

Inflammation of the Esophagus

(Esophagitis)

Basics

OVERVIEW

- Inflammation of the esophagus—typically involves the tubular area of the esophagus itself (known as the “esophageal body”) and the muscular area between the stomach and esophagus (known as the “gastroesophageal sphincter”); occasionally the muscular area between the throat or pharynx and the esophagus (known as the “cricopharyngeal sphincter”) may be involved
- Varies from mild inflammation of the superficial lining (known as “mucosa”) of the esophagus to severe ulceration, involving underlying layers including the muscle (known as “submucosa” [that is, “layer under the mucosa”] and “muscularis” [that is, “muscle”])

SIGNALMENT/DESCRIPTION OF PET

Species

- Dogs
- Cats

Mean Age and Range

- Any age; young pets with congenital (present at birth) esophageal hiatal hernia (in which a portion of the stomach enters the chest through the area where the esophagus normally passes through the diaphragm) may be at higher risk for inflammation (known as “reflux esophagitis”) secondary to backward or reverse flow of stomach contents into the esophagus
- Older pets at great risk of developing backward or reverse flow of stomach contents into the esophagus (known as “gastroesophageal reflux”) during anesthesia and then possibly inflammation of the esophagus (known as “esophagitis”)

SIGNS/OBSERVED CHANGES IN THE PET

- Regurgitation (return of food or other contents from the esophagus or stomach back up through the mouth)
- Drooling or excessive salivation
- Howling, crying, or yelping during swallowing when the pet has active inflammation of the esophagus (esophagitis)
- Extension of the head and neck during swallowing; repeated efforts to swallow
- Difficulty swallowing (known as “dysphagia”)



- Decreased or loss of appetite
- Coughing and/or discharge from the nose in pets that have aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids) or due to nose reflux (known as “nasopharyngeal reflux)
- May appear normal on physical examination
- General weakness (debilitation) with severe inflammation of the esophagus
- Inflammation and/or ulceration of the mouth and/or throat, if caustic or irritating substances have been ingested
- Fever and pain in some pets with severe ulcerative inflammation of the esophagus or aspiration pneumonia
- Bad breath (halitosis)
- Pain on feeling or palpating the neck and esophagus
- Weight loss to severe weight loss with muscle wasting (known as “cachexia”) in pets with prolonged disease
- Abnormal lung or breathing sounds (such as wheezes and coughing), lethargy and fever—may be detected in pets with aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids)

CAUSES

- Backward or reverse flow of stomach contents and/or intestinal fluids into the esophagus (known as “gastroesophageal reflux”)
- Anesthesia, resulting in gastroesophageal reflux
- Hiatal hernia
- Underlying disease interfering with normal stomach emptying
- Ingestion of chemical irritants
- Infectious agents—*Pythium*, a water mold that causes pythiosis; *Spirocerca lupi* (lungworm); *Candida*, a yeast that causes candidiasis or “yeast infection”
- Esophageal and/or chest surgery
- Use of feeding tube, which may irritate lining of esophagus
- Long-term (chronic) vomiting
- Pills or capsules remaining in the esophagus (that is, the pill or capsule does not move through the esophagus or moves through very slowly); medications include doxycycline, clindamycin, nonsteroidal anti-inflammatory drugs (NSAIDs)—most common in cats
- Foreign body in the esophagus
- Uncommon causes include tumors (for example, gastrinoma), radiation therapy, megaesophagus, eosinophilic esophagitis (rare)
- Unknown cause (known as “idiopathic”)

RISK FACTORS

- Hiatal hernia (in which a portion of the stomach enters the chest through the area where the esophagus normally passes through the diaphragm)—increases risk for backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux)
- Anesthesia—use of certain drugs (such as opioids, diazepam, atropine, acepromazine, glycopyrrolate) prior to anesthesia decreases the pressure of the muscle between the stomach and esophagus (known as the “gastroesophageal sphincter”) and can result in backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux); induction agents such as propofol and gas anesthesia (such as isoflurane)
- Fasting for prolonged periods (>24 hrs) or not being fasted adequately puts pets at greater risk for backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux) with anesthesia and possible inflammation of the esophagus (esophagitis)
- Inflammation of the esophagus caused by *Pythium*, a water mold (disease called pythiosis)—usually regionally distributed in states that border the Gulf of Mexico

Treatment

HEALTH CARE

- Mildly affected pets can be managed as outpatients; those with more severe inflammation of the esophagus (with signs such as total lack of appetite [known as “anorexia”], dehydration, and aspiration pneumonia [inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids]) require hospitalization
- Intravenous fluids to maintain hydration, as needed
- Medications—give by injection during hospitalization
- Oxygen therapy—may be necessary in pets with severe aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids)
- Eliminate predisposing factors such as hiatal hernia via surgery
- Control vomiting and excess gastric acidity caused by underlying conditions

DIET

- Severe inflammation of the esophagus—withhold food and water until regurgitation is resolved; maintain with tube feedings
- When feeding by mouth is resumed, feed small amounts in multiple feedings
- Highly digestible diet of liquid or soft (gruel) consistency, with moderate fat levels (because high dietary fat delays emptying of the stomach) and low-fiber content

SURGERY

- Stomach feeding tube placement using an endoscope (a lighted medical instrument that is passed into the esophagus and stomach through the mouth) or surgical tube placement is indicated in severe cases

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- Usually given by injection (except for sucralfate) in severe cases
- When administering medications by mouth is resumed, dissolve medications in water and give by syringe or give directly via a feeding tube to ensure that they reach the stomach
- Sucralfate suspension oral is a mucosa protectant; binds to inflamed tissues
- Antibiotics—indicated for pets with aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids) or severe ulceration or tearing (perforation) of the esophagus
- Agents to decrease stomach-acid secretion (such as famotidine, omeprazole, pantoprazole, lansoprazole, esomeprazole, ranitidine, nizatidine)—to prevent occurrence of further irritation of the lining of the esophagus by backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux)
- Lidocaine solution—to manage severe esophageal pain locally
- Anti-inflammatory dosage of steroids (such as prednisone)—to decrease the possibility of narrowing of the esophagus (esophageal stricture formation) in severe cases; controversial
- Drugs that improve the propulsion of contents through the stomach and intestines (known as “gastrointestinal prokinetic agents,” such as cisapride, metoclopramide)—may help decrease backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux)
- Fentanyl patches, tramadol to relieve pain—may be useful in severe cases of painful inflammation of the esophagus
- Erythromycin—may be prokinetic

Follow-Up Care

PATIENT MONITORING

- Pets with mild esophagitis may not require follow-up evaluation of the esophagus using an endoscope; tracking of clinical signs may be sufficient
- Consider follow-up evaluation of the esophagus using an endoscope in pets with ulcerative inflammation of the

esophagus and those at risk for narrowing of the esophagus (that is, esophageal stricture)

PREVENTIONS AND AVOIDANCE

- Prevent pets from ingesting caustic substances and foreign bodies
- If backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux) is the cause of inflammation of the esophagus (esophagitis), avoid late-night feedings as they tend to decrease the ability of the muscle between the stomach and esophagus to remain closed during sleep
- Proper patient preparation (fasting) prior to anesthesia decreases the risk of gastroesophageal reflux (6-8 hours before anesthetic remove food, 0-2 hours water)
- The veterinarian may give omeprazole 4 hours prior to anesthesia, and cisapride 12-18 hours ahead of anesthesia to reduce reflux while under anesthetic
- Maripitant is recently shown to reduce nausea and vomiting after opioid administration and may be useful prior to anesthesia
- Coat pills with butter to decrease the time required to get through the esophagus and into the stomach (especially for cats) or apply Nutrical to the cat's nose to stimulate licking after administration of pills
- Encourage the pet to eat after administering capsules or tablets by mouth, to encourage swallowing and movement of the medication into the stomach; give 1-2 tsp water after pills or capsules (especially for doxycycline); use pilling treats to coat the pill or capsule (such as Pill Pocket®)

POSSIBLE COMPLICATIONS

- Narrowing of the esophagus (esophageal stricture formation)
- Tearing of the esophagus (esophageal perforation)
- Aspiration pneumonia
- Permanent problems with normal function/movement of the esophagus (known as “esophageal motility dysfunction”)
- Chronic backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux) leading to inflammation of the esophagus (known as “chronic reflux esophagitis”)
- Barrett's esophagus—rare complication of chronic reflux esophagitis characterized by ulceration of the lower esophagus in cats

EXPECTED COURSE AND PROGNOSIS

- Best results when pets are treated with a diffusion barrier (such as sucralfate), a prokinetic (cisapride, metoclopramide), and agents to decrease stomach-acid secretion (such as famotidine, omeprazole)
- Mild inflammation of the esophagus—generally favorable prognosis
- Severe or ulcerative inflammation of the esophagus—guarded prognosis
- Complete recovery is possible if the disorder is recognized and treated before serious complications develop

Key Points

- Inflammation of the esophagus
- Varies from mild inflammation of the superficial lining (known as “mucosa”) of the esophagus to severe ulceration, involving underlying layers including the muscle (known as “submucosa” [that is, “layer under the mucosa”] and “muscularis” [that is, “muscle”])
- Restrict food intake by mouth in pets with severe inflammation of the esophagus to allow healing
- Potential complications include aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids); scarring or narrowing of the esophagus (esophageal stricture); tear in the esophagus (esophageal perforation); and/or problems with normal function/movement of the esophagus (known as “esophageal motility dysfunction”)