

Sponsored by  
an educational  
grant from  
Pfizer Animal  
Health

# clinician's forum™

Expert Views from a Roundtable

## GI Roundtable: Current Approaches to Vomiting in Cats & Puppies

Vomiting is a nonspecific clinical sign that can be attributed to many different underlying diseases in cats and dogs. In this discussion, a panel of experts considers the most common conditions that cause acute and chronic vomiting and the role of antiemetic therapy in overall management, with a focus on selected topics in cats and younger dogs.

**Dr. Gloyd:** Let's start with a broad approach to the vomiting patient. What are you thinking about when an animal with acute or chronic vomiting is brought into your hospital?

**Dr. Tams:** For a really sick cat or dog, I think it is fine to initially give a dose of an antiemetic to control the vomiting, provide comfort, and decrease fluid loss, but don't stop there. Start doing diagnostics. Some owners may want us to take a conservative approach. The veterinarian may recommend tests and imaging but the client is thinking, "Can't I just get some medication to stop the vomiting?" If we can't do much of a workup, I'm going to be cautious about using antiemetics. But I want to emphasize the importance of ongoing assessment. Too often clinicians have tunnel vision, and I worry that the art of the physical examination is being lost.

**Dr. Parnell:** I spend a lot of time watching our ICU patients. When animals are not being stimulated or receiving treatment, they show you how they feel. The art of observation is critical to understand exactly where these animals are in the recovery process.



### PARTICIPANTS

**Frédéric P. Gaschen, Dr.met.vet., Dr.habil., DACVIM (SAIM), DECVM-CA**  
Professor and Chief, Companion Animal Medicine  
School of Veterinary Medicine  
Louisiana State University  
Baton Rouge, Louisiana

**Justine A. Lee, DVM, DACVECC**  
Associate Director of Veterinary Services  
Pet Poison Helpline  
Minneapolis, Minnesota

**Nolie Parnell, DVM, DACVIM (SAIM)**  
Clinical Associate Professor,  
Small Animal Internal Medicine  
College of Veterinary Medicine  
Purdue University  
West Lafayette, Indiana

**Keith Richter, DVM, DACVIM (SAIM)**  
Hospital Director  
Veterinary Specialty Hospital  
San Diego, California

**Todd R. Tams, DVM, DACVIM (SAIM)**  
Chief Medical Officer  
VCA Antech  
Los Angeles, California

**David C. Twedt, DVM, DACVIM (SAIM)**  
Professor of Small Animal Internal Medicine  
College of Veterinary Medicine and  
Biomedical Sciences  
Colorado State University  
Fort Collins, Colorado

**Kathy Gloyd, DVM, Moderator**  
President, The Gloyd Group, Inc.  
Wilmington, Delaware



It is important to look at vomiting as what is lost; fluids and electrolytes are a big concern in terms of patient care as well as comfort. —Dr. Parnell

**Dr. Lee:** Just laying your hands on these patients is important. Putting them on IV fluids and an antiemetic overnight, doing serial abdominal radiography, and frequently repalping the abdomen are key. Then make your clinical decision.

**Dr. Parnell:** It is important to look at vomiting as what is lost; fluids and electrolytes are a big concern in terms of patient care as well as comfort. Part of the recovery process is resting; if an animal is not resting because it is vomiting, then the vomiting needs to be addressed.

**Dr. Gaschen:** It is also important to reestablish nutrition as soon as possible. We often see these animals after they have been anorectic for a prolonged period and we are impatient to start feeding them again. Control of emesis is thus a central part of the immediate approach.

**Dr. Richter:** Vomiting is certainly uncomfortable for the animal but is also distressing for owners. Managing the vomiting is an important part of making the pet and owners feel better.

## THE POTENTIAL OBSTRUCTION CASE

**Dr. Gloyd:** There has been a lot of discussion in recent years about antiemetic use in cats and dogs that may have an obstruction.

**Dr. Twedt:** If you suspect an animal may have a foreign body, you need to do imaging. If they still are not getting better, you need to do further diagnostics. A good indicator is when the animal starts eating and things are moving through the GI tract.

## VOMITING IN CATS

**Dr. Gloyd:** When an adult cat that has been vomiting for several days is brought into your hospital, what is typically the cause of vomiting?

### Can I safely give antiemetics to a vomiting cat or dog if there could be an obstruction?

In my opinion, it is fine to give antiemetics to animals that may have an obstruction; the key, however, is moderation. The danger comes when antiemetics are used too frequently in an animal that may have an obstruction and diagnostics are not being pursued. I will give an antiemetic injection once, maybe twice, but that must be in conjunction with baseline testing (blood testing, urinalysis, fecal examination, abdominal radiography).

### If a cat or dog stops vomiting after an antiemetic is given, can I rule out obstruction or foreign body?

No; this is not a reliable indicator. Highly effective antiemetic drugs can control the vomiting in some cases of obstruction. A patient that is well controlled on antiemetics could still have an obstruction. While it is safe to use an antiemetic in patients before we know whether there is a foreign body, we cannot use the response to therapy to establish that diagnosis. Treat to make the patient comfortable, but caution the client that diagnostics are important to establish what is really wrong with the patient.

—Dr. Tams

**Dr. Tams:** In our practice, we often see foreign body obstruction but there are a number of metabolic causes, such as hyperthyroidism and kidney disease; dietary sensitivity is also a common cause of vomiting in cats.

**Dr. Lee:** As an emergency specialist, most of my cases are acute vomiting—typically a cat that has vomited three to five times in a 12- to 24-hour period. In the emergency room, vomiting is usually related to foreign body obstruction or metabolic disease (eg, renal failure, pancreatitis), so obtaining radiographs and blood work is key. Other rule outs range from gastroenteritis to dietary indiscretion to hairballs.

**Dr. Gloyd:** How do you manage older vomiting cats that may have chronic diseases?

**Dr. Tams:** First we do a thorough diagnostic workup, including a CBC, complete biochemistry profile, thyroid assessment, urinalysis, fecal examination, heartworm testing, and perhaps radiography. While I prefer to take

### Acute Vomiting Due to Toxin Ingestion

The #1 side effect we see from any kind of poison is generally vomiting, so antiemetic therapy is very important in the poisoned patient. After we decontaminate the patient with an emetic agent (eg, apomorphine) followed by a dose of activated charcoal, I now routinely use an antiemetic and SC fluids as my outpatient standard of care for poisoned patients. The mistake I see veterinarians make is inducing vomiting for every kind of poisoning; contraindications for emesis induction include ingestion of hydrocarbons or corrosive agents or patients at increased risk for aspiration (eg, brachycephalic syndrome, megaesophagus, laryngeal paralysis). — Dr. Lee



Radiography can diagnose or rule out a foreign body, is affordable for the client, and can be done without calling in a specialist. —Dr. Gaschen

abdominal radiographs, I might not if a client's finances are limited and I feel I can do a thorough abdominal palpation. If a cat has chronic intermittent vomiting, I am a fan of endoscopy. Many clinicians will do ultrasounds but hold back on scoping because anesthesia is required. Assessing cobalamin levels is also important.

**Dr. Gaschen:** Radiography can diagnose or rule out a foreign body, is affordable for the client, and can be done without calling in a specialist. In some cases I might wait for the results of a feline pancreas-specific lipase (fPL) test to rule out pancreatitis, but generally I rule out a foreign body on radiographs before spending the owner's money on other testing.

**Dr. Richter:** It is always in the back of my mind that GI lymphoma is a differential in these cats. I rule out metabolic causes and obvious mass lesions or significant lymphadenopathy that might be seen on ultrasounds and then consider endoscopy to biopsy for lymphoma.

**Dr. Gloyd:** Do you see many cases of GI lymphoma in older cats?

**Dr. Richter:** Yes, we do and many of these cats have concurrent diseases. It is not uncommon to see a cat with GI lymphoma that also has chronic renal failure (CRF) or hyperthyroidism. It's easy to focus on the CRF and ignore the fact that the cat is continuing to lose weight, but it's important to follow up so you don't miss a diagnosis like GI lymphoma.

**Dr. Tams:** We also need to do a colonoscopy to get ileal biopsy samples because we find that lymphoma in cats may be more commonly located in the ileum than the upper small bowel.

**Dr. Richter:** We have started doing unprepped lower GI examinations to get ileal biopsy sam-

### Assessing Cobalamin in Cats with GI Disease

**Dr. Twedt:** A low cobalamin level is a clue that something significant is going on. Low cobalamin in cats can be associated with pancreatic insufficiency, cholangitis, hepatic lipidosis, and GI lymphoma. Any cat with any form of GI disease should be tested. If the cat's cobalamin is low, the ileum should be biopsied.

**Dr. Parnell:** When general practitioners do a panel that includes folate and cobalamin, a low cobalamin is not to be ignored. They need to continue with diagnostics to determine why the cat has a low cobalamin level.

**Dr. Twedt:** Folate does not mean much in cats; the cobalamin level is the real clue.

**Dr. Tams:** We will even supplement if it is at the low end of normal range. We use injectable cobalamin at 250 µg per cat once a week for 4 to 6 weeks and then reassess and taper from there.

**Dr. Gaschen:** Some practitioners supplement cobalamin in cats with IBD, lymphoma, pancreatitis, or liver disease without testing first. Is that appropriate?

**Dr. Tams:** The test should be done. It's important to know if the cat actually has a deficiency and to set a baseline.

**Dr. Twedt:** It also may be prognostic. A cat with very low cobalamin could have GI lymphoma, which could change the prognosis.

**Dr. Parnell:** It could also indicate exocrine pancreatic insufficiency, which we are recognizing more frequently in cats.

ples. It only adds 15 minutes and it is actually quite easy to get past an unprepped colon and into the ileum in cats.

### Feline Pancreatitis

**Dr. Gloyd:** Both acute and chronic pancreatitis are common in cats. What is the typical presentation?

**Dr. Parnell:** Most cats I see have chronic pancreatitis with acute flare-ups, as opposed to the most common presentation in the dog, which is acute necrotizing pancreatitis. The most difficult aspect of management of feline pancreatitis for me is inappetence—low-grade clinical signs that don't really call for hospitalization.

**Dr. Twedt:** Chronic pancreatitis is much more common than acute pancreatitis. Cats with pan-



CRF = chronic renal failure,  
fPL = feline pancreas-specific lipase





Veterinarians sometimes get a positive fPLI result and stop right there, assuming that the positive test definitively means pancreatitis ... which is a big mistake. —Dr. Tams

### Role of Therapeutic Diets

**Dr. Gloyd:** Do therapeutic diets have a role in management of pancreatitis in cats?

**Dr. Twedt:** When we treat dogs with pancreatitis, we think about putting them on a low-fat diet. There is no indication or fat restriction or special diets in cats with pancreatitis.

**Dr. Parnell:** Fat restriction may actually be detrimental because most cats with pancreatitis already have a marginal body condition score (BCS). As BCS decreases, survival decreases as well, so it is important to maintain a good BCS.



creatitis present like cats always present—with anorexia, vomiting, and lethargy—and that could be for just about any disease. There is definitely a strong relationship between liver disease, pancreatic disease, and/or IBD, which has been referred to as the *triaditis syndrome*. The first step is to go through all the differentials and try to come up with a diagnosis. Laboratory testing often is not helpful. If a cat is hypocalcemic and has an inflammatory leukogram, I think about acute pancreatitis. I usually make a clinical diagnosis with imaging (ultrasound) and feline pancreatic lipase immunoreactivity (fPLI) test results, along with ruling out other etiologies.

**Dr. Tams:** Veterinarians sometimes get a positive fPLI result and stop right there, assuming that the positive test definitively means pancreatitis instead of just putting it on the differential list, which is a big mistake.

**Dr. Richter:** When the fPLI result is elevated, there probably *is* pancreatic inflammation but that does not necessarily mean that is why the patient is sick. Pancreatic inflammation might be occurring in a subclinical way, while the animal may actually have a foreign body or some other condition.

**Dr. Lee:** We see referrals for pancreatitis based on one positive fPLI test or on elevated amylase. It is so important to just step back and look at the patient.

**Dr. Twedt:** Testing for amylase and lipase really is of no benefit at all, especially in cats. We do not include these on our panels anymore. There now is evidence that some cats with chronic pancreatitis may actually develop pancreatic insufficiency over time.<sup>1</sup>

**Dr. Richter:** Pancreatic insufficiency in cats is a very different disease than in dogs. Cats do

not have a ravenous appetite and often do not even have voluminous diarrhea; the major signs may be decreased appetite and weight loss.

**Dr. Tams:** There are also cats with multiple concurrent conditions. Most veterinarians are aware of triaditis but many do not confirm the diagnosis with biopsies, which can be obtained by endoscopy, exploratory surgery, or alternatively, combined laparoscopy for liver and pancreas biopsies and endoscopy to check the intestinal tract and stomach. Dr. Twedt, you have done some work on culturing pancreatic tissues in these cases in addition to pancreatic biopsies. Should we do that routinely?

**Dr. Twedt:** We don't have a definitive answer. Some have suggested using steroids in cats that have chronic pancreatitis with lymphocytic-plasmacytic infiltrates. Some cats do get better on steroids; however, we identified bacteria in the pancreas of about 40% of cats with moderate to severe chronic or acute pancreatitis.<sup>2</sup> Currently, my approach to a cat with chronic pancreatitis is cultures and histopathology. I usually start with antibiotic therapy because bacteria may play a role. If the cat does not respond, I might consider antiinflammatory therapy for the IBD component.

**Dr. Gaschen:** Having the correct diagnosis is important when we may be putting the cat through therapeutic trials with steroids and/or antibiotics that could affect the GI tract.

### Feeding the Vomiting Cat

**Dr. Parnell:** Sometimes veterinarians try to encourage hospitalized cats to eat by offering several food options or hand-feeding them. In cats, however, we have to be conscious that when they refuse to eat, there is probably a reason—perhaps stress from hospitalization or lingering nausea. Practitioners worry about



Vomiting can cause very young puppies to become dehydrated much more quickly, so antiemetics play a big role in terms of supportive care of the vomiting puppy. —Dr. Lee

hepatic lipidosis if a cat is anorectic for more than 3 days and that leads to force-feeding, which in turn can lead to food aversion.

**Dr. Gaschen:** Do you use nasoesophageal (NE) feeding tubes if cats won't eat voluntarily?

**Dr. Lee:** They are good for short-term therapy in hospitalized cats. I have sent some cats home with NE tubes for 7 days, but for longer periods an esophagostomy or G-tube is preferred.

## VOMITING IN YOUNG DOGS

**Dr. Gloyd:** What conditions do you see most often associated with a young vomiting dog from postweaning to 6 months of age?

**Dr. Lee:** Vomiting can cause very young puppies to become dehydrated much more quickly, so antiemetics play a big role in terms of supportive care of the vomiting puppy. Antiemetics also are important not only for patient comfort but to prevent aspiration.

**Dr. Gloyd:** Do you use antiemetics in cases of dietary indiscretion?

**Dr. Richter:** When puppies get into garbage, we fast them for a very short period. One indicator for refeeding is they do not vomit for 12 to 24 hours. It can be worthwhile to give them an antiemetic to enable more rapid refeeding.

**Dr. Tams:** If the puppy is bright and alert and vomited once, antiemetics are probably not needed. If the puppy is ill, depressed, and losing fluid, it is important to give antiemetics.

## Parvovirus in Puppies

**Dr. Gloyd:** Dr. Twedt, you have done some recent studies comparing antiemetic therapies in puppies with parvovirus.

**Dr. Twedt:** Last year we completed a study of parvovirus cases treated with traditional therapy, including antiemetic therapy with either maropitant or ondansetron.<sup>3</sup> We monitored nausea scores, vomiting, weight, calories consumed, and so forth. We found that the maropitant group gained weight during hospitalization compared with the ondansetron group, which actually lost weight. Puppies in the maropitant group also had less vomiting, although the difference was not significant, perhaps because of the low numbers in the study. Getting nutrition into parvo cases early on is important.

In a more recent unpublished study of 42 parvovirus cases, we evaluated an inpatient versus outpatient management protocol. The inpatient protocol was traditional therapy with IV fluids, maropitant, antibiotics, and syringe feeding. We do outpatient therapy in the hospital to have more control; the patient gets an initial 2 hours of IV fluid therapy followed by SC fluid therapy, maropitant, long-acting cephalosporin, and syringe feeding. Puppies receiving the outpatient protocol had a survival rate almost identical to those on the inpatient protocol.

**Dr. Richter:** Antiemetic therapy is really important in these cases because fluid losses cannot be managed as well at home.

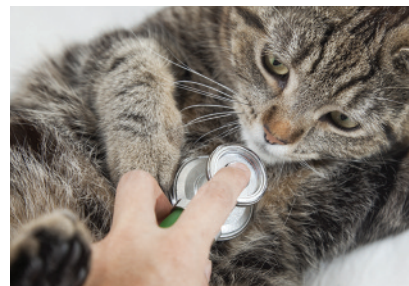
**Dr. Lee:** Most veterinarians prefer to teach owners how to give SC fluids because they do not want the infectious patient coming into the exam room every day. Obviously it is not ideal, but we have all saved parvo puppies that way when owners have financial constraints. There is, however, the risk for secondary intussusception from parvovirus (due to a hypermotile state) to consider.

**Dr. Gloyd:** How do you follow up on the puppies you are treating as outpatients?

## Managing Acute Gastroenteritis

My philosophy on management of the puppy with acute gastroenteritis has changed over the years. I used to follow the old rule of waiting 24 hours after an animal vomits before reintroducing food and I didn't use antiemetics. Now, however, I recognize that these patients have nausea and are uncomfortable. Nutrition in these young puppies is so important; I want to do everything I can to correct their electrolyte and acid-base abnormalities and also try to get nutrients back into their GI tract as quickly as possible, as I believe it improves recovery.

—Dr. Twedt



fPLI = feline pancreatic lipase immunoreactivity,  
NE = nasoesophageal





In parvoviral enteritis, the gut is severely damaged and the ability to absorb nutrients is limited until the recovery phase is over. I do not use a recovery diet in these patients. —Dr. Parnell

### Managing Parvovirus

Parvovirus is an acute GI disease that can often be life-threatening in young dogs. My management of parvovirus is threefold:

1. Supply adequate fluid therapy to patients that are losing a lot of fluids through both vomiting and diarrhea.
2. Dogs with parvovirus vomit frequently and controlling the vomiting is important.
3. Get adequate nutrition into these patients. I usually start with syringe feeding if free-choice feeding is not working. That helps the GI tract heal, and I think it decreases hospitalization time and improves recovery. If I can stop the vomiting, I can get these puppies into proper nutrition much faster.

—Dr. Twedt

**Dr. Tams:** It depends on the client. Ideally, the veterinarian or technician is in touch with the owner each day. Sometimes we have patients come back to see how they are doing or maybe for another abdominal palpation. In other cases, the owner reports by phone after 3 or 4 days.

### Feeding Puppies with Parvoviral Enteritis

**Dr. Gloyd:** When do you start feeding these puppies again?

**Dr. Parnell:** If they have not vomited significantly in 12 hours, their nausea seems to be controlled, and they are no longer uncomfortable when you palpate their abdomen, then you can introduce food. The gut recovers faster in puppies than in adult dogs with parvoviral enteritis.

**Dr. Twedt:** Once vomiting is controlled, I have my technicians try to syringe feed to give a little bit of nutrition. This can be done on an out-patient basis. I'm happy if I get 25% of the caloric needs in over a 24-hour period. For really sick puppies, I put in an NE feeding tube.

**Dr. Gaschen:** Textbooks tell us to feed a highly digestible diet, perhaps with lower fat content, to animals that have intestinal inflammation. But if you use an NE tube, the available diets may not meet those requirements. What should we feed these patients?

**Dr. Parnell:** It depends on the cause of acute vomiting. In parvoviral enteritis, the gut is severely damaged and the ability to absorb nutrients is limited until the recovery phase is over. I do not use a recovery diet in these patients. I choose a highly digestible diet that is moderate in fat. Feeding a high-fat diet can potentiate nausea, which can create reluctance to eat. In hospitalized patients, the goal

is the resting energy requirement (RER), which can be challenging to reach. I try to give small frequent amounts, each meal delivering about 15% to 20% of the RER. Studies have shown that animals given at least some nutrition during hospitalization had a higher survival rate, even if they did not reach the RER, than did those that received no nutrition.<sup>4</sup>

**Dr. Lee:** For my parvovirus cases, especially those in which the owner cannot afford total parenteral nutrition (TPN) or sedation for a central line, I try to achieve at least 25% to 50% of the RER. You can even reach 100% with some forms of partial parenteral nutrition (PPN). We often use IV lipid emulsion (PPN) to get at least 25% of the RER into the patient while still feeding them in the face of vomiting. With the concurrent use of antiemetics, they seem to respond relatively well.

**Dr. Richter:** Many veterinarians adhere rigidly to these formulas and will send a patient home with strict guidelines. But if the patient continues losing weight, there has to be ongoing assessment and adjustment of the RER according to current weight.

**Dr. Tams:** Three key areas in management of puppies with parvovirus that we haven't mentioned are 1) the potential for esophagitis in an animal with acute frequent vomiting; 2) infection with parasites, including *Giardia*; and 3) pain management. We might use fentanyl patches, morphine (q4–6h or q6–8h), or hydromorphone, and you can see these puppies feel better once their pain is controlled.

### ANTIEMETIC OPTIONS FOR CATS & PUPPIES

**Dr. Gloyd:** We've discussed the diagnostics and treatment of common conditions causing vom-

CRF = chronic renal failure,  
NE = nasoesophageal,  
PPN = partial parenteral nutrition,  
RER = resting energy requirement,  
TPN = total parenteral nutrition



There are two main uses of antiemetic therapy in my practice: The first is in chronic pancreatitis cases. The second is in GI lymphoma cases.

—Dr. Richter

iting in cats and puppies. Let's talk more about antiemetic use—first, in cats that have vomiting associated with chronic conditions.

**Dr. Tams:** We have seen some excellent results with oral maropitant in cats with renal disease but we may still use an H<sub>2</sub>-receptor blocker initially and intermittently.

**Dr. Richter:** There are two main uses of antiemetic therapy in my practice: The first is in chronic pancreatitis cases if there seem to be flare-ups or periods of exacerbation. The second is in GI lymphoma cases to prevent vomiting during chlorambucil chemotherapy. I don't think metoclopramide is effective at all for chemotherapy-induced vomiting in cats.

In addition, our dialysis unit sees a high caseload of CRF cats that get esophagostomy tubes early on. One potential problem, however, is vomiting if the cat is fed too fast or at too high a volume. Antiemetic therapy is really helpful just to hold the food down, especially in cats with lipodosis. We administer maropitant as an injection in these patients.

**Dr. Twedt:** I don't use metoclopramide in cats anymore. I am not completely convinced it is that effective as an antiemetic in cats. Evidence suggests that cats don't have dopamine receptors in the chemoreceptor trigger zone,<sup>5</sup> which is metoclopramide's site of action. It is metabolized very rapidly and thus has to be given as a CRI, which can be costly for the client; there also are side effects to consider in cats, such as hyperactivity and anxious jittery behavior.

**Dr. Gaschen:** I think metoclopramide is an efficient antiemetic. It seems to help with motility as well; its potential as a prokinetic is appealing, but we do not have much data in cats.

**Dr. Tams:** I often see clinicians managing small intestinal ileus with metoclopramide and it really has no significant effect there. Overall, however, we are seeing fewer clinicians in private practice using metoclopramide, which I think is a good change, especially in cats.

**Dr. Gloyd:** Let's move on to puppies. You mentioned treating acute vomiting in hospitalized puppies with an injectable antiemetic. Do you send patients home with antiemetic tablets if the vomiting is still not resolved?

**Dr. Tams:** Yes, in certain situations such as acute nonspecific gastroenteritis, we'll give puppies injectable maropitant in the hospital and then send them home with the tablets for a few days. That helps get them out of the hospital earlier, and oral therapy can be helpful if vomiting is not completely controlled at that point. The tablets can also be helpful in parvovirus cases as long as the dogs are not vomiting frequently. If there is any potential for obstruction and the workup is incomplete, however, I will not send them home with the tablets.

**Dr. Twedt:** We send all parvovirus cases home with maropitant tablets for 4 or 5 days.

**Dr. Gloyd:** Dr. Tams mentioned esophagitis earlier. Do antiemetics have a role in reducing the risk for esophagitis in vomiting patients?

**Dr. Tams:** Yes, antiemetics can help decrease esophageal contact with fluids from the stomach and intestines that are potentially injurious to the esophageal mucosa. These include gastric acid, activated enzymes, bile salts, and toxins. Any decrease in vomiting effected by antiemetics can be expected to be beneficial in decreasing the likelihood of esophageal injury resulting from frequent vomiting.

### Esophagitis

Frequent severe vomiting, whether from parvovirus, pancreatitis, or intestinal foreign bodies, is a major risk factor for esophagitis. The brachycephalic breeds and obese patients also have an increased risk for reflux esophagitis after abdominal surgery. I think veterinarians underappreciate esophagitis in their small animal patients. Vomiting brings up (from the GI tract) a lot of gastric acid, enzymes, and toxins that bathe the esophagus. If an animal has a lot of vomiting episodes before it undergoes surgery for removal of an intestinal foreign body, I recommend taking 2 minutes to scope the esophagus. If we don't look for esophagitis, we are never going to know, and I think it's important to recognize it. Severe erosive esophagitis is extremely painful and can result in fibrosis or esophageal strictures.

—Dr. Tams







There is no reason that the available approved antiemetic should not be a part of routine therapy in dogs and cats with vomiting, nausea, and discomfort. —Dr. Twedt

**Dr. Parnell:** When I speak to practitioners, it always is striking how many treat vomiting with an H<sub>2</sub>-receptor antagonist or proton pump inhibitor PPI. While these drugs can be useful for treatment of GI diseases in patients that have vomiting as a clinical sign, *they are not antiemetics*. For example, when I use an H<sub>2</sub>-receptor antagonist in a cat with chronic kidney disease, I am giving it to reduce gastric acid, not as an antiemetic. It will help with nausea associated with any uremic gastritis that occurs.

**Dr. Lee:** I also see a lot of veterinarians dispensing sucralfate for routine vomiting in dogs but it is not an antiemetic either. It is only effective if there is an ulcerated area or esophagitis.

**Dr. Richter:** How many causes of vomiting do we need acid suppression for? Is it really necessary or helpful in a pancreatitis case?

**Dr. Gaschen:** I do not think there is any science to substantiate the use of these drugs in our patients beyond ulcerative gastric disease. Antacids do have a function as protectants of the gastric mucosal barrier. I do not use them systematically in dogs with pancreatitis, but they could be helpful in patients with duodenal gastric reflux or reflux through the pylorus.

## CLOSING REMARKS

**Dr. Gloyd:** We've established that vomiting is an important clinical sign that needs to be assessed and treated. Do you have any take-home points you'd like to emphasize?

**Dr. Tams:** Animals with acute vomiting can benefit significantly from effective antiemetic therapy. Benefits include decreased loss of fluid and electrolytes, less likelihood of esophagitis occurring secondary to frequent vomiting, enhanced patient comfort, and earlier opportunity for a return to normal eating and drinking.

**Dr. Parnell:** Vomiting—and not properly managing emesis—creates a barrier to reintroducing food, which can lengthen a hospital stay, thereby increasing the cost to the owner.

**Dr. Richter:** I want to emphasize that the symptomatic approach to vomiting should not replace a thorough diagnostic workup. The art of veterinary medicine is knowing when patients benefit from antiemetics and when they are not enough.

**Dr. Lee:** When treating the poisoned patient, using antiemetics is key to counter the effects of the emetic agent that you may have just administered. An antiemetic is also helpful to prevent vomiting (and secondary aspiration) of activated charcoal. Rarely, we see hypernatremia from the use of sorbitol (as a cathartic) or with multiple doses of charcoal, and the sooner the patient can drink (and maintain hydration or prevent ongoing losses), the less likely there will be adverse effects from activated charcoal.

**Dr. Twedt:** There is no reason that the available approved antiemetic should not be a part of routine therapy in dogs and cats with vomiting, nausea, and discomfort.

## REFERENCES

1. **Feline exocrine pancreatic insufficiency 150 cases.** Xenoulis PG, Wooff P, Zoran DL, et al. *J Vet Intern Med* 26:765, 2012.
2. **Culture-independent detection of bacteria in feline pancreatitis.** Simpson KW, Twedt DC, McDonough SP, et al. *ACVIM Forum* 2011, abstract.
3. **The effects of maropitant versus ondansetron on the clinical recovery of dogs with parvoviral gastroenteritis.** J Lenberg, L Sullivan, P Boscan, et al. *ACVIM Forum* 2012, abstract.
4. **Effects of nutritional support on hospital outcome in dogs and cats.** Brunetto MA, Gomes MOS, Andre MR, et al. *JVECC* 20(2):224-231, 2010.
5. **Vomiting.** Washabau RJ. In Washabau RJ, Day MJ (eds): *Canine and Feline Gastroenterology*, ed 1—St Louis: Elsevier, 2012, pp 167-173.

## Important Safety Information

The safe use of CERENIA® has not been evaluated in dogs or cats used for breeding, or in pregnant or lactating bitches or queens. The safe use of CERENIA® has not been evaluated in patients with gastrointestinal obstruction, or patients that have ingested toxins. Use with caution in patients with hepatic dysfunction. CERENIA® Injectable is recommended for dogs 8 weeks and older for prevention and treatment of acute vomiting and for cats 16 weeks and older for the treatment of vomiting. CERENIA® Tablets are recommended for dogs 8 weeks and older for prevention of acute vomiting and for dogs 16 weeks and older for prevention of vomiting due to motion sickness. The most common side effects seen in dogs and cats administered CERENIA® are pain/vocalization (injectable), depression/ lethargy, anorexia, anaphylaxis, ataxia, convulsions, and hypersalivation, and vomiting.

For a brief summary of Cerenia® (maropitant citrate) prescribing information, please see insert on page 65.