

**Pancreatic Disorders**

# PANCREATITIS IN CATS

Although its exact incidence in cats is unknown, pancreatitis is now recognized as a common and clinically important inflammatory disorder of the feline exocrine pancreas.

Pancreatitis is divided into acute and chronic forms based on histology, not time course as can be the case for other health conditions.<sup>1-3</sup> Both forms can be mild to severe in presentation. However, chronic pancreatitis, which is more common in cats than the acute form,<sup>2</sup> tends to be mild while acute pancreatitis is usually more severe.<sup>4</sup>

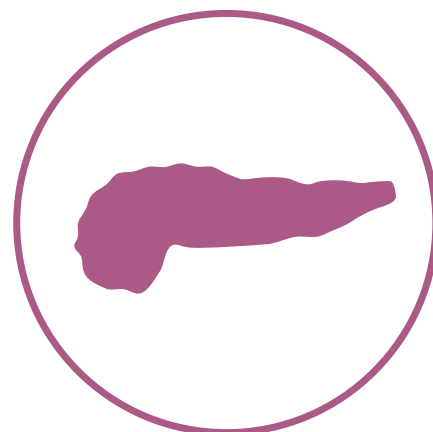
Clinical signs associated with pancreatitis in cats are vague, nonspecific, and frequently subtle.<sup>3,5</sup> The most common clinical signs and physical examination findings are lethargy, partial or complete anorexia, dehydration, and weight loss, regardless of the type of pancreatitis. Other clinical signs and findings may include vomiting, hypothermia, diarrhea, abdominal pain, pale mucous membranes, and icterus.<sup>3,5-7</sup> Clinical presentation may be complicated by the potential for one or more concurrent conditions, including diabetes mellitus, chronic enteropathies, hepatic lipidosis, and cholangitis.<sup>4,6,7</sup>

Management of cats with pancreatitis is generally supportive care aimed at controlling symptoms. Due to anorexia and the risk of developing hepatic lipidosis, cats with moderate to severe disease typically need to be hospitalized for intensive medical management and nutritional support. Those cats with mild disease often can be managed on an outpatient basis using dietary modification and medical management.

**Key Messages**

- Management of cats with pancreatitis has been divided into hospitalized patient and outpatient care because:
  - A definitive diagnosis of acute versus chronic pancreatitis is not always possible<sup>8</sup>
  - Pancreatic biopsy is performed infrequently, particularly in first-opinion practices, since patients are often poor anesthetic risks<sup>6</sup>
  - Initial medical management should not wait until diagnosis is confirmed via histopathology<sup>1</sup> as results are unlikely to change patient management<sup>7</sup>
- Regardless of pancreatitis type, management of cats with pancreatitis focuses on a combination of nausea and/or vomiting control; pain management; nutritional support, including consideration of appetite stimulation and parenteral cobalamin (vitamin B12) supplementation if indicated; and replacement of fluids and/or electrolytes.

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**DID YOU KNOW?**

Pancreatitis in cats is not the same as pancreatitis in small dogs. Unlike dogs, pancreatitis in cats has not been associated with body condition score, dietary indiscretion, or history of drug administration. More than 95% of pancreatitis cases in cats are considered idiopathic.<sup>4</sup>

## Key Messages (continued)

### Outpatient Nutritional Management

- Since chronic pancreatitis often occurs concurrently with other diseases and has no specific treatment options (other than symptomatic and supportive care), management of concurrent disease usually takes clinical priority.<sup>4,8</sup>
- A nutritional assessment that includes evaluation of the current foods' nutritional content should be performed to determine if the food is appropriate for the patient.
  - Dietary modification is typically not needed **unless** concurrent disease or persistent hyperlipidemia is present.
  - A low-fat diet and/or omega-3 fatty acid supplementation may benefit cats with persistently elevated cholesterol.<sup>8</sup>

### Nutritional Support of the Hospitalized Cat With Pancreatitis

- Many cats with pancreatitis present with a history of anorexia or hyporexia of varying duration. Early enteral nutrition is recommended to prevent hepatic lipidosis, protein-energy malnutrition, atrophy of gut villi, bacterial translocation, and lean muscle loss. The current standard of care is to:<sup>1</sup>
  - Administer antiemetics immediately at presentation, then as needed to control nausea and vomiting
  - Begin enteral feeding as soon as possible
    - If oral intake is inadequate, an appetite stimulant may help restore voluntary food intake and enable oral feeding.
- A feeding tube should be placed if a cat does not respond to an appetite stimulant, has experienced prolonged anorexia, or has severe pancreatitis with or without concurrent disease.
  - Feeding tubes (e.g., nasogastric, nasoesophageal, and esophagostomy) are well tolerated, allow convenient delivery of nutrients, and are associated with few complications.
  - Nasoesophageal and nasogastric feeding tubes are good options for initial or short-term support since they can be inserted without sedation. Only liquid diets should be used with these tubes due to their small diameter.
  - If the cat is stable for general anesthesia and long-term assisted feeding is anticipated, esophagostomy tubes are well tolerated. Esophagostomy tubes allow tailored feeding of canned diets as a gruel.
  - If the patient is vomiting, it is essential to confirm placement of the feeding tube before each use.
- The dietary needs of hospitalized cats with pancreatitis have not been determined. In most cases, a highly digestible diet that is high in protein (7–8 g/100 kcal ME or > 40% of ME calories) and low in carbohydrate is recommended.
  - If the cat will eat voluntarily, foods designed for critical care/recovery or for management of GI conditions can be gradually introduced. In cases with suspected food intolerance, a hydrolyzed or novel protein formula may be needed.
  - If a nasoesophageal feeding tube has been placed, a liquid veterinary diet formulated for convalescence or critical care can be fed. These diets are energy dense and typically have a moderate to high protein content.
    - In a retrospective study that evaluated nasogastric tube feeding in cats with acute pancreatitis, feeding a high-fat (45% of total calories), moderate-protein (35% of total calories) liquid enteral diet was well tolerated.<sup>9</sup>

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## Key Messages (continued)

- When feeding hospitalized cats that have been anorexic, nutrition should be reintroduced gradually over several days to avoid refeeding syndrome.
  - The starting point for assisted feeding is to calculate the patient's resting energy requirement (RER):
    - $\text{RER (kcal/day)} = 70 \times \text{BW}_{\text{kg}}^{0.75}$  or  $\text{RER (kJ/day)} = 293 \times \text{BW}_{\text{kg}}^{0.75}$
  - On the first day, feed 25% to 33% of the calculated RER divided into 4 or more feedings daily. The amount given per meal when bolus feeding should be limited to 5 to 10 mL/kg BW. Feed slowly over 10 to 15 minutes to allow for stomach expansion.<sup>10</sup>
  - Watch for signs of nausea such as drooling or licking of the lips. If seen, temporarily stop the feeding and resume once resolved.
  - If food is well tolerated, the percentage of RER can be increased by 25% to 33% every 12 to 24 hours, until full RER is reached.
- For cats with severe pancreatitis, intractable vomiting, and persistent anorexia, partial or total parenteral nutrition should be considered to prevent further undernutrition.<sup>11</sup>

## References

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