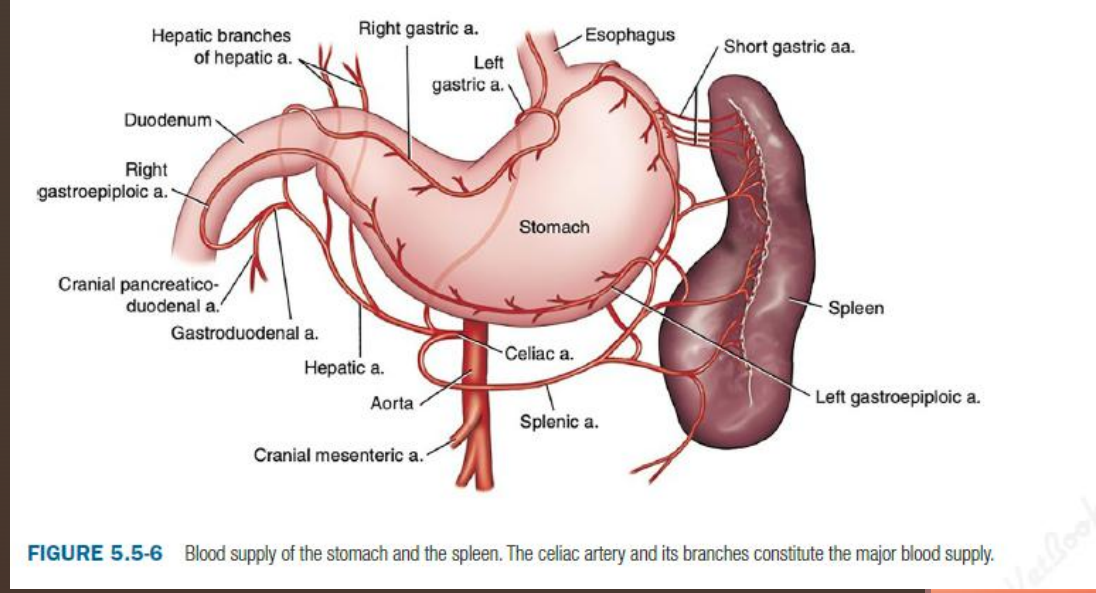
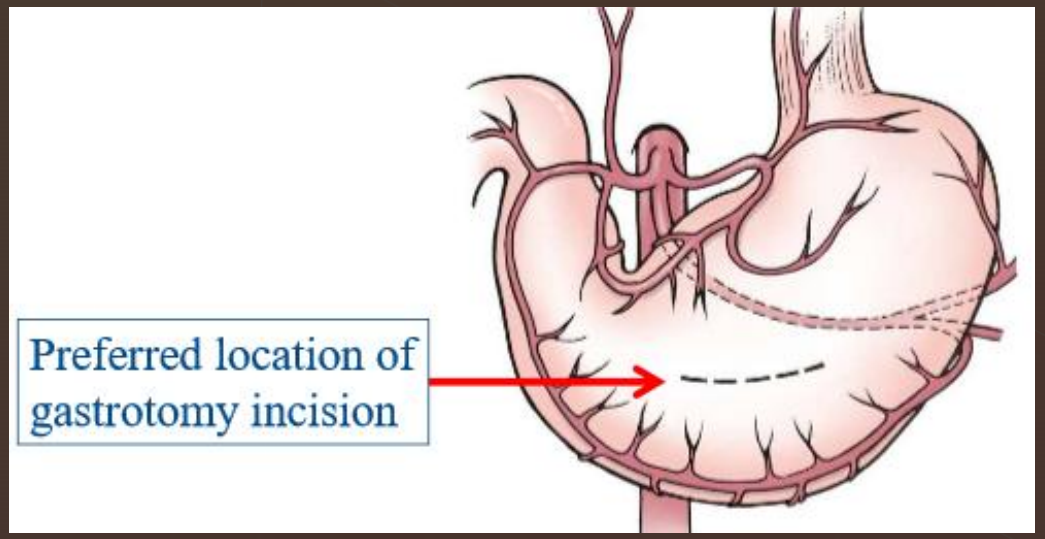


FIGURE 5.5-6 Blood supply of the stomach and the spleen. The celiac artery and its branches constitute the major blood supply.



The location of a gastrotomy in a dog is typically performed midway between the lesser and greater curvatures of the stomach. This surgical procedure involves opening up the stomach to remove foreign bodies, tumors, or for diagnostic purposes like biopsies. The incision for a gastrotomy is made in a relatively avascular area to ensure safety and effectiveness during the surgery.

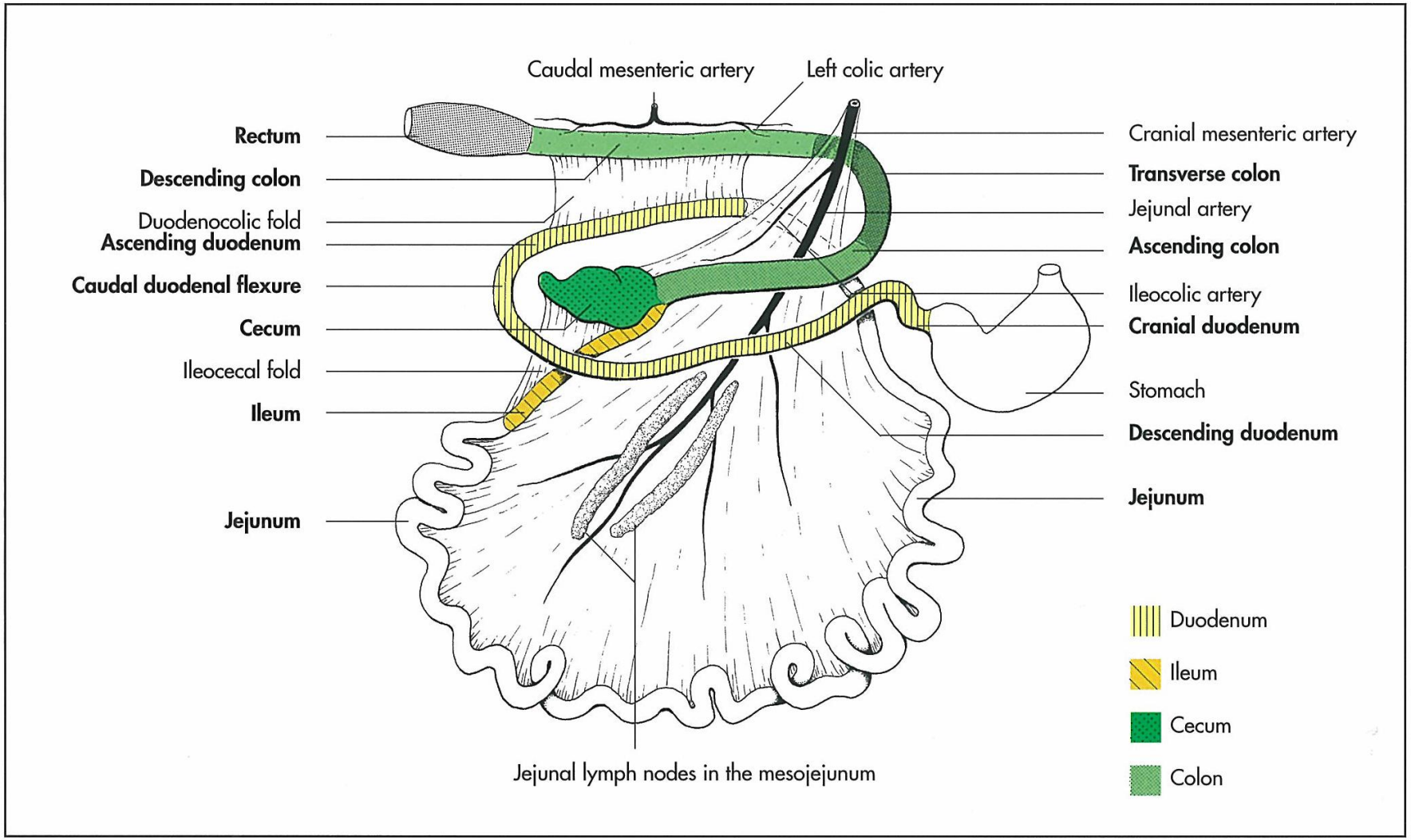
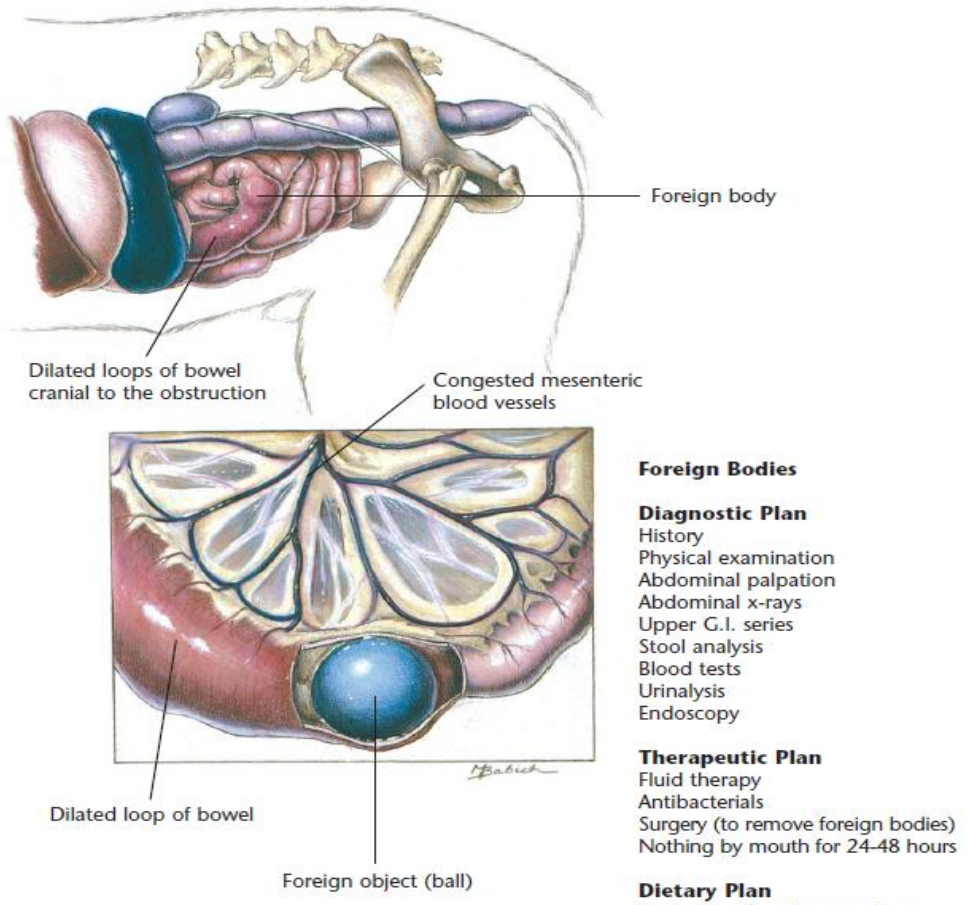


Fig 7-85. Intestinal tract of the dog, schematic (Ghetie, 1958).

Surgery Type	Organ/Region	Common Indications	Notes
Enterotomy	Small intestine	Foreign body removal, biopsy	Most frequent small bowel surgery
Enterectomy	Small intestine	Tumors, strictures, necrosis	Jejunum most common site
Ileocolic junction resection	Ileum and colon junction	Intussusception (dogs), neoplasia (cats)	May cause postoperative soft stools
Colotomy / Colectomy	Colon	Foreign bodies, megacolon, tumors	Colectomy common in feline megacolon



Foreign Bodies

Diagnostic Plan
History
Physical examination
Abdominal palpation
Abdominal x-rays
Upper G.I. series
Stool analysis
Blood tests
Urinalysis
Endoscopy

Therapeutic Plan
Fluid therapy
Antibacterials
Surgery (to remove foreign bodies)
Nothing by mouth for 24-48 hours

Dietary Plan
Postsurgically, a low-residue diet fed in small portions
Consider overall patient condition when determining the protein level and caloric density of the diet

Surgical procedures such as enterotomy and enterectomy are commonly performed in the jejunum and ileum.

In properly exposed radiographs without contrast (barium), the small intestine often contains gas and an obstruction is likely present if the small intestinal diameter is > 2 times the height of the body of lumbar vertebrae 5 (L5).

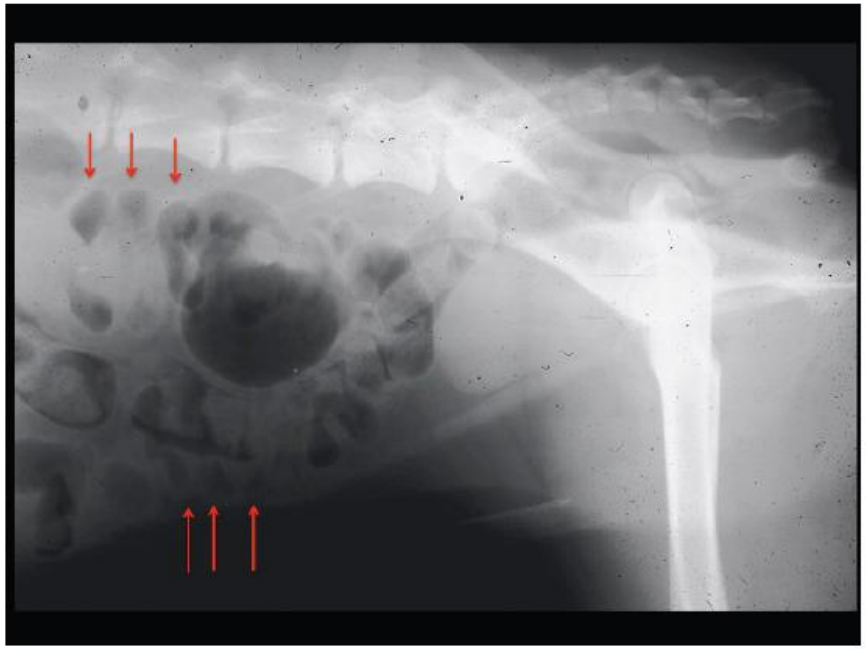


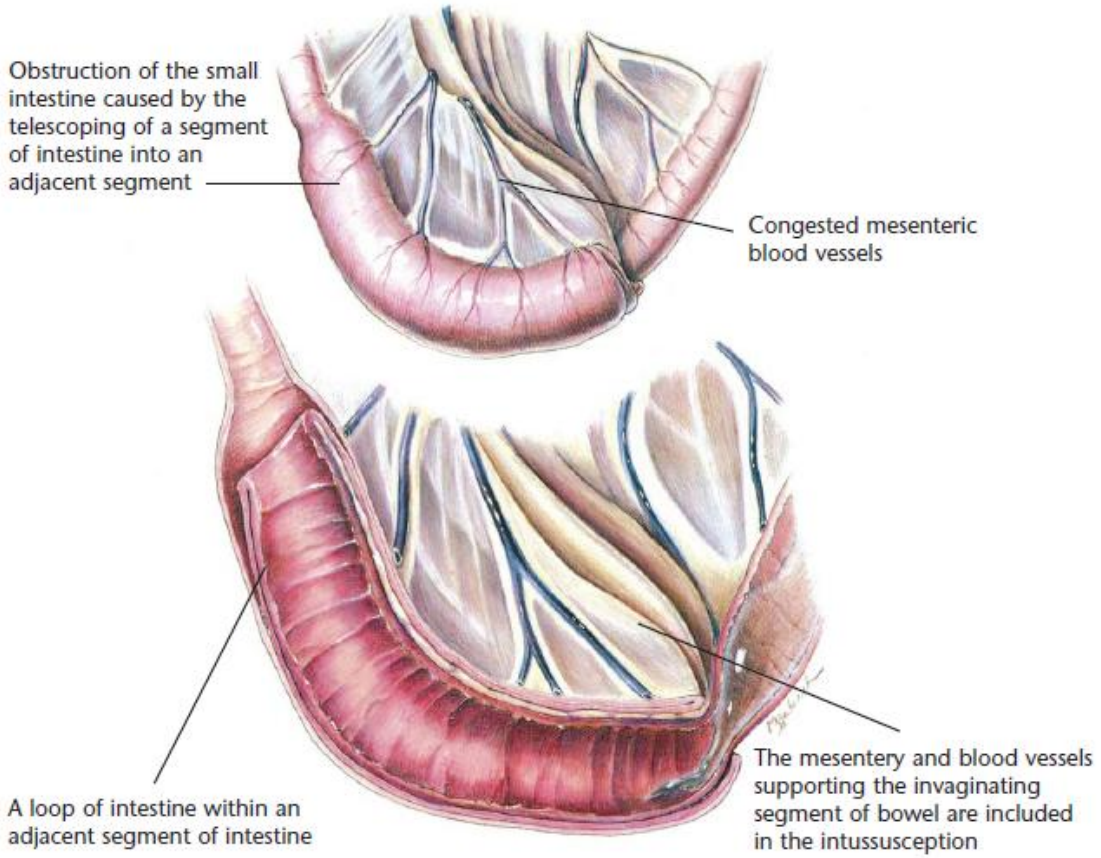
FIGURE 5.6-1 Lateral abdominal radiograph showing plicated (folded) loops of small intestine *(arrows)*.

Radiographs of the abdomen revealed gas-dilated loops of intestine that appeared to be clustering or lining up, suggesting a linear foreign body.

Obstruction

Foreign body ingestion
Tumors or growths
Strictures or adhesions
Severe inflammation or parasites
Hernias

Species	Most Common Site of Intestinal Obstruction	Common Causes
Dogs	Small intestine	Foreign bodies, intussusception, parasites, inflammatory bowel disease
Cats	Small intestine	Foreign bodies, hairballs, tumors, intussusception, volvulus, adhesions

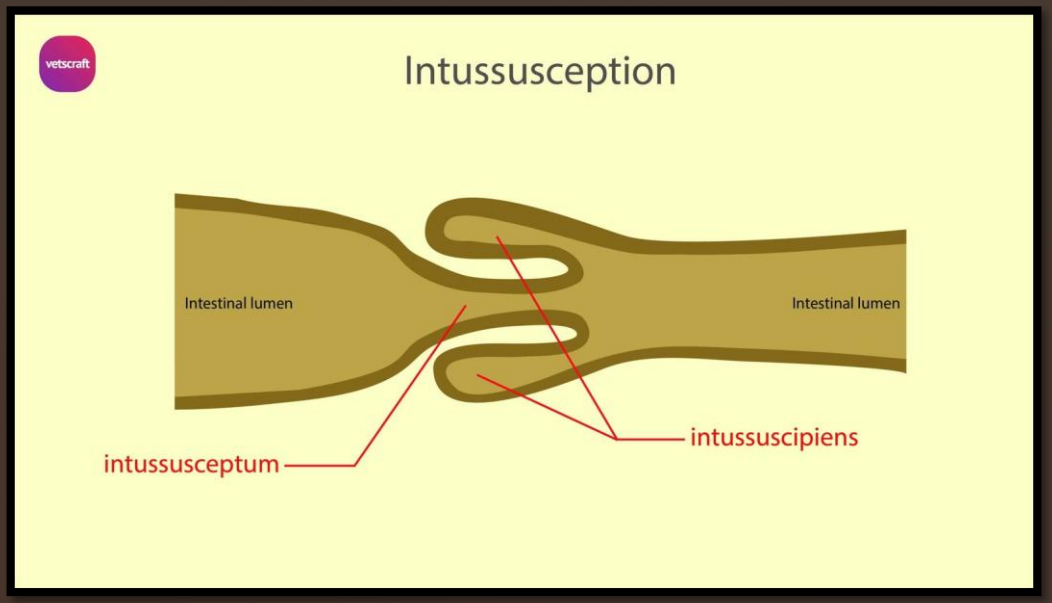


Intussusception

Diagnostic Plan
History
Physical examination
Abdominal palpation
Abdominal x-rays

Therapeutic Plan
Fluid therapy
Surgery
Removal of the cause
Nothing by mouth

Dietary Plan
Postsurgically, a low-residue diet fed in small portions
Consider overall patient condition when determining the protein level and caloric density of the diet



The most common locations for intestinal intussusceptions in dogs are:

Ileocolic junction (42.5%) - The junction between the ileum and the cecum (first part of the large intestine).

Jejunojejunal (30%) - Between two segments of the jejunum

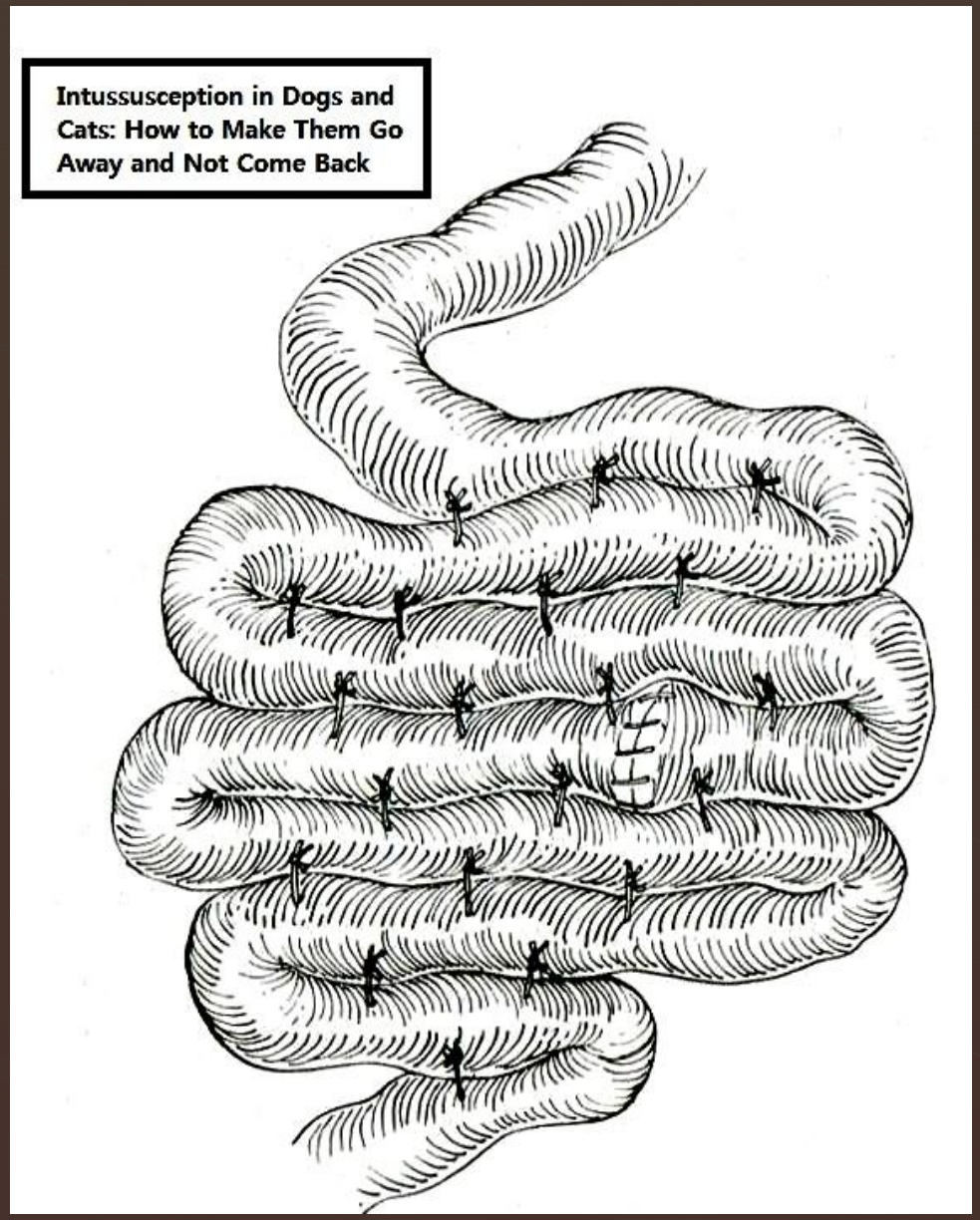
Jejunocolic (10%) - Between the jejunum and colon.

Duodenojejunal (7.5%) -

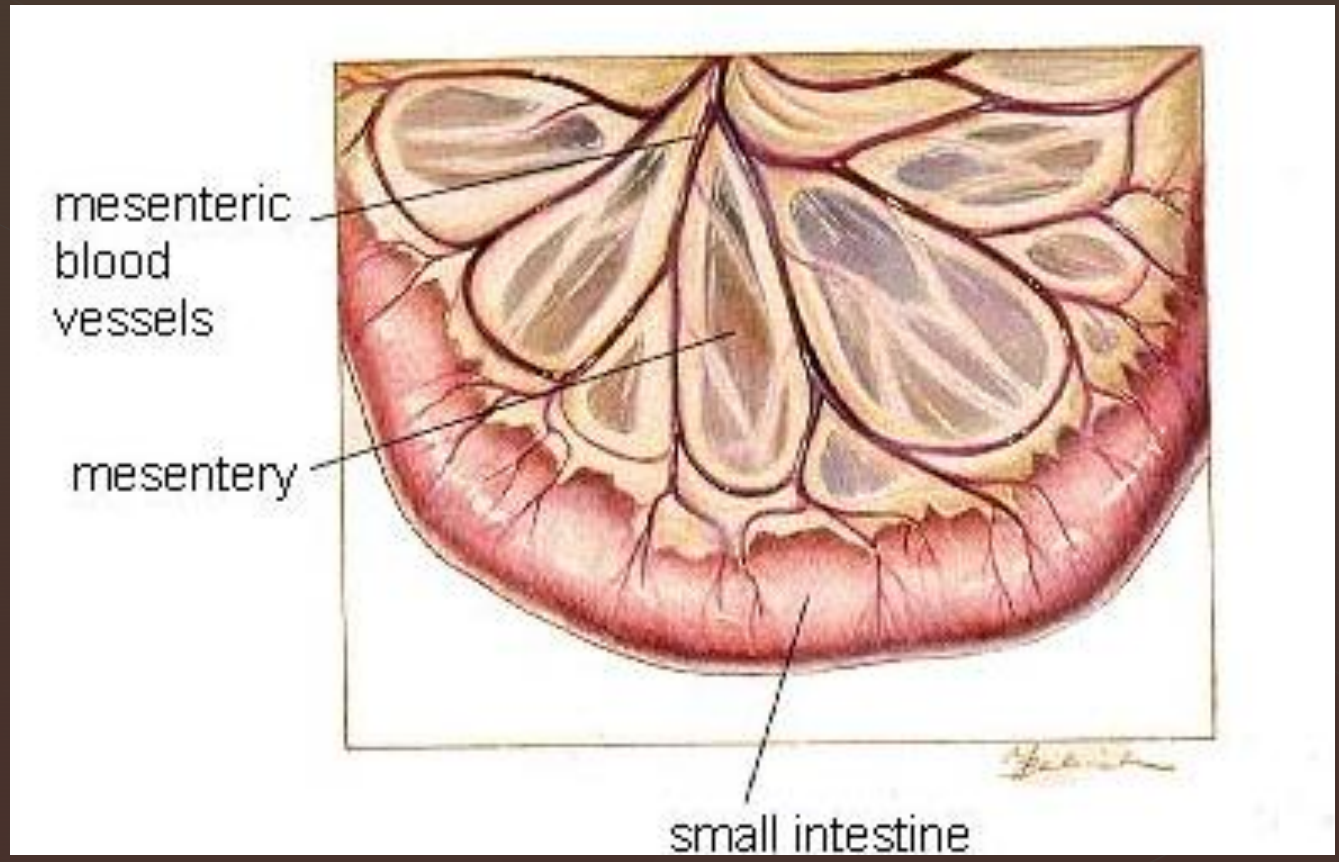
The most common locations for intestinal intussusceptions in cats are:

Junction between ileum and colon) is the most common site for intussusception in cats, accounting for approximately 47-50% of cases.

Other locations such as jejunojejunal, colocolic, and colorectal intussusceptions occur less frequently.


Intussusception in Dogs and Cats: How to Make Them Go Away and Not Come Back

The mesenteric side of the intestines is critical during surgery because vascular compromise and ischemic necrosis can occur here, especially with linear foreign bodies.



The ileum communicates directly with the colon via the ileocolic valve. In dogs and cats, the ileocolic valve prevents reflux of colonic contents back into the ileum, thus maintaining unidirectional flow and reducing bacterial contamination of the small intestine. The ileocolic valve is a critical surgical landmark. Resection of this valve during colectomy in cats and dogs is possible but may lead to postoperative complications such as liquid feces due to loss of reflux control. Preservation is often recommended for better outcomes, although resection may be chosen if it reduces tension on anastomoses.

The cecum is a small comma or bud-shaped structure adjacent to the ileocolic junction and typhlectomy (cecal resection) is a surgical procedure performed rarely, mainly for cecal inversion.

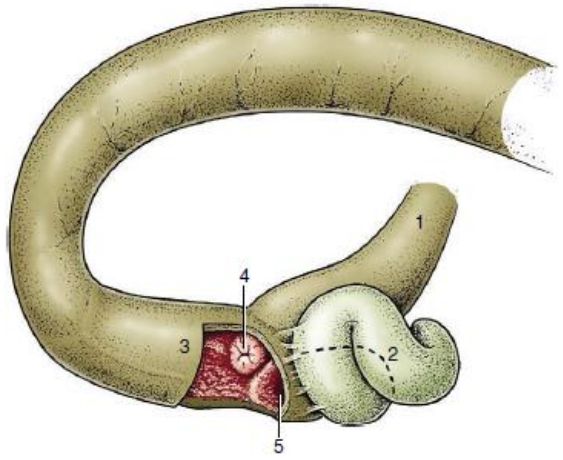


Figure 3–46 The ileocolic junction and its relation to the cecum in the dog. *1*, Ileum; *2*, cecum; *3*, ascending colon; *4*, ileal orifice surrounded by annular fold; *5*, cecocolic orifice.

ABDOMINAL PALPATION

If the abdominal muscles are relaxed in a dog, it is possible to palpate the right descending duodenum and ileo-colic junction. This is accomplished using gentle and firm digital pressure, compressing the duodenum and ileum dorsally against the sub-lumbar muscles and rolling them in a medial to lateral direction. The descending colon can likewise be palpated on the left, especially if constipation is present.

In the cat, the ileocolic junction can be mistaken for a foreign body.

Liver: Palpated beneath the costal arch; hepatomegaly is suspected if liver margins extend beyond ribs. Enlargement may indicate liver disease, Cushing's disease, or neoplasia

Spleen: Palpated on the left mid-abdomen; the tail may be felt ventrally in dogs. Enlargement or nodules may be detected, though it can be difficult in small dogs and cats.

Kidneys: Palpation differs by species; only caudal poles are palpable in dogs, while both kidneys are more mobile and palpable in cats. Palpation helps assess size, shape, and symmetry.

Intestines: Loops of small intestine can be felt slipping between fingers; palpation assesses thickening, masses, intussusception, or foreign bodies. The colon may be felt if feces-filled but should not be confused with masses.

Bladder: Palpated in the caudal abdomen as a fluid-filled structure; enlargement or firmness suggests urinary obstruction, requiring gentle palpation to avoid rupture.

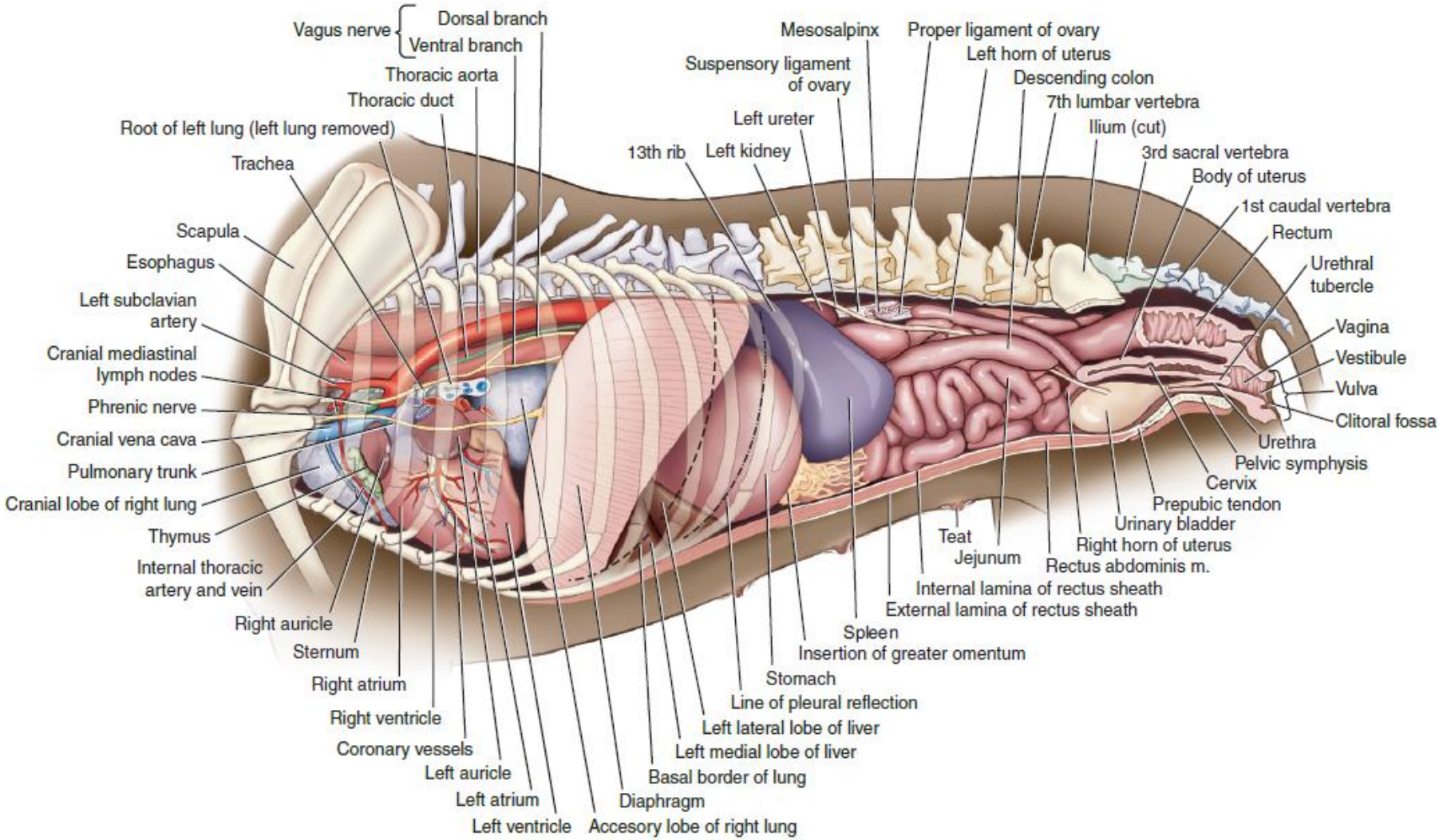


FIGURE 3A-6 Left view of the canine thoracic and abdominal cavities and pelvis (female).

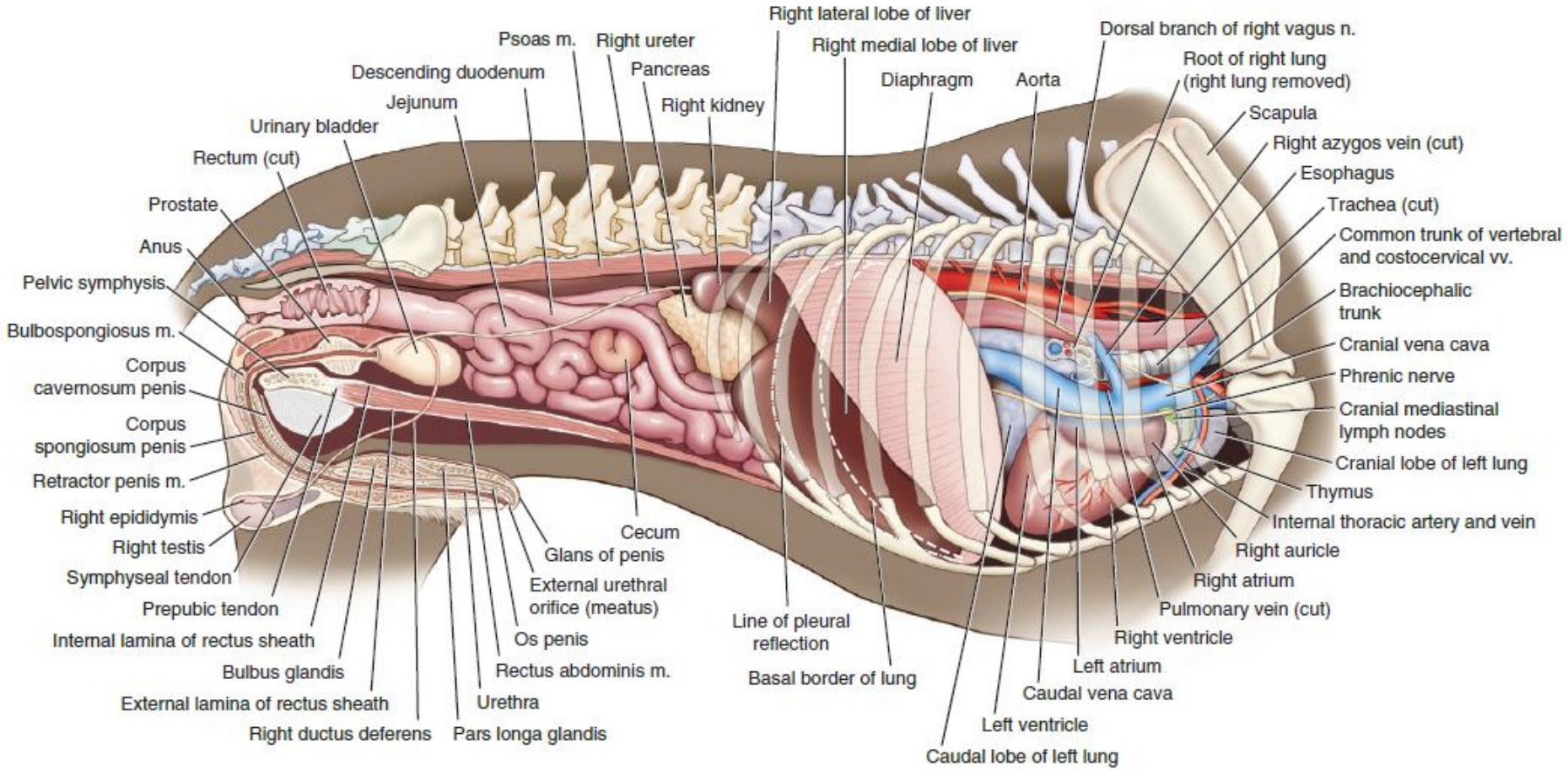
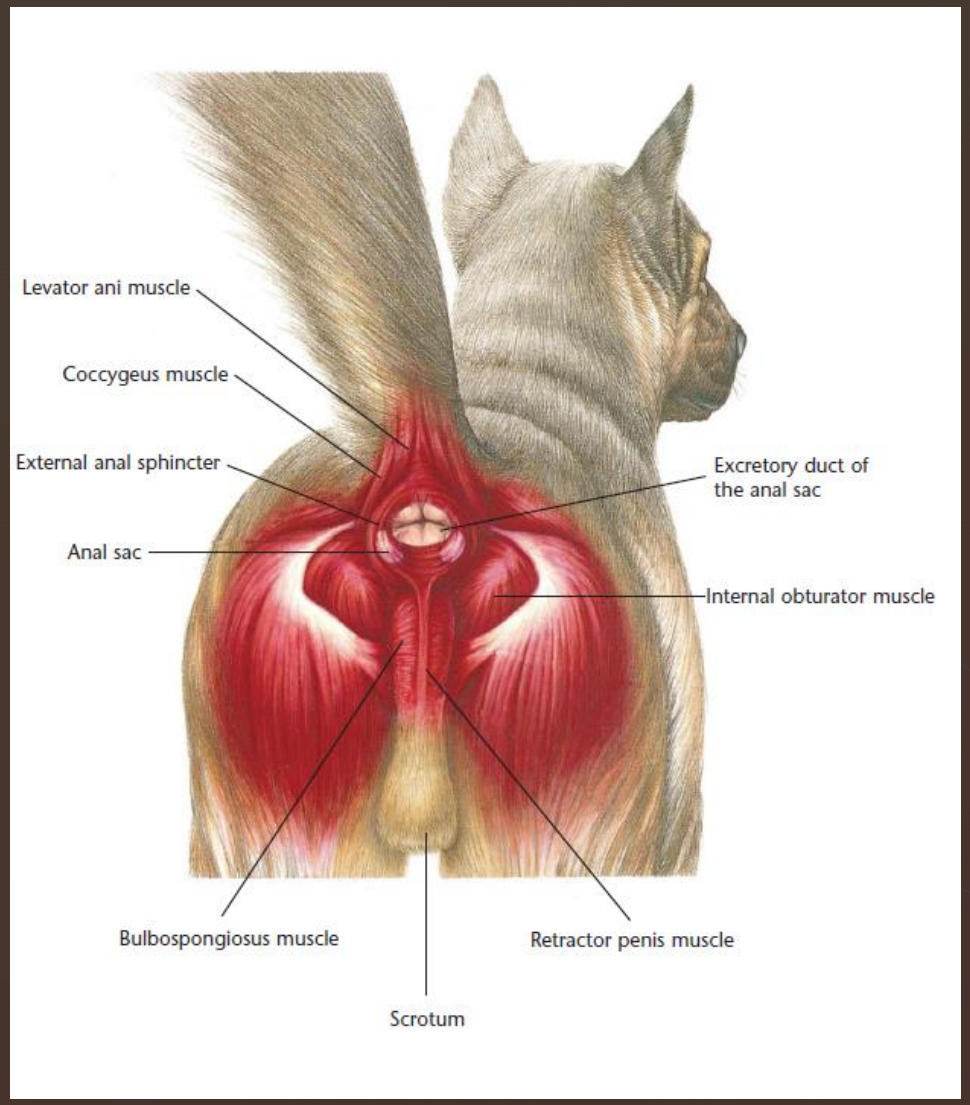
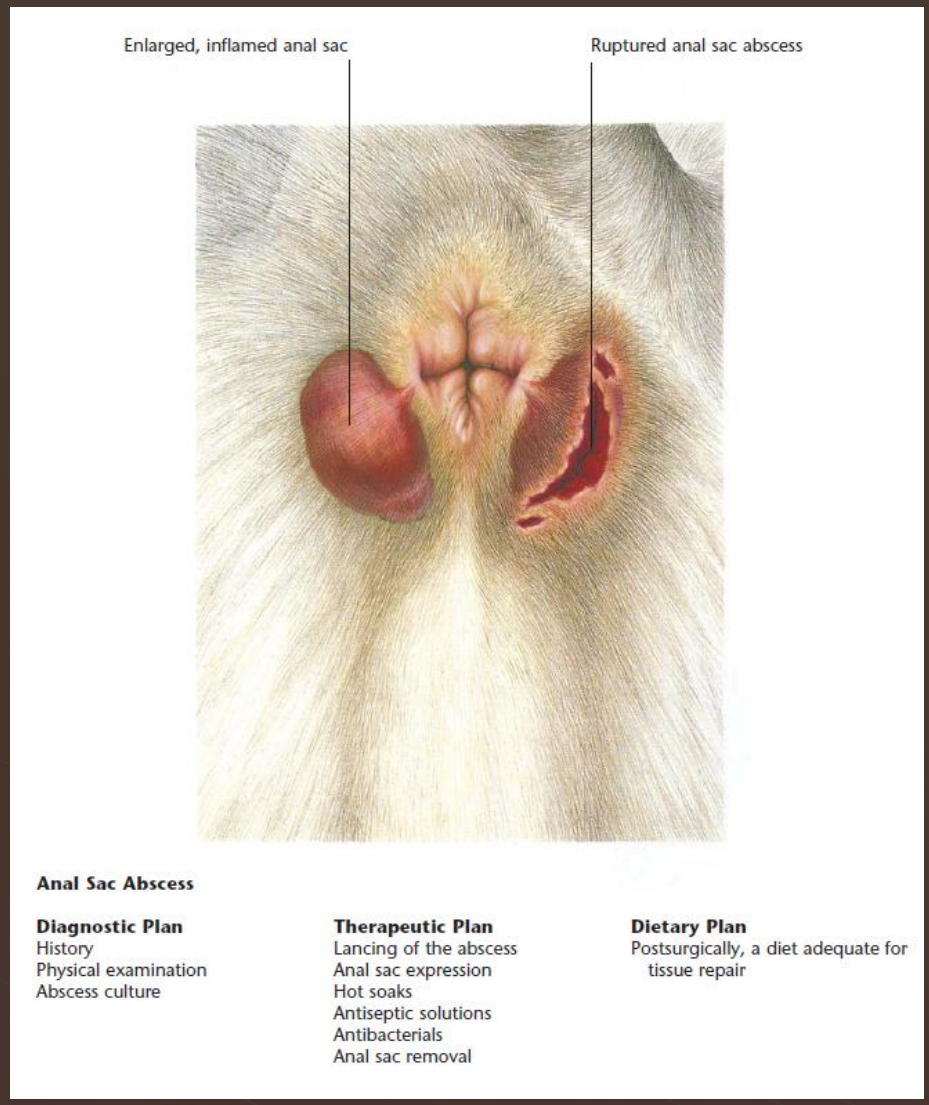


FIGURE 3A-7 Right view of the canine thoracic and abdominal cavities and pelvis (male).





Anal Sac Abscess

Diagnostic Plan
History
Physical examination
Abscess culture

Therapeutic Plan
Lancing of the abscess
Anal sac expression
Hot soaks
Antiseptic solutions
Antibacterials
Anal sac removal

Dietary Plan
Postsurgically, a diet adequate for tissue repair

The anal sacs are small glands located between the internal and external anal sphincters that secrete fluids with species-specific functions. They are prone to impaction, infection, abscessation, and neoplasia, particularly in dogs and cats, requiring clinical evaluation and appropriate medical or surgical treatment.

Liver surgery in dogs and cats is challenging due to the organ's high vascularity, friable parenchyma, limited mobility, and the physiological compromise of patient. Common hepatic surgeries include liver biopsies, partial hepatectomies (removal of liver portions), and surgeries involving the biliary tract such as cholecystectomy.

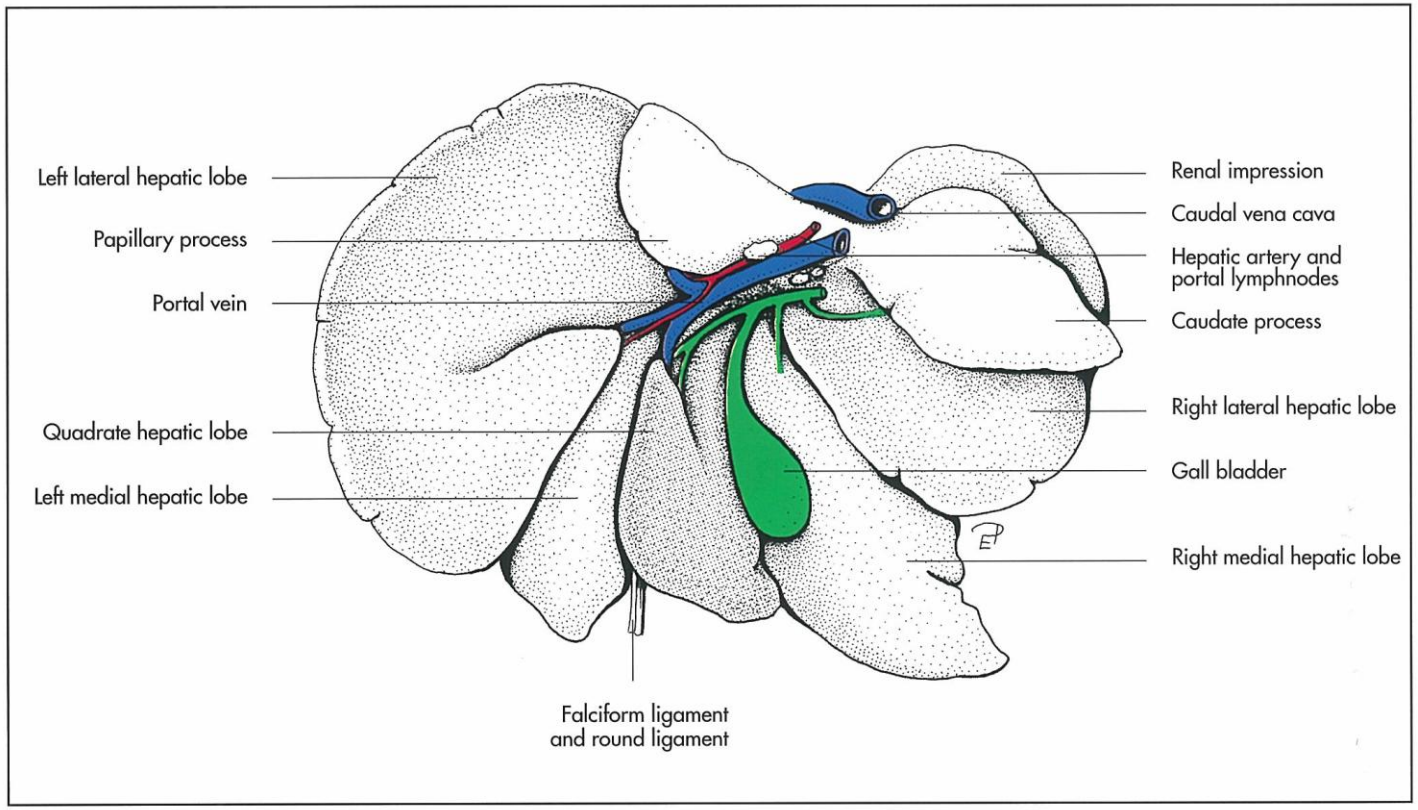


Fig 7-97. Liver of the dog, schematic, visceral surface.

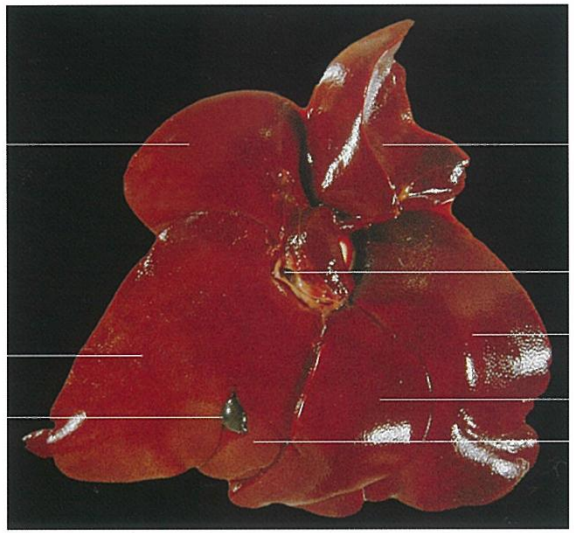


Fig 7-101. Liver of a cat, diaphragmatic surface (König, 1992).

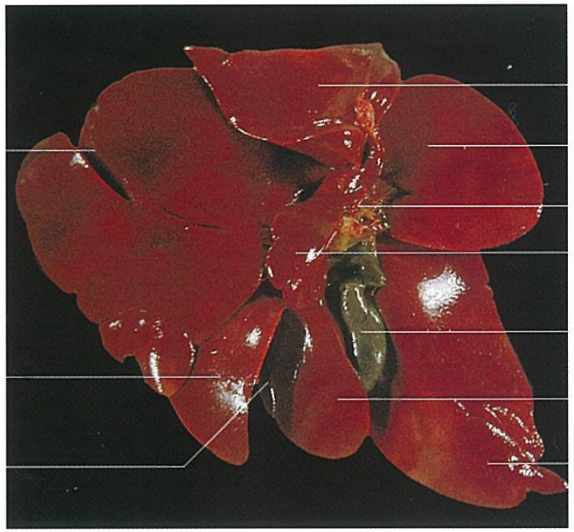


Fig 7-102. Liver of a cat, visceral surface (König, 1992).

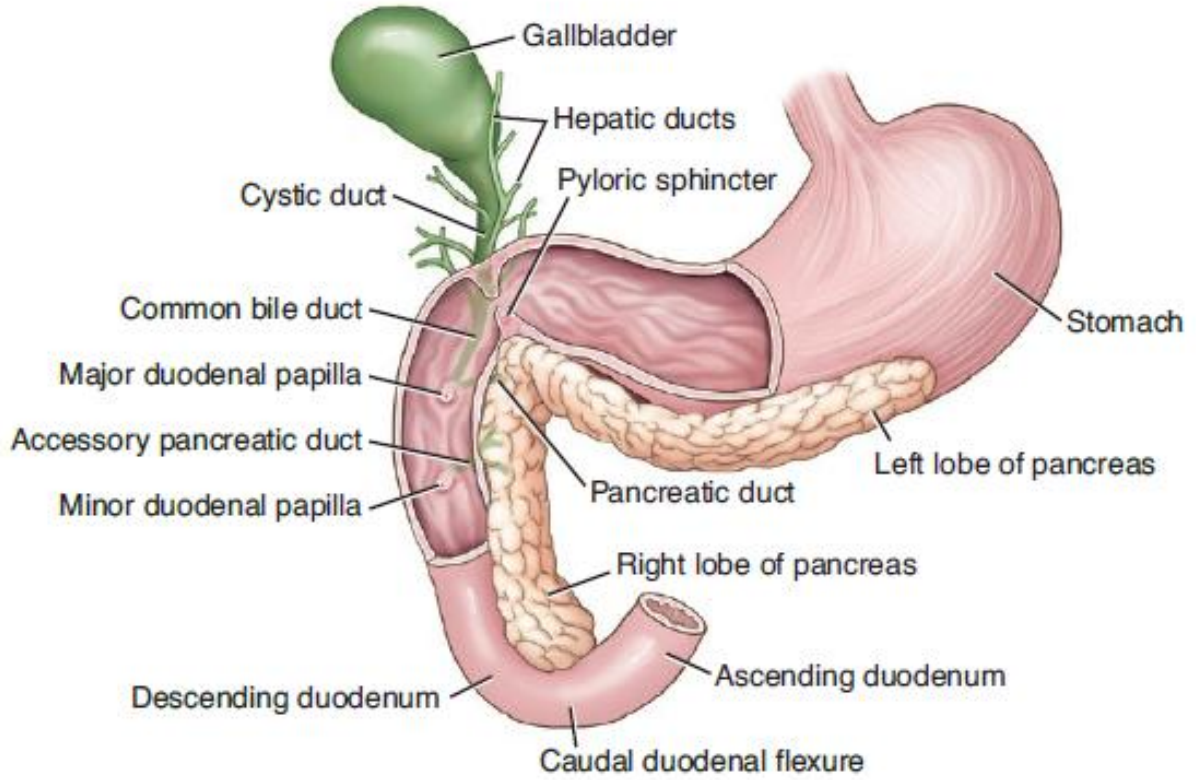


FIGURE 5.2-2 Normal canine anatomy of the extrahepatic biliary system and pancreas.

This anatomic difference in the pancreatic ducts between dogs and cats is thought to play a role in the pathophysiology of "triaditis" in cats. It has been postulated that cholangitis/cholangiohepatitis may occur in cats with inflammatory bowel disease secondary to reflux of enteric bacteria into the common bile duct. Pancreatitis may result from bacterial reflux into the pancreatic duct or from pancreatic duct obstruction secondary to cholangitis.

"Triaditis" is the term used to describe concurrent inflammation of the pancreas, liver and small intestines. Triaditis has been reported in 50 to 56% of cats diagnosed with pancreatitis and 32 to 50% of thos with cholangitis/inflammatory liver disease.

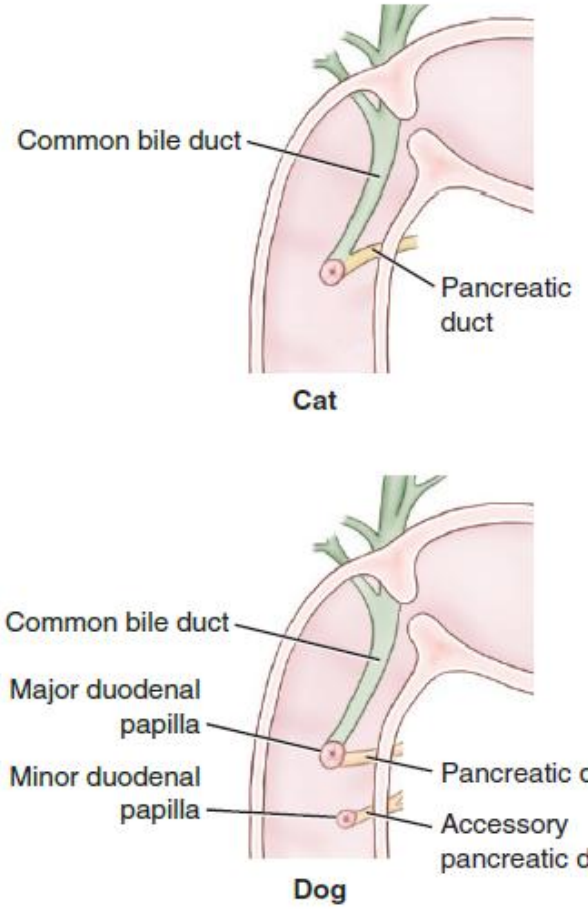
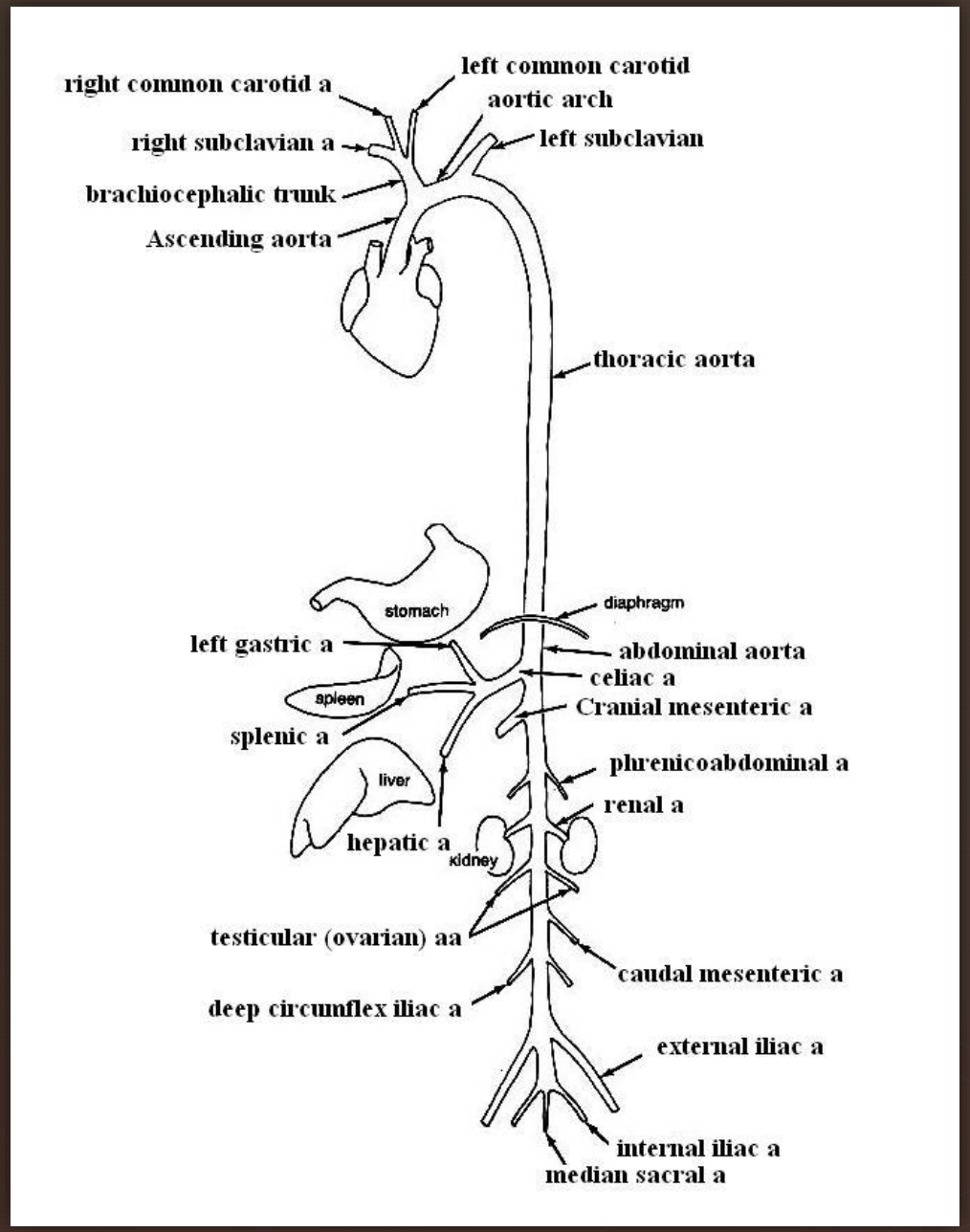


FIGURE 5.2-3 Pancreatic and bile ducts of the dog and cat.

Vessels Of Abdominal Cavity



Abdominal aorta

- Phrenicoabdominal aa. *(supply the diaphragmatic structures and the abdominal wall)*
- Lumbar aa. *(supply the tissue and structures of the back)*
- Celiac a. *(supplies the liver, spleen, and stomach with the named arteries)*
  - Left gastric a.
  - Hepatic a.
    - Hepatic branches
    - Right gastric a.
    - Gastroduodenal a.
    - Cranial pancreaticoduodenal a.
    - Right gastroepiploic a.
  - Splenic a.
    - Pancreatic branches
    - Short gastric aa.
    - Left gastroepiploic a.
- Cranial mesenteric a. *(supplies intestinal tract)*
  - Caudal pancreaticoduodenal a.
  - Jejunal aa.
  - Ileal aa.
  - Ileocolic a.
    - Middle colic a.
    - R. colic a.
    - Cecal aa.
- Renal aa. *(supply the kidneys)*
- Testicular *(ovarian)* aa. *(supply testes or ovaries)*
- Caudal mesenteric a. *(supplies intestinal tract)*
  - Left colic a.
  - Cranial rectal a.
- Deep circumflex iliac aa. *(supply flank region)*
- External iliac aa. *(supply hindlimb)*
- Internal iliac aa. *(supply pelvic wall and pelvic viscera)*
- Median sacral a. *(supplies tail)*
  - Lumbar a. VI
- Median caudal a.

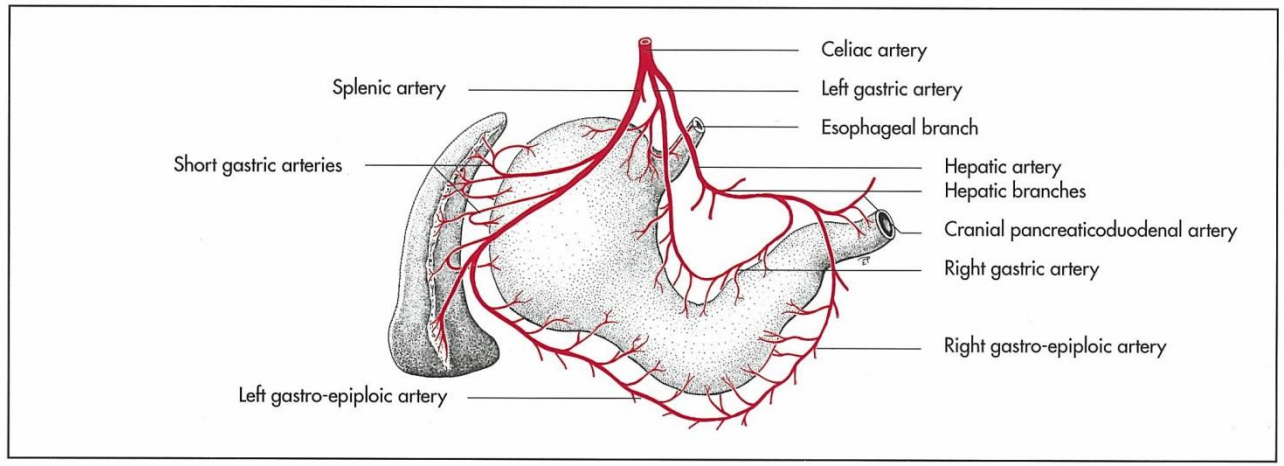


Fig. 12-33. Celiac artery of the dog, schematic.

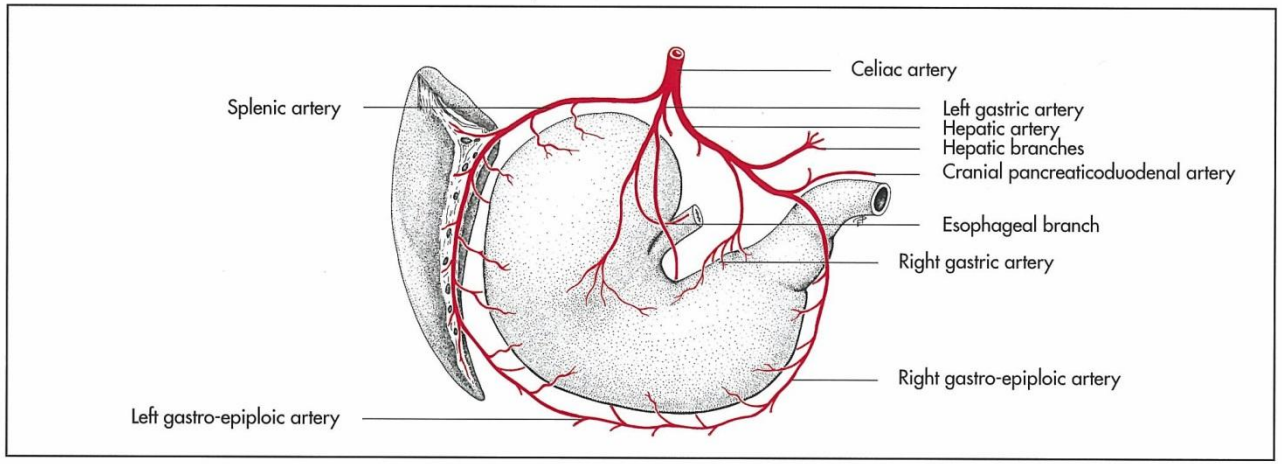
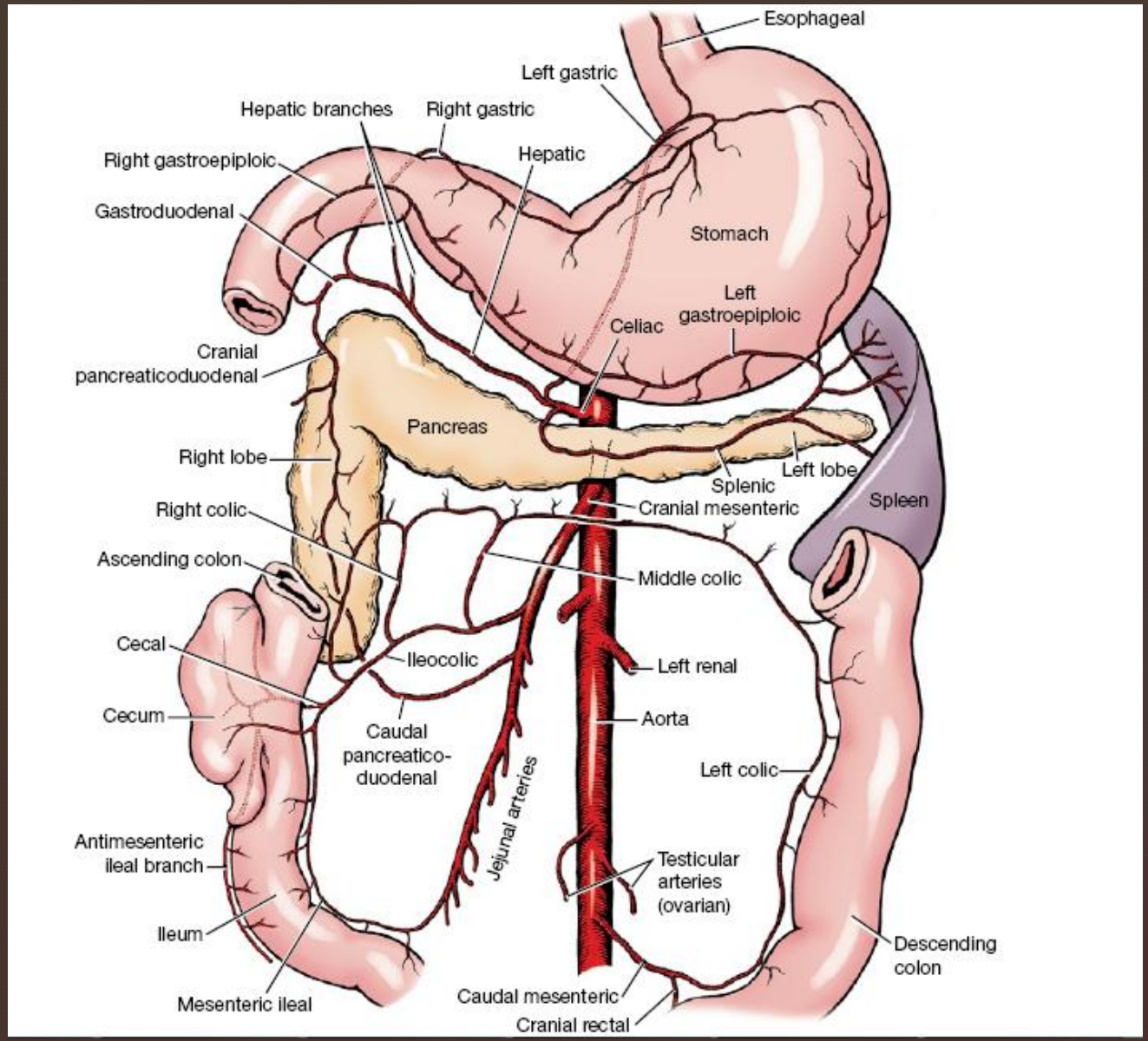
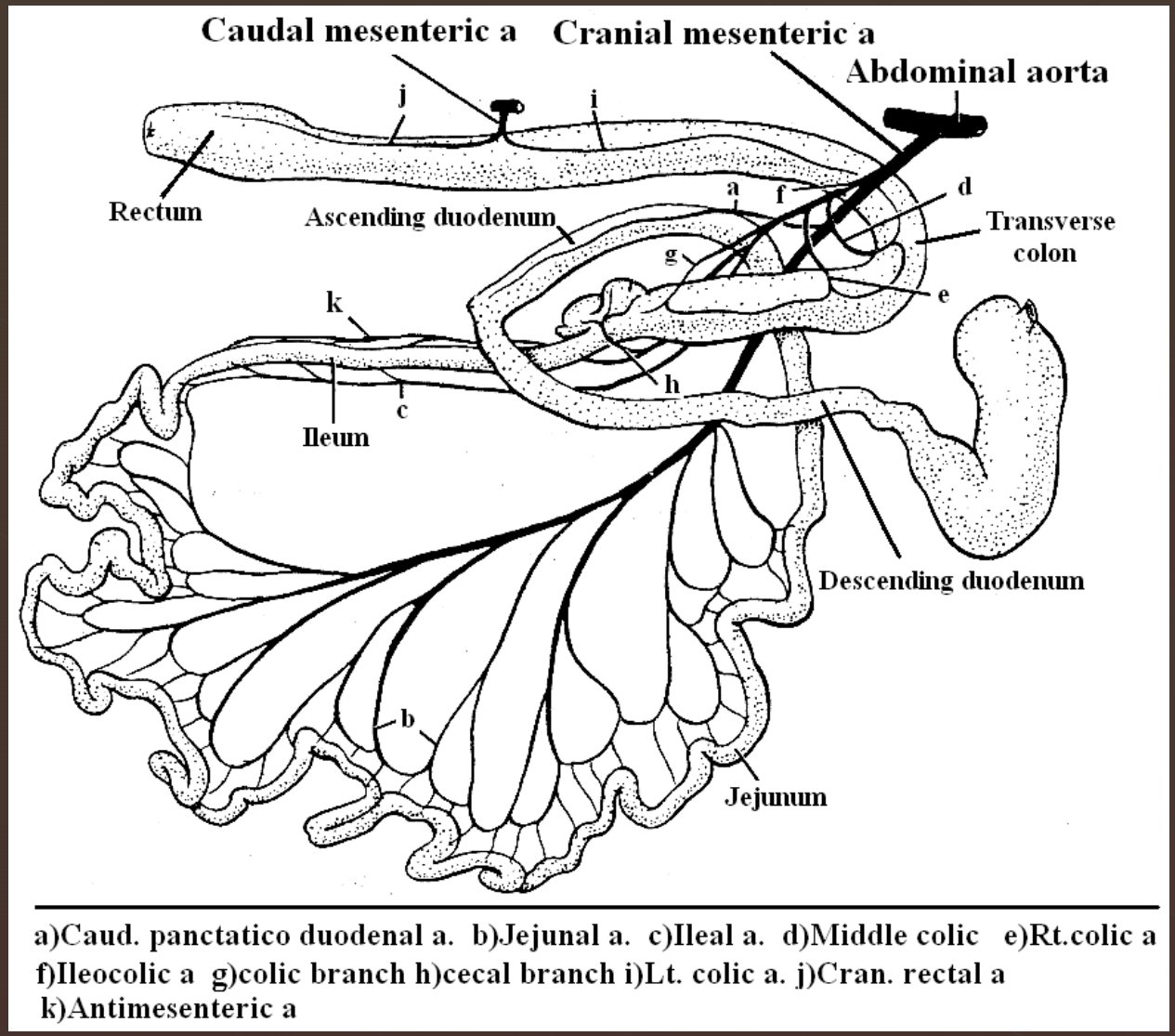


Fig. 12-34. Celiac artery of the horse, schematic.


Esophageal
Left gastric
Hepatic branches
Right gastric
Hepatic
Right gastroepiploic
Gastroduodenal
Stomach
Left gastroepiploic
Celiac
Cranial pancreaticoduodenal
Pancreas
Right lobe
Left lobe
Splenic
Spleen
Right colic
Cranial mesenteric
Ascending colon
Middle colic
Cecal
Ileocolic
Left renal
Cecum
Aorta
Caudal pancreatico-duodenal
Left colic
Jejunal arteries
Antimesenteric ileal branch
Testicular arteries (ovarian)
Ileum
Descending colon
Mesenteric ileal
Caudal mesenteric
Cranial rectal



a)Caud. panctatico duodenal a. b)Jejunal a. c)Ileal a. d)Middle colic e)Rt.colic a f)Ileocolic a g)colic branch h)cecal branch i)Lt. colic a. j)Cran. rectal a k)Antimesenteric a

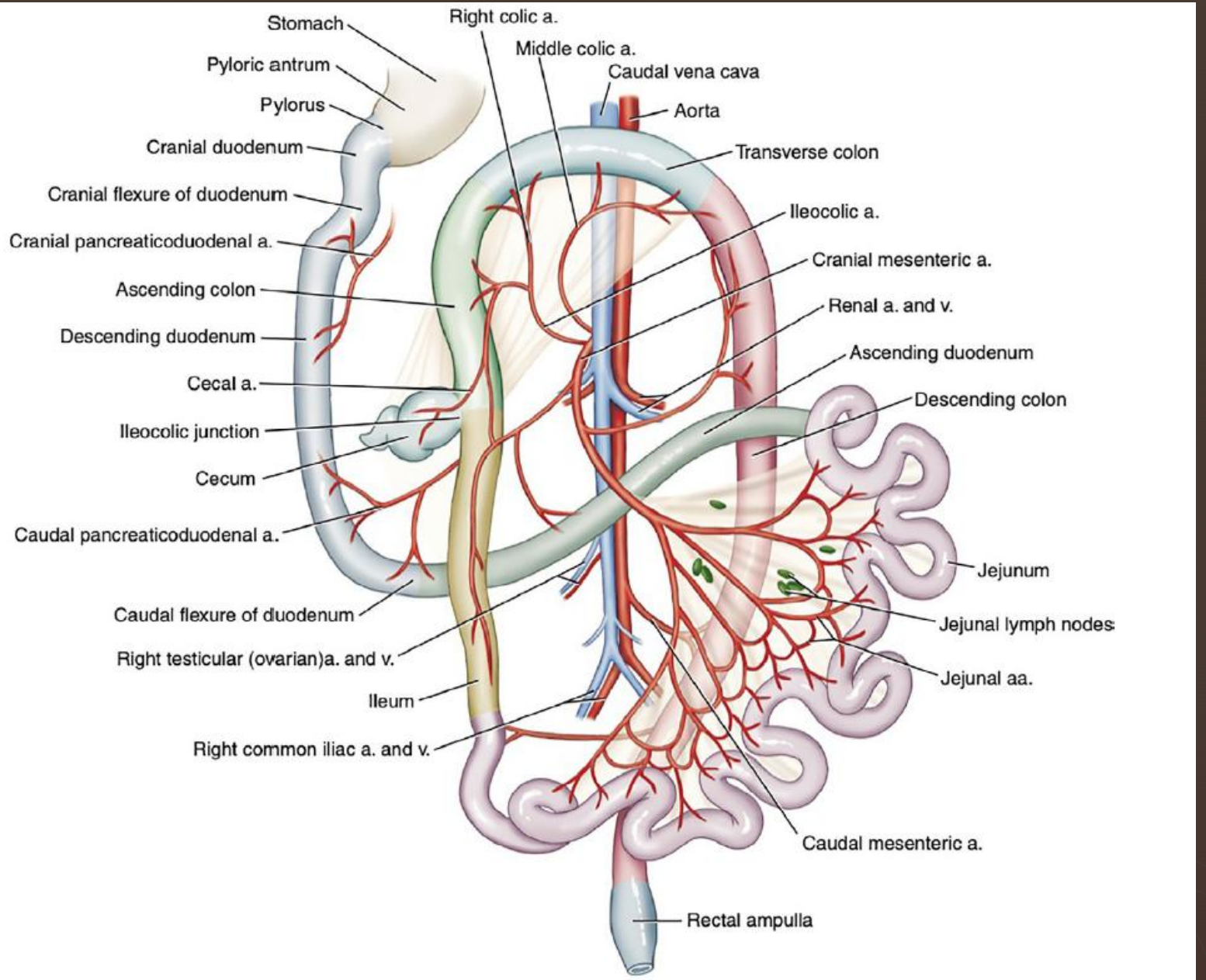
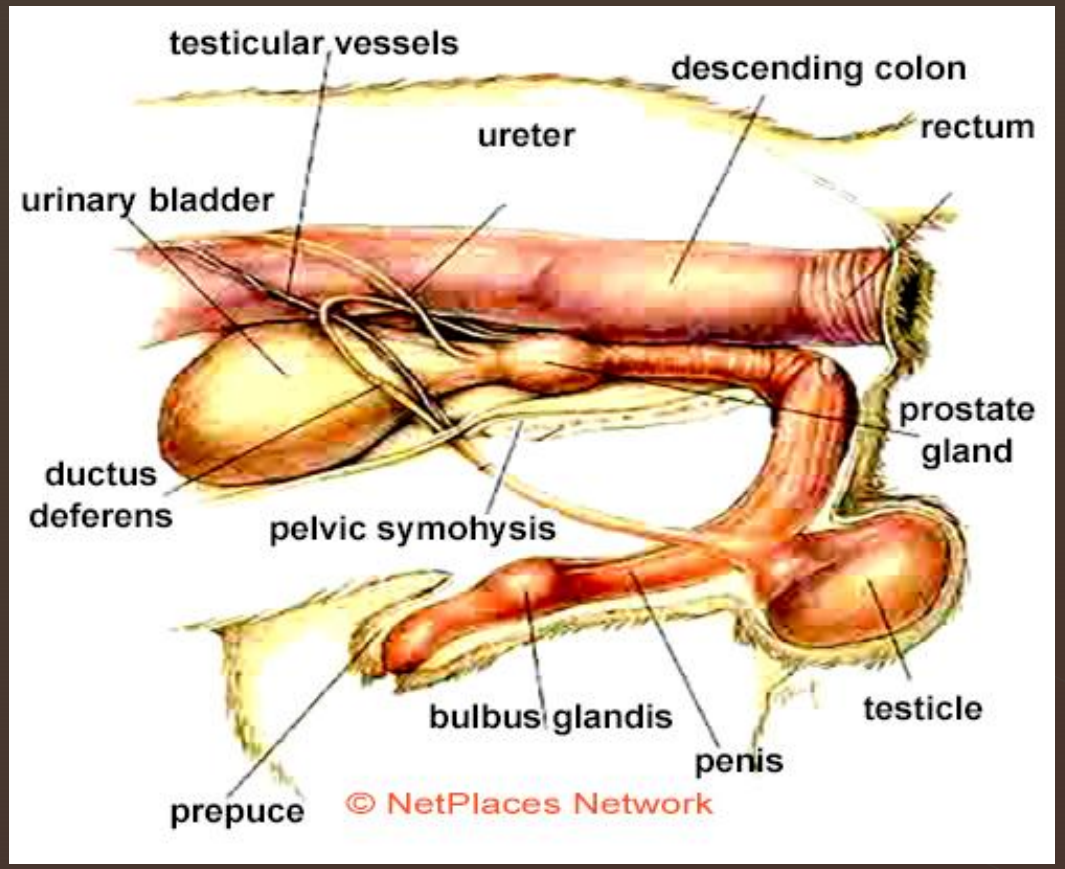
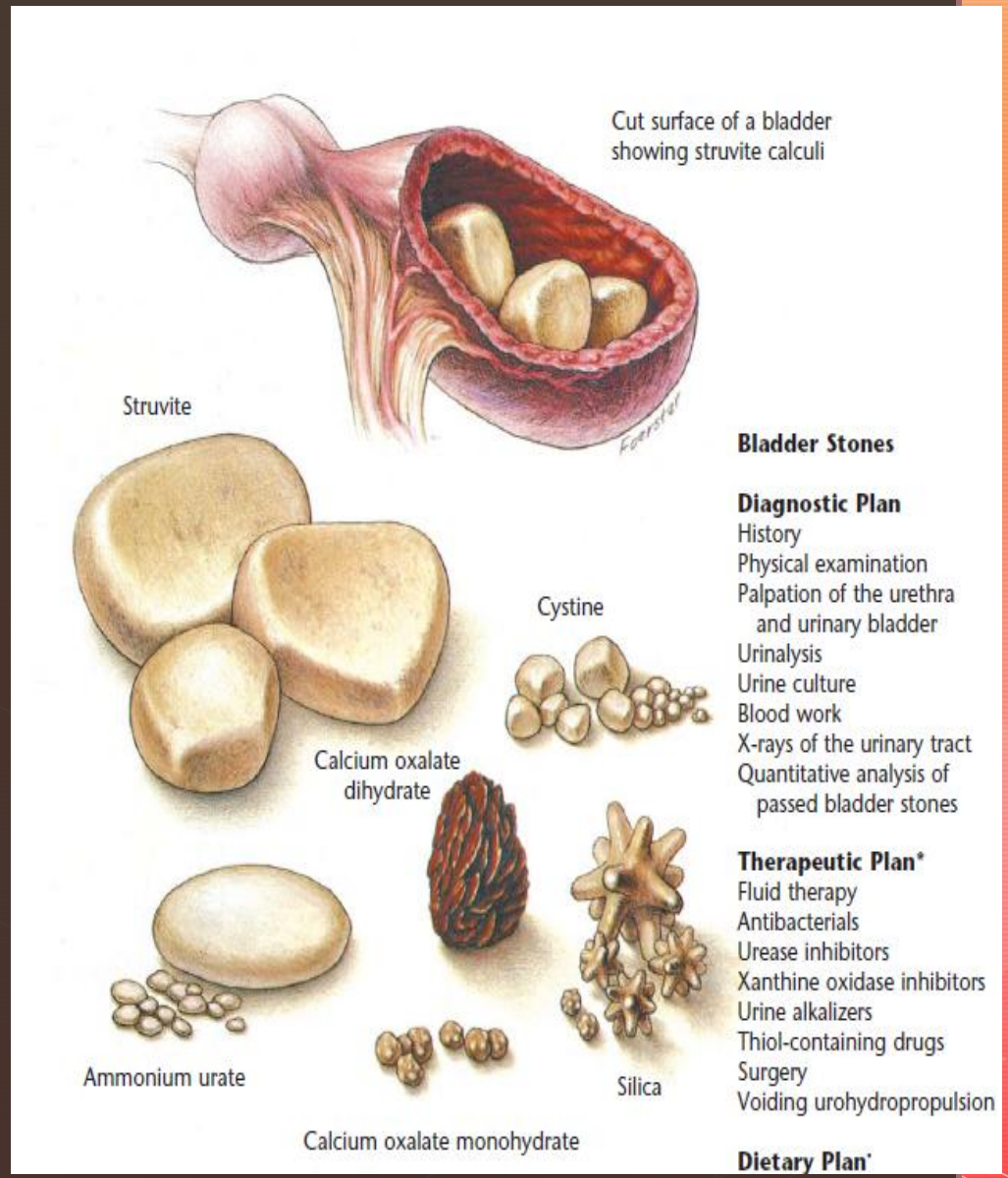


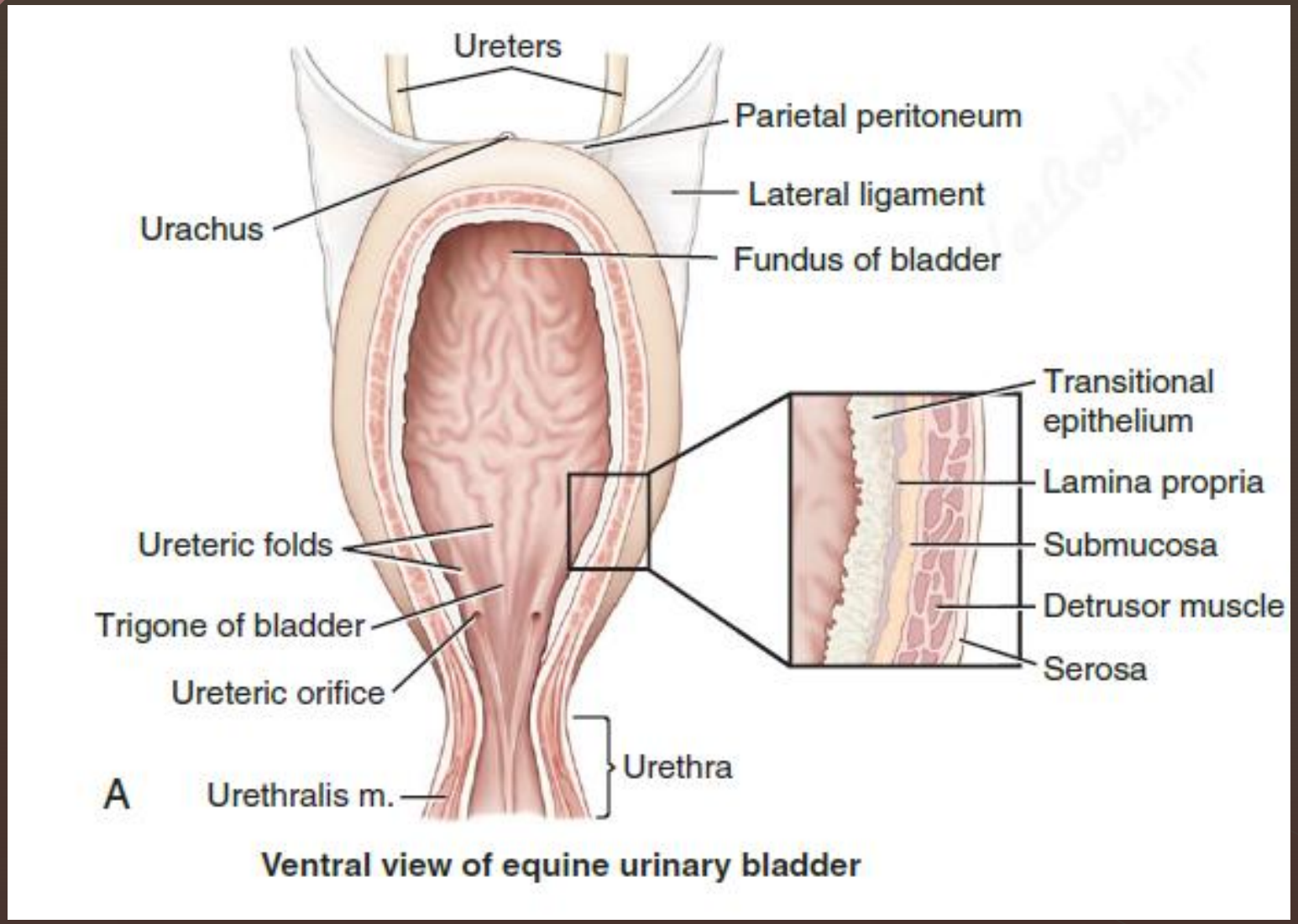
FIGURE 5.6-2 Dog intestinal tract demonstrating arterial supply, formation of the caudal vena cava, and the various segments comprising the gastrointestinal tract (each a different color to highlight the various sections).

Urinary stones are most commonly found in the lower urinary tract (bladder and urethra) in both male and female dogs. Only a small percentage of stones are located in the kidneys or ureters

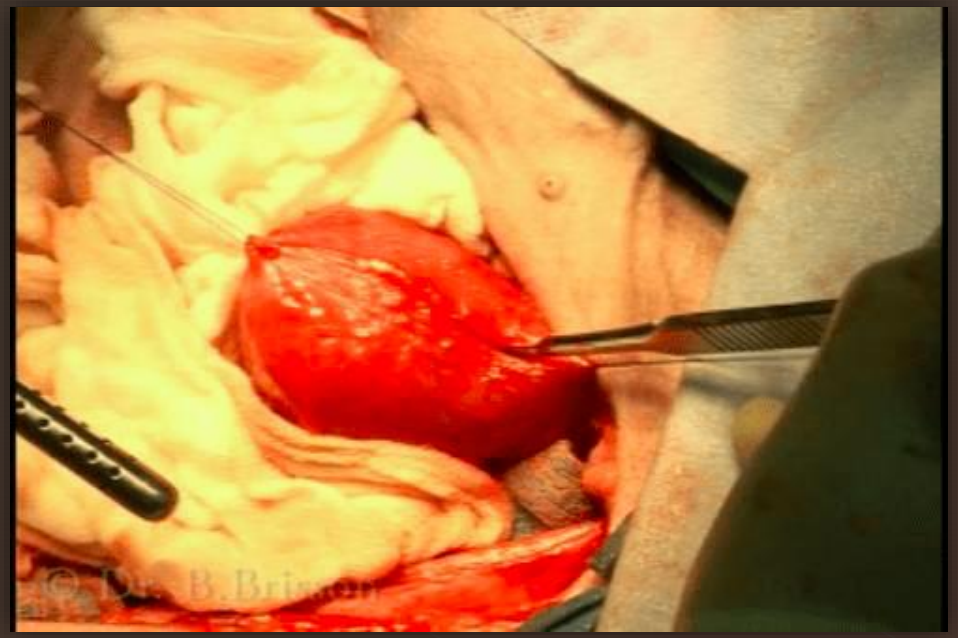


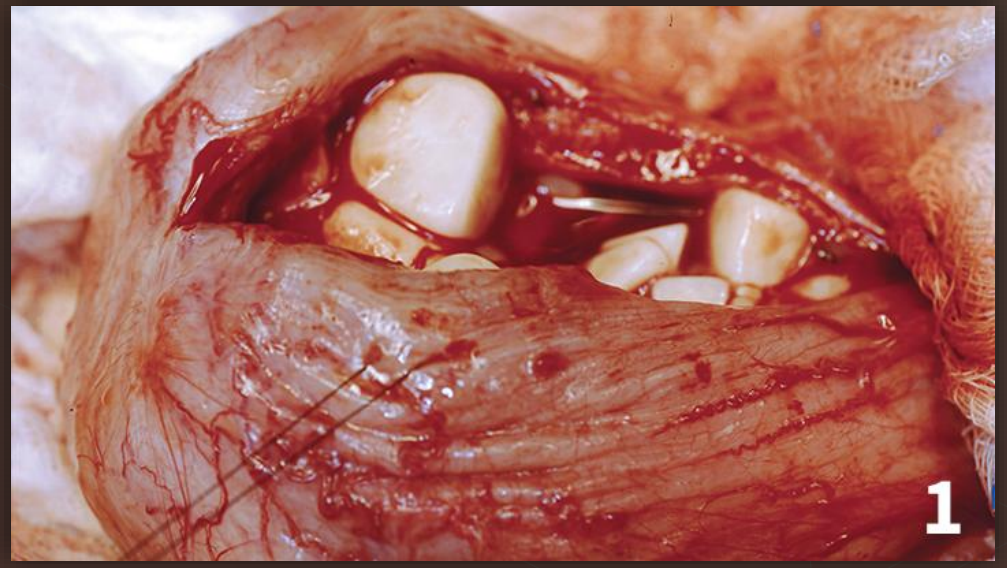


Urinary stones are most commonly found in the lower urinary tract (bladder and urethra) in both male and female dogs. Only a small percentage of stones are located in the kidneys or ureters



Ventral view of equine urinary bladder





It is recommended to perform a 3-4 cm ventral, midline cystotomy incision that extends towards the trigone but not closer than 1-2 cm from the urethra

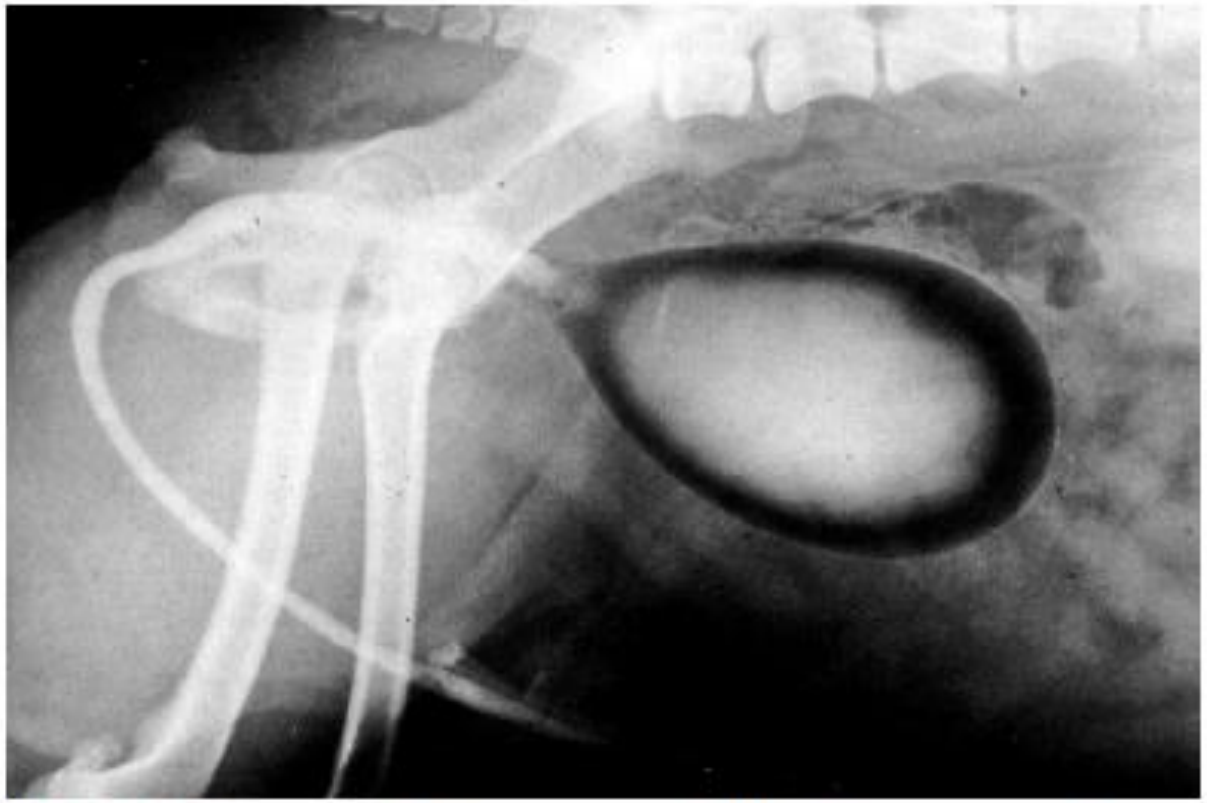
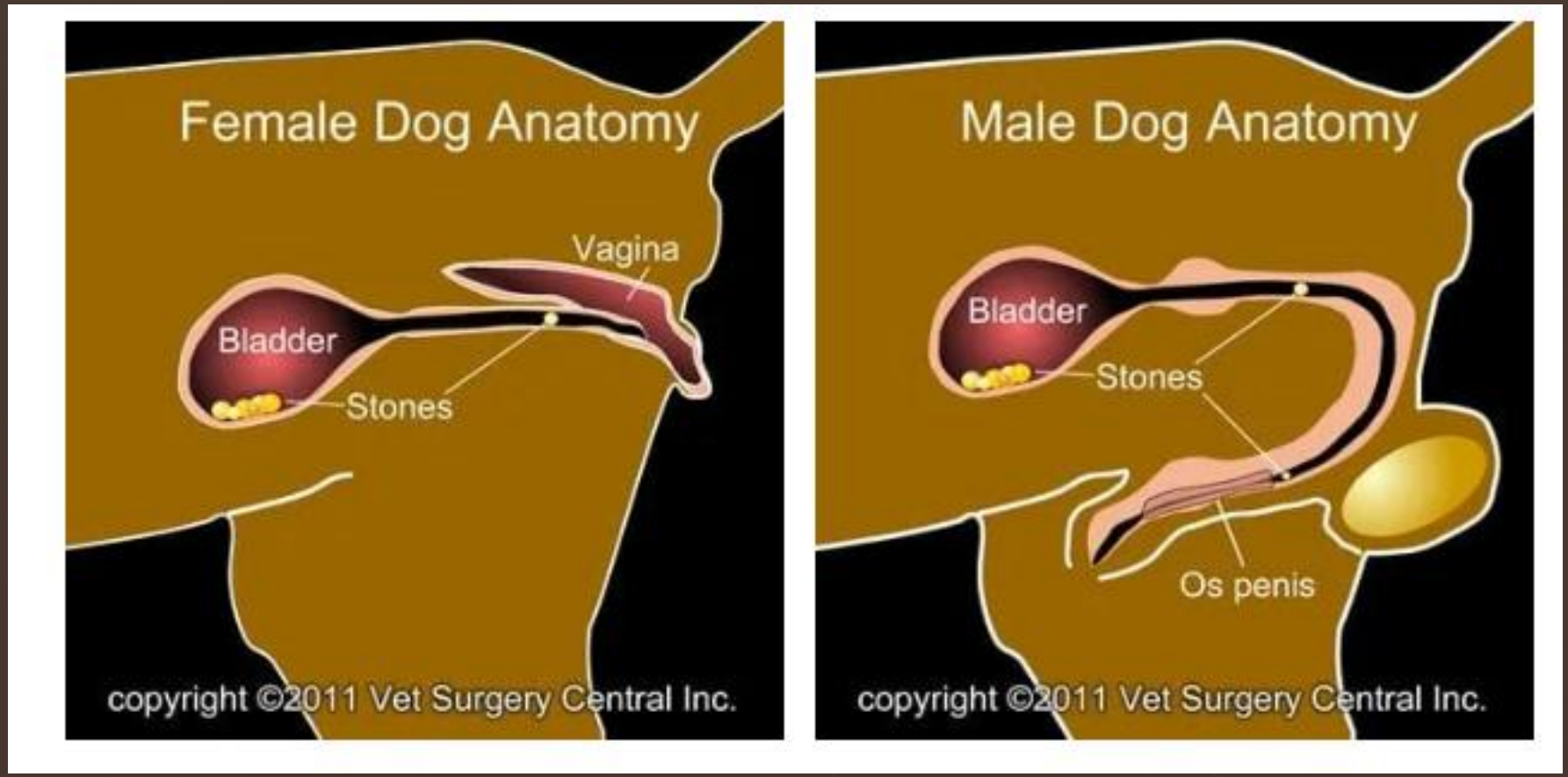
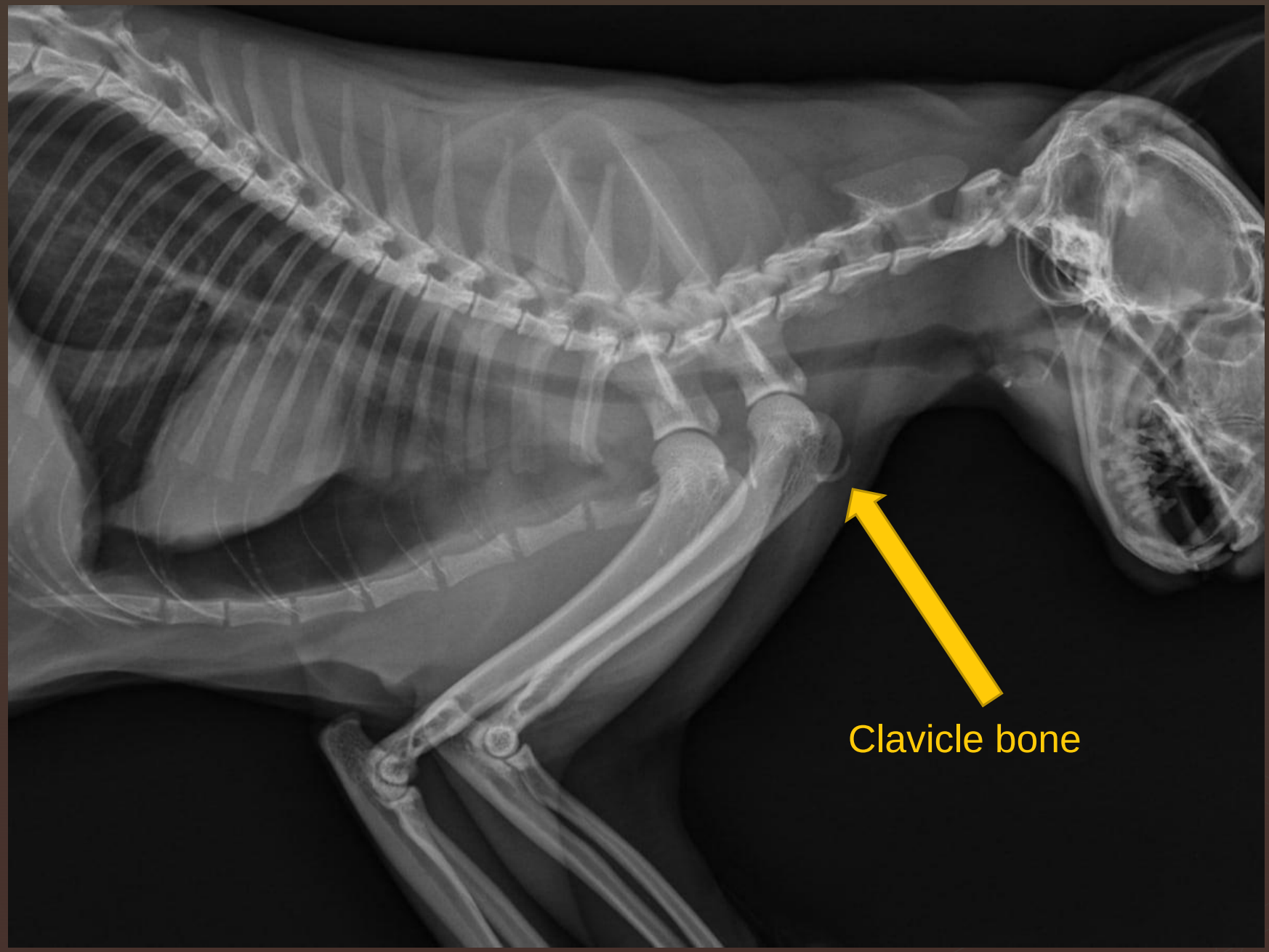


FIGURE 9-17 Lateral contrast radiograph of the bladder and urethra in the male.



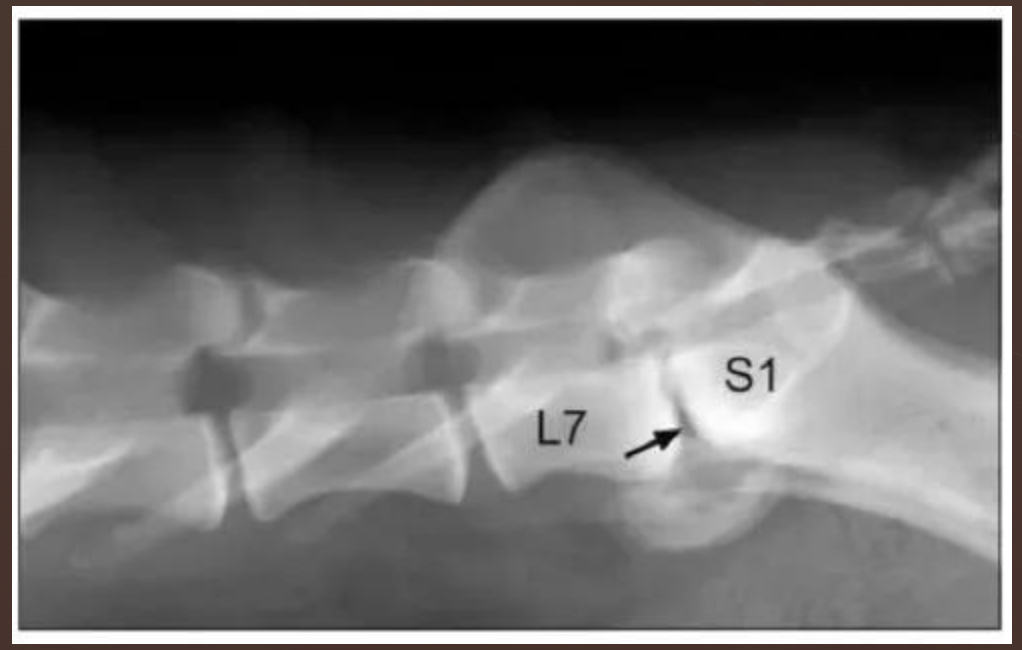
The common location of obstruction in the urethra in dogs is at the level of the ischial arch and just caudal to the os penis. The ischial arch is a region of reduced diameter and curvature in the urethra, making it a frequent site for urinary calculi to become lodged. The os penis, a bone located in the penis of male dogs, further narrows the diameter of the urethra, increasing the likelihood of small stones becoming stuck at this location.


Clavicle bone

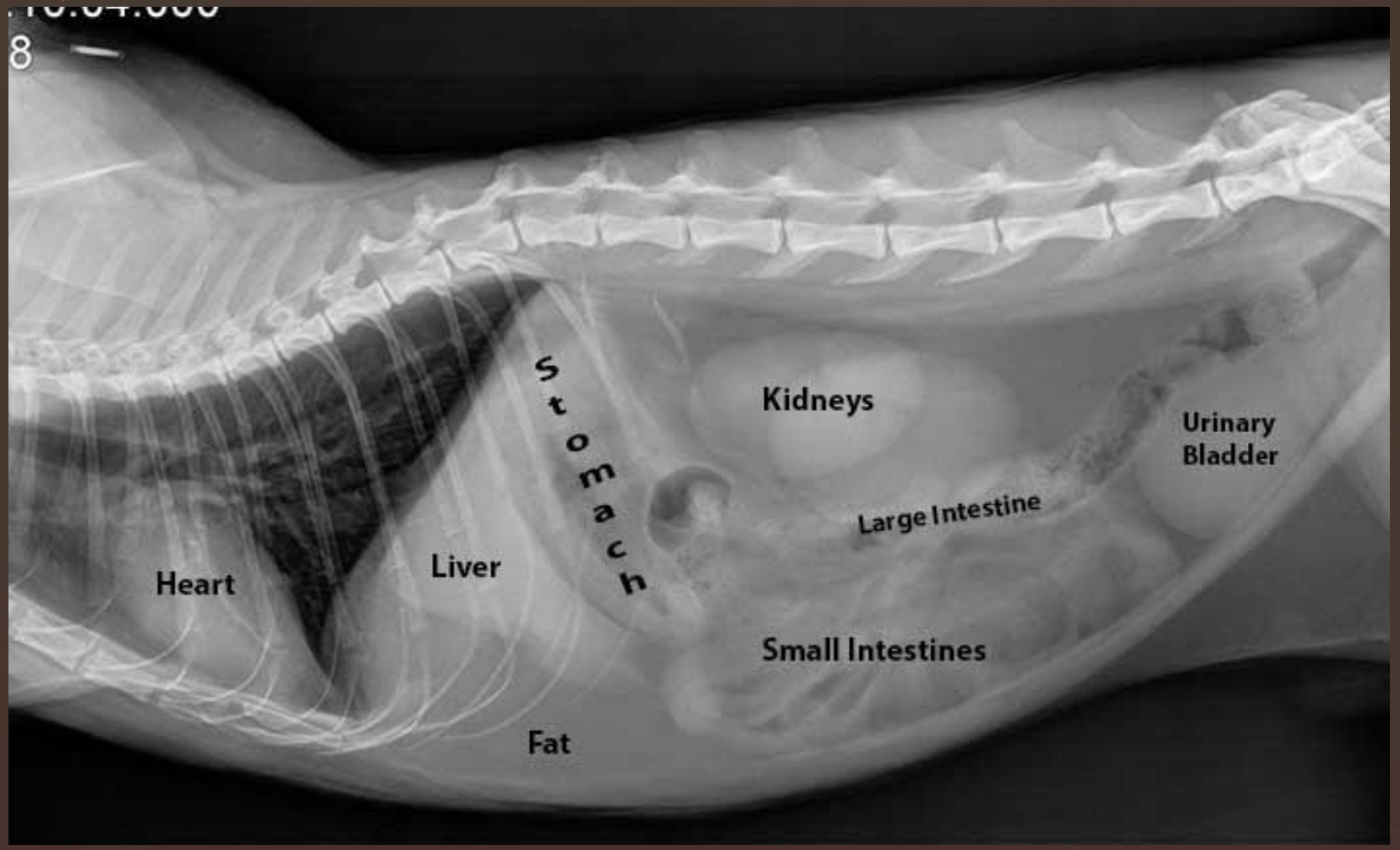
Cat

dog

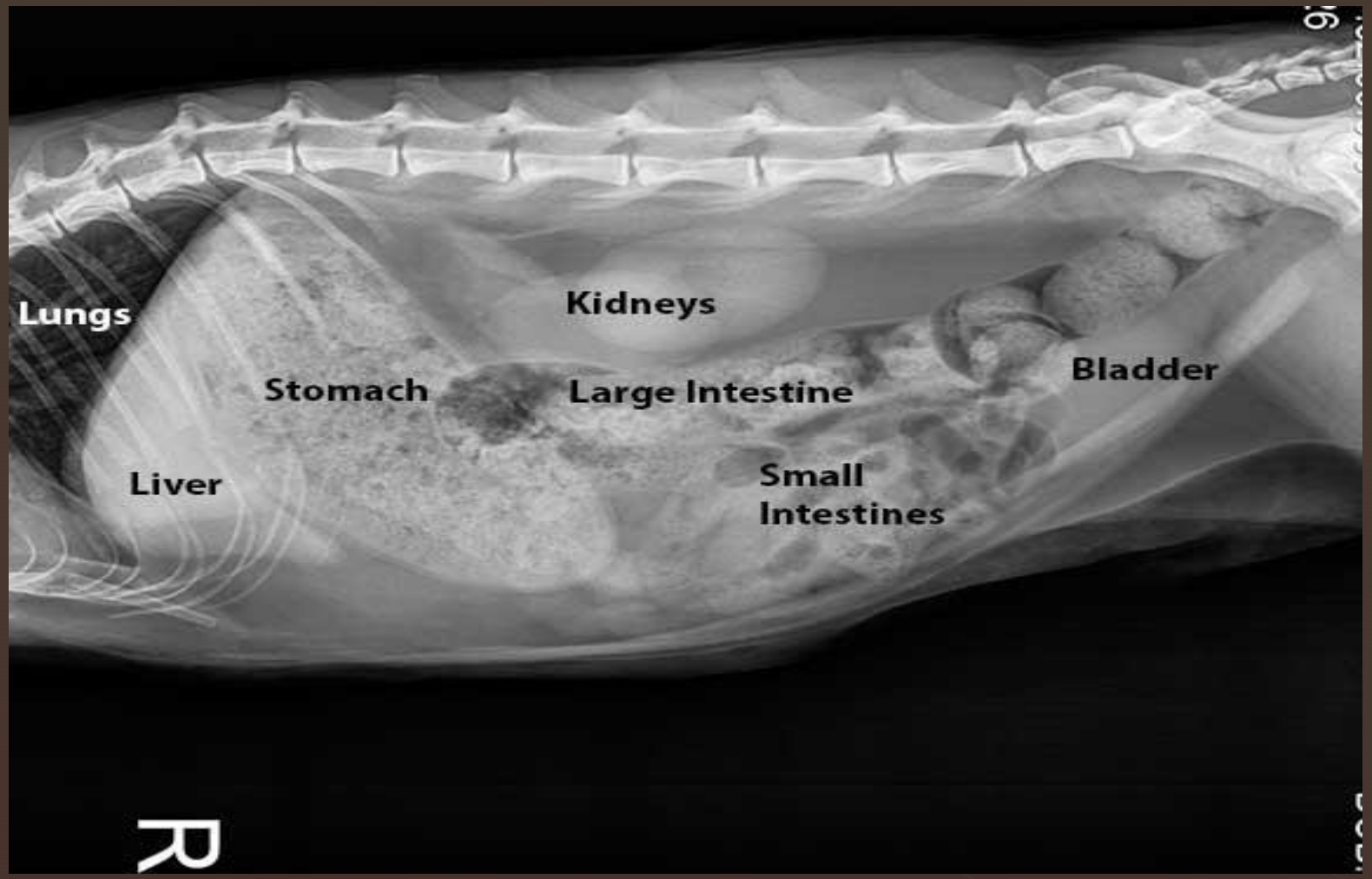
Cat



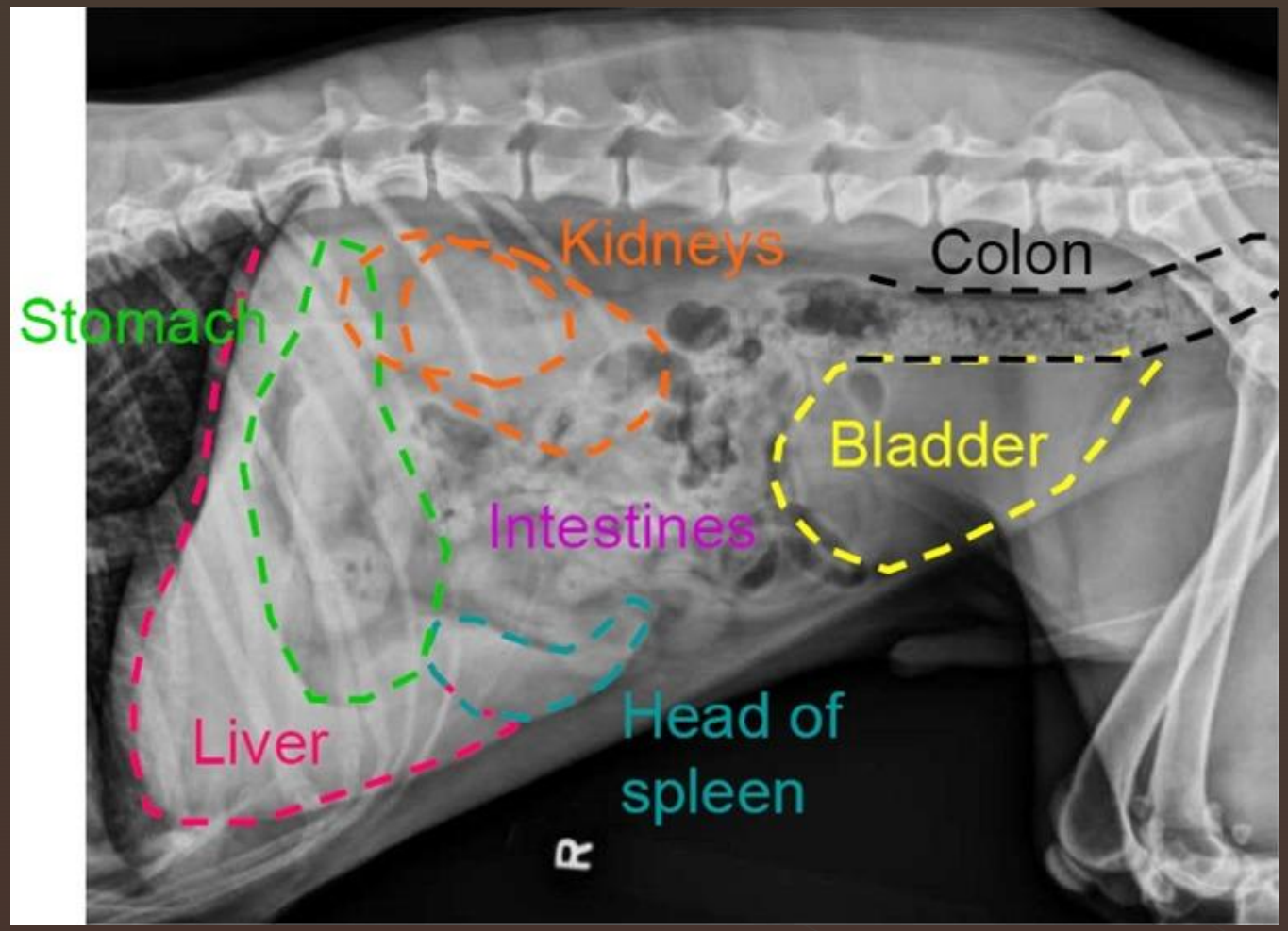
dog



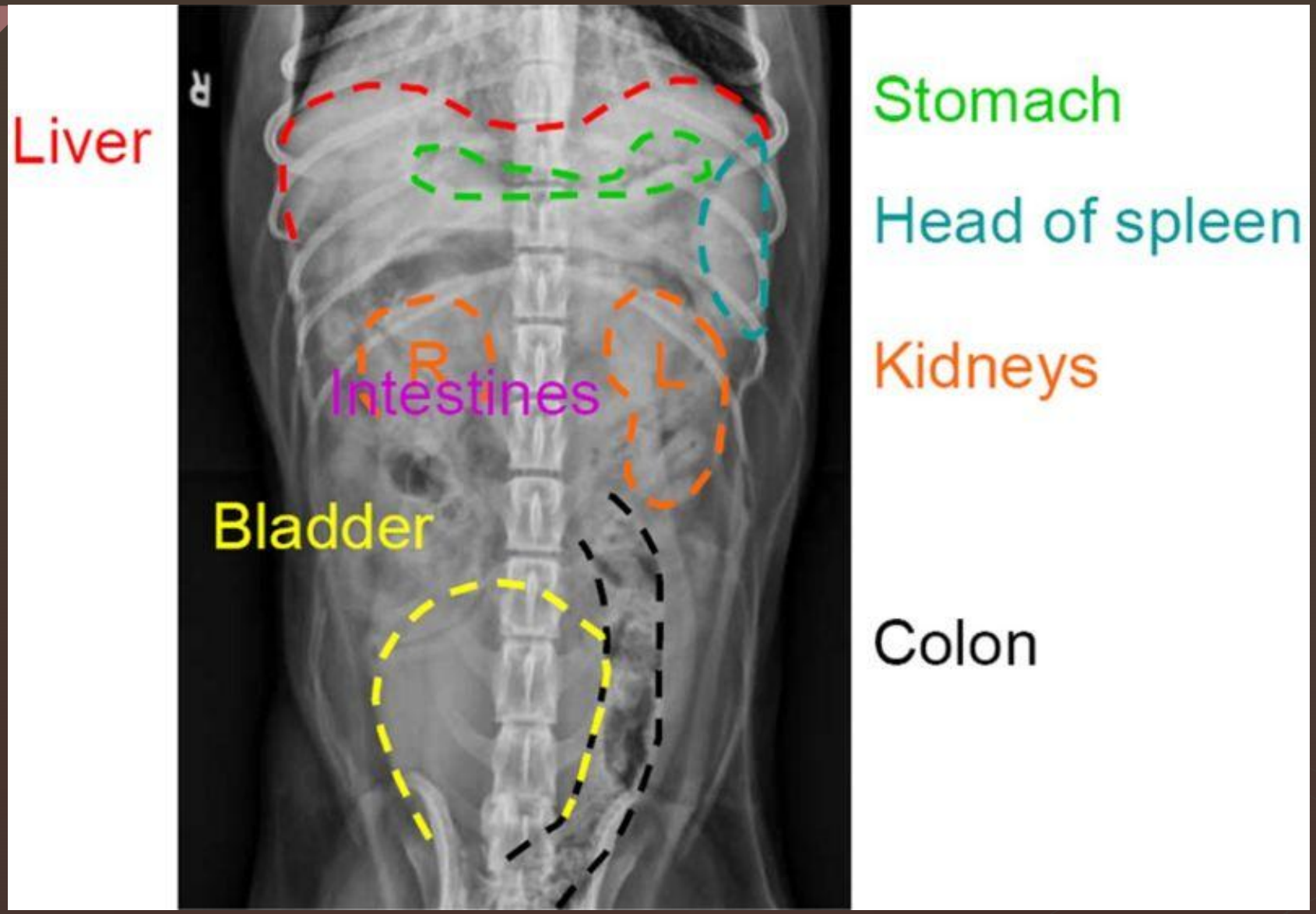
Here is another normal cat abdominal and chest radiograph, this time with an empty stomach



The stomach has food in it, and the large intestine contains feces.



•In dogs, the spleen is usually large enough to be identified on both lateral and ventrodorsal (VD) abdominal radiographs, often visible as a soft tissue structure along the left body wall.
•In cats, the spleen is smaller, often not visible on lateral radiographs and only occasionally seen on VD views. If the feline spleen is visible on both views, enlargement should be suspected.


Liver
R
Stomach
Head of spleen
R
L
Intestines
Kidneys
Bladder
Colon

Stomach VD view:

Cat stomach

antrum & pylorus

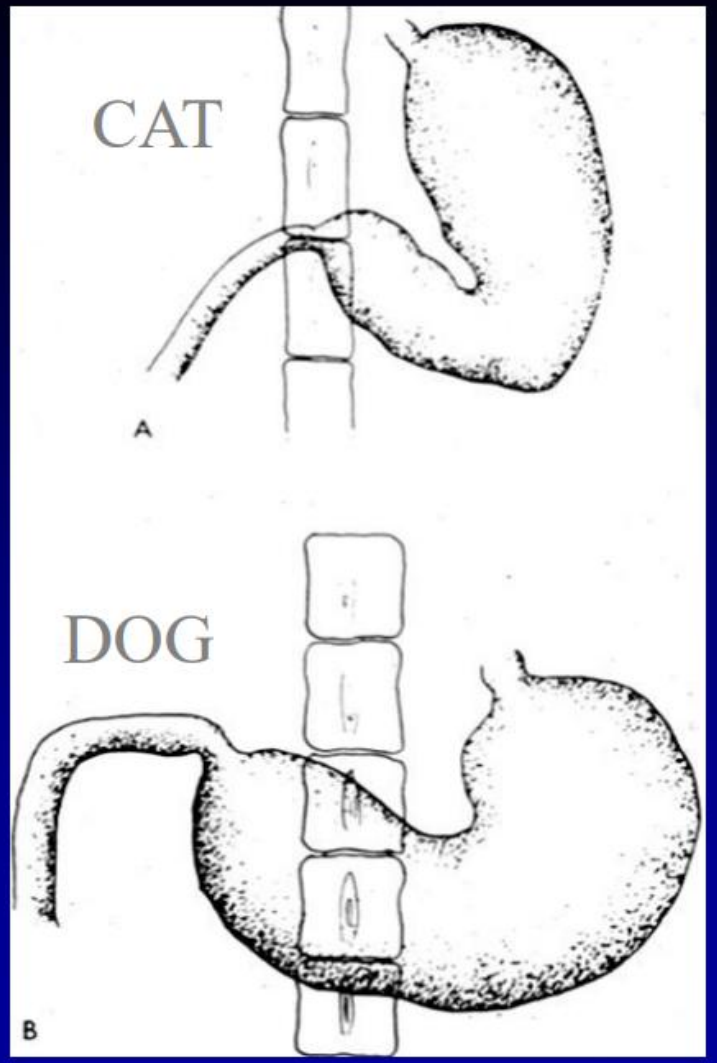
on midline

-vs-

Dog stomach

antrum & pylorus

right of midline



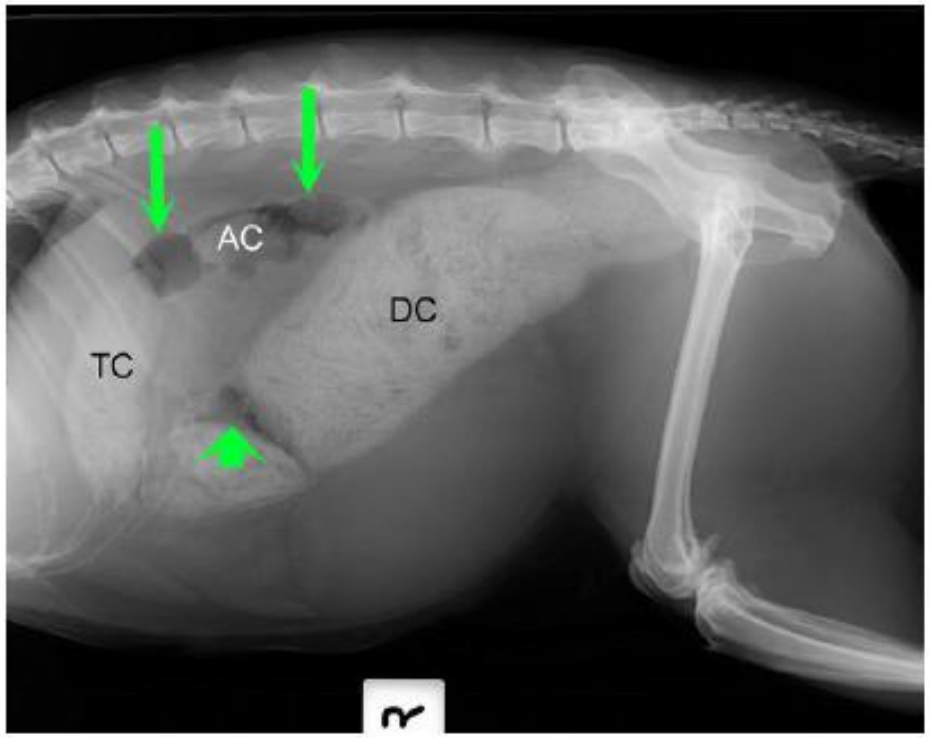


FIGURE 5.7-1 Right lateral radiograph of the cat in this case. The colon is markedly distended with digesta/feces from transverse colon (TC) to rectum (superimposed by the pelvis). Note the accumulation of gas *(arrows)* in the ascending colon (AC) oral, yet caudal, to the fecal impaction. There is also a gas pocket *(arrowhead)* in the proximal third of the descending colon (DC).

•**Umbilical hernia**: The most common type in both species, especially congenital in puppies and kittens. It appears as a soft swelling near the navel and may close spontaneously or need surgery.

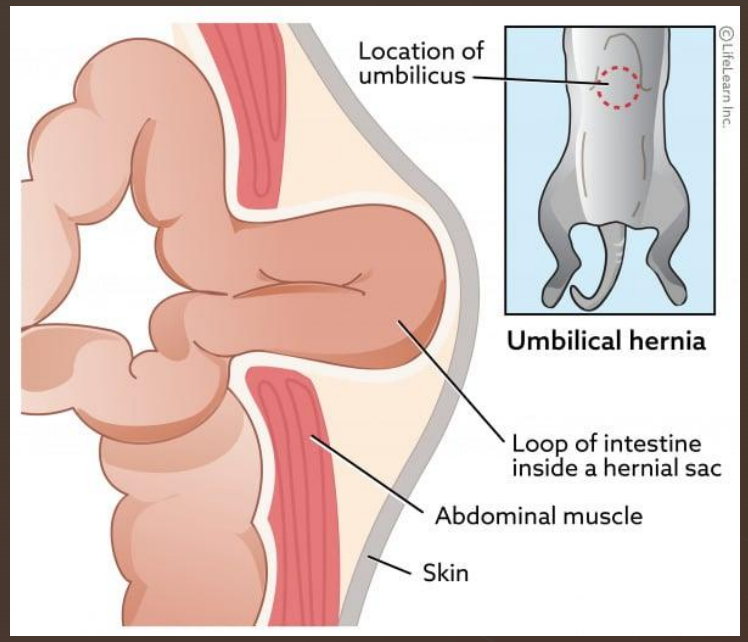
•**Inguinal hernia**: Occurs in the groin area, more frequent in female dogs, especially those pregnant or with multiple litters. Rare in cats and neutered males. It may involve intestines or reproductive organs.

•**Diaphragmatic hernia**: A defect in the diaphragm allows abdominal organs into the chest cavity, often caused by trauma or congenital defects. It is less common but serious.

•**Hiatal hernia**: A type of diaphragmatic hernia where the stomach protrudes through the esophageal opening; mostly internal and less frequent.

•**Perineal hernia**: Mainly affects older intact male dogs, causing swelling near the anus; rare in cats.

In summary, umbilical and inguinal hernias are the most frequent abdominal hernias in dogs and cats, with diaphragmatic and perineal hernias less common but clinically important. Frequency depends on species, breed, sex, age, and trauma history


Location of umbilicus
Umbilical hernia
Loop of intestine inside a hernial sac
Abdominal muscle
Skin
©LifeLearn Inc.

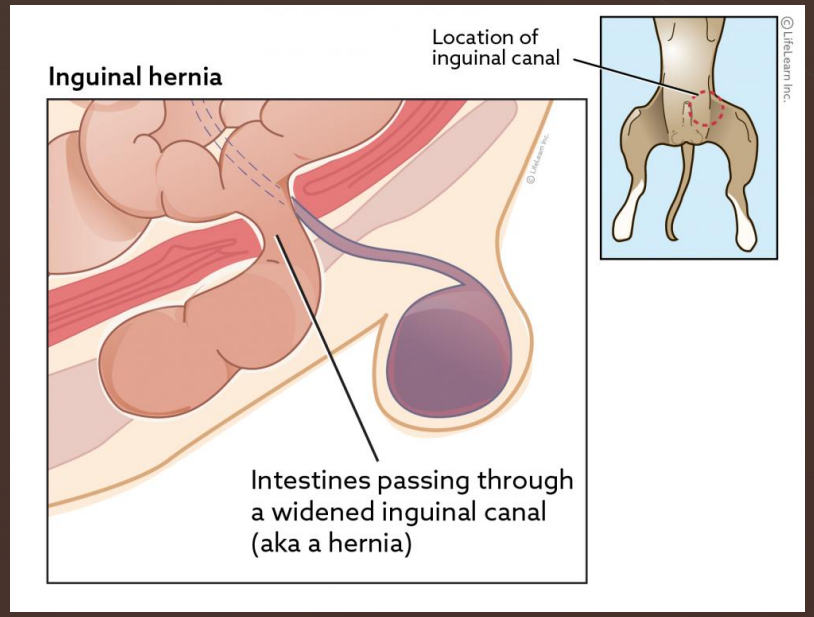

Inguinal hernia
Location of inguinal canal
Intestines passing through a widened inguinal canal (aka a hernia)
©LifeLearn Inc.

FIGURE 5.8-1 Lateral radiograph of the cat described in this case, depicting herniation of small intestine through the abdominal wall. Both the small intestine and the colon contain digesta/feces and gas, making it easy to see the herniated loops of small intestine under the skin ventral to the body wall on this lateral projection. (The hernia was located on the right lateral abdominal wall, but the herniated bowel assumed a more ventral position in this view because the cat was lying in right lateral recumbency.)

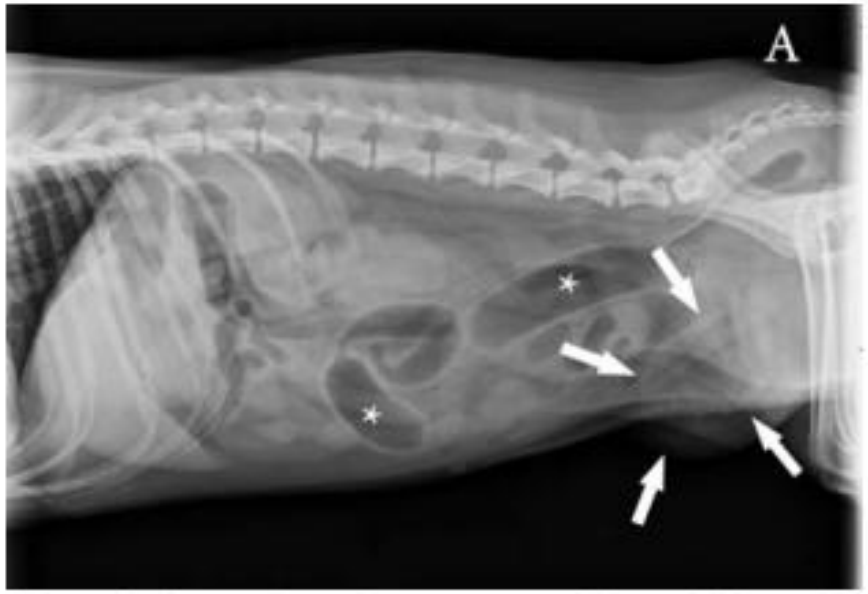


Figure 2—Same radiographic images as in Figure 1. Notice the heterogeneous soft tissue swelling in the left inguinal region (arrows). Multiple segments of small intestine are moderately distended with gas (asterisks).