Treating Feline Pancreatitis:
Recommendations for managing this disease and common concurrent conditions

Background
Pancreatitis is an elusive disease in cats and consequently has been underdiagnosed.\(^1\)\(^,\)\(^2\) Cats with pancreatitis present with vague signs of illness, including lethargy, decreased appetite, dehydration and weight loss. Physical examination and routine laboratory findings are nonspecific, and until recently, there have been limited diagnostic tools for this disease. The Spec fPL™ (feline pancreas-specific lipase) Test is now available to assist in diagnosing and monitoring cats with pancreatitis.

Fluid therapy, pain management and nutritional support are the mainstay of therapy for treating cats with pancreatitis. Many cats with pancreatitis have concurrent illnesses (e.g., diabetes mellitus, hepatic lipidosis, cholangiohepatitis and inflammatory bowel disease).\(^3\)\(^,\)\(^4\) Diagnosis and management of both pancreatitis and concurrent conditions are critical to a successful outcome.\(^5\)

Fluid Therapy
Fluid therapy is essential for patient support and to ensure adequate perfusion of the pancreas. In hospitalized patients, fluids should correct dehydration over the first 12–24 hours, while also meeting maintenance needs and replacing ongoing losses. Acid-base and electrolyte abnormalities should be monitored closely and corrected. If hypocalcemia is present, it should be treated with a calcium gluconate infusion of 50–150 mg/kg over 12–24 hours while monitoring serum calcium concentrations. Colloids, such as dextran or hetastarch, can be used to support oncotic pressure, especially in patients that are hypoalbuminemic. Plasma therapy can be used if available when there is evidence of a coagulopathy or disseminated intravascular coagulation (DIC).

Pain Management
Abdominal pain is rarely recognized in cats with pancreatitis. Nonetheless, many cats will show clinical improvement if provided analgesic therapy; therefore pain management should be provided to all cats with acute pancreatitis. Opioid therapy is recommended. One recommended protocol is to provide immediate analgesia with a calcium gluconate infusion of 50–150 mg/kg over 12–24 hours while monitoring serum calcium concentrations. Colloids, such as dextran or hetastarch, can be used to support oncotic pressure, especially in patients that are hypoalbuminemic. Plasma therapy can be used if available when there is evidence of a coagulopathy or disseminated intravascular coagulation (DIC).

Antiemetic Therapy
Vomiting may be absent or intermittent in cats with pancreatitis. Antiemetic therapy is recommended to control vomiting when present and to treat nausea in the absence of vomiting. There are several antiemetics available. Metoclopramide (Reglan®) remains a popular antiemetic. However, metoclopramide is a dopamine antagonist and inhibits vomiting by blocking the central nervous system (CNS) dopamine receptors in the chemoreceptor trigger zone (CRTZ). It is often ineffective in cats because cats are reported to have few CNS dopamine receptors in the CRTZ. Dolasetron (Anzemet®) and ondansetron (Zofran®) act on the serotonin 5-HT\(_3\) receptors in the CRTZ and are very effective in cats. Maropitant citrate (Cerenia®) acts on the neurokinin (NK) receptors in the vomiting center. It is only labeled for use in dogs, but has become a popular and effective antiemetic in cats.

Nutritional Support
The historical recommendation of nothing per os (NPO) for animals with pancreatitis is no longer accepted. In addition, cats can develop hepatic lipidosis if not provided adequate calories. Enteral nutrition stabilizes the gastrointestinal barrier, improves enterocyte health and immune function, improves gastrointestinal motility, prevents catabolism and decreases morbidity and mortality. Cats with pancreatitis are inappetant; therefore, ingestion of adequate calories is rare. Force feeding is not recommended; it is difficult to achieve adequate caloric intake and can lead to food aversion.\(^6\) Enteral nutrition can be provided by a variety of feeding tubes, including nasogastric, nasoesophageal, esophagostomy, gastrostomy or jejunostomy tubes.

If vomiting cannot be controlled, then partial parenteral nutrition (PPN) or
total parenteral nutrition (TPN) can be provided. However, parenteral nutrition doesn’t nourish the enterocytes. Therefore microenteral nutrition, by trickle feeding through a feeding tube, should be provided concurrently to prevent the complications of NPO.

**Diet Selection**

There are no studies to support dietary choices for cats with pancreatitis. High-fat foods are not implicated in causing pancreatitis in cats; however, some internists avoid feeding high-fat diets when treating these cats. Liquid diets are required for use in nasogastric, nasoesophageal and jejunostomy tubes. Commercially available CliniCare Canine/Feline Liquid Diet (Abbott Animal Health) is high in fat but commonly used. Human-formulated liquid diets are too low in protein to be used in cats. Low-residue, low-fat, easy-to-digest blended canned diets can be used in esophagostomy or gastrostomy tubes.

Recommendations for feeding cats with pancreatitis are based upon opinion. Trial and error is often required to find a diet that works for a particular cat. Cats with pancreatitis often have concurrent disease. A low-residue diet might be the diet of choice in a cat that only has pancreatitis, but if concurrent intestinal disease is present, a novel protein diet might be a better choice.

**Appetite Stimulants**

Appetite stimulants can help to support caloric intake, may reduce the need for feeding tube placement, may decrease dependency on the feeding tube over time and may support the removal of feeding tubes in cats with pancreatitis. Mirtazapine (Remeron®), used off-label, and cyproheptadine are two effective appetite stimulants in cats.

**Glucocorticoid Therapy**

It is common for cats with pancreatitis to have other concurrent conditions. The term “triaditis” has been used to describe the complex of cholangiohepatitis, inflammatory bowel disease and pancreatitis. Treatment with anti-inflammatory doses of prednisone, prednisolone or dexamethasone is not contraindicated in these cats. Cats with chronic pancreatitis alone may actually benefit from the anti-inflammatory effects of corticosteroids.

**Antibiotic Therapy**

Pancreatitis is usually a sterile process in cats and antibiotics are rarely indicated. Antibiotics can cause nausea and vomiting in cats, so they should only be used when indicated. Indications for their use include sepsis (may result from bacterial translocation from the gastrointestinal tract), bacterial peritonitis, other infections (e.g., urinary tract infection) and possibly in cases with a suppurative cholangiohepatitis where a suppurative pancreatitis is suspected.

**Antacid Therapy**

H₂-receptor antagonists (ranitidine or famotidine) or proton-pump inhibitors (pantoprazole) are not routinely recommended but should be considered if there is concern for gastrointestinal ulceration.

**Antioxidant Therapy**

There is some rationale to consider antioxidant therapy in cats with pancreatitis. Vitamins C and E, silybin, S-Adenosylmethionine (SAMe) and omega-3 fatty acids could be prescribed.

**Cobalamin (Vitamin B₁₂) Supplementation**

Cobalamin (vitamin B₁₂) is a water-soluble vitamin that is absorbed in the ileum. Reduction in serum cobalamin concentrations can be seen in cats with gastrointestinal disease. Cats with pancreatitis commonly have concurrent inflammatory bowel disease; therefore measuring serum cobalamin concentrations in cats with pancreatitis is recommended. Cobalamin can be supplemented by parenteral injection at a dosage of 250 μg/injection weekly for six weeks, followed by one dose every two weeks for six weeks, then monthly injections.

**Insulin Therapy**

Cats with acute pancreatitis can become insulin resistant and develop transient diabetes mellitus. Diabetes may resolve or become permanent, especially if chronic pancreatitis persists. Insulin therapy should be tailored to the individual cat. Insulin requirements may vary as a result of waxing and waning of the severity of the pancreatitis.

**Monitoring**

Hospitalized cats require close monitoring. Body weight and respiratory rate can be monitored to ensure fluids are being tolerated. Blood pressure and urine output should be assessed daily. Repeat laboratory testing should be performed regularly to monitor the patient’s progress. The Spec fPL concentration can be repeated every 2–3 days in hospitalized cats to assess pancreatic inflammation.

The frequency with which cats at home should be reassessed will depend upon

(continued on page 16)
Feline Pancreatitis

Audrey K. Cook, BVM&S, MRcVS, DAcVIM-SAIM, DECVM-CA

Feline Pancreatitis

1. Hyperthyroidism three years earlier; effectively managed antiemetic therapy (metoclopramide). Diagnosed with hyperthyroidism three years earlier, effectively managed antiemetic therapy (metoclopramide).

2. Laboratory findings

- Cholesterol 152 mg/dL (56–161)
- GGT 6 U/L (0–12)
- ALKP 27 U/L (20–109)
- ALT <3 U/L Low (26–84)
- Globulin 4.5 g/dL High (2.3–3.8)
- Lactic Acid 16.6 mg/dL High (5.4–15.3)
- Anion Gap 16 mmol/L (12–19)
- Chloride 122 mmol/L (113–123)
- Potassium 4.5 mmol/L (3.5–5.1)
- Magnesium 2.4 mg/dL High (1.7–2.3)
- Phosphorus 5.0 mg/dL (3.8–7.5)
- Blood Urea Nitrogen 22 mg/dL (19–33)
- Urobilinogen 0.2 mg/dL
- Ketones Negative
- Glucose 2000 mg/dL High
- Protein 30 mg/dL High
- Specific Gravity 1.028
- Total Protein 6.6 g/dL Low (8.0–15.0)
- Plasma Protein 8 TS-g/dL (6–8)
- WBC 0–2 /hpf
- Basophils 6 ± 1 %
- Eosinophils 1 ± 0 %
- Monocytes 3 ± 1 %
- Lymphocytes 93 ± 8 %
- Neutrophils 8 ± 1 %
- Dr. Cook

3. Hypocobalaminemia: Likely due to chronic small intestinal disease. Inflammatory bowel disease and intestinal atrophy may have resulted in the cat's cobalamin deficiency.

4. Additional testing: Problems identified by the initial laboratory work included nonregenerative anemia, hyperglycemia, hyperpyrexia, and hyperglycemia and glucosuria suggested she had transient stress hyperglycemia. Frisky's normal fructosamine in face of her persistent inappetence and poor body condition is indicative of chronic small intestinal disease.

5. Therapeutic plan

- Day 1: Frisky was admitted to the hospital and started on intravenous fluid therapy. Her estimated deficit and on-going needs were provided with lactated Ringer's solution (13 mL/hour initially), supplemented with 16 mEq/L of KCl. A continuous-rate infusion (CRI) of fentanyl (2 μg/kg/hour) was started to manage her pain. Her respiration rate and pain score (see table 1 on page 16) were monitored closely so that adjustments could be made if necessary. Cyanocobalamin was administered subcutaneously (250 μg) to address the hypocobalaminemia.

- Day 2: Frisky was briefly anesthetized for placement of an esophagostomy feeding tube (e-tube). The procedure took less than 10 minutes and she recovered with no complications. Tube feedings started that same day, using an energy-dense prescription diet (Royal Canin Veterinary Diet™ Recovery RS®). Her calorie needs were calculated based on an estimated optimal body weight of 4 kg (4 kg × 70% = 2.8 kg). To avoid complications from refeeding syndrome, she received one third of her target calorie needs on the first day, divided into 4 equal meals. Her fluids were changed to a maintenance type (Normosol®-M with dextrose, supplemented with 7 mEq KCl/L at 6 mL/hour). Blood glucose and serum electrolytes were rechecked; all parameters were within the normal range. Her packed cell volume (PCV) had decreased to 17%.

- Day 3: The fentanyl CRI was discontinued and buprenorphine (0.02 mg/kg) was administered subcutaneously every 6 hours. The volume of each e-tube feeding was doubled. Methimazole was restarted at the previous dose (2.5 mg twice daily, through the e-tube).

- Day 4: Intravenous fluids were discontinued and the e-tube feedings were increased to the target volume. Frisky showed some interest in food, but still would not eat. She was given on another injection of cyancobalamin (250 μg subcutaneously) and discharged from the hospital with instructions to continue the e-tube feedings, buprenorphine and methimazole.

6. Case Study

**CASE STUDY**

**Feline Pancreatitis**

**Patient: Frisky, 16-year-old, spayed female domestic long-haired cat**

**Presenting complaint: Anorexia**

**History: Progressive loss of appetite over the last six weeks. No response to appetite stimulants (cyproheptadine, mirtazapine) or antiemetic therapy (metoclopramide).**

**Initial assessment**

Frisky was quiet but responsive. Her heart rate was 192 beats per minute, with normal rate and rhythm. No murmurs were ausculted. She was substantially underweight at 2.5 kg with a strong respiratory effort. Auscultation of the heart and lungs was within normal limits, although she seemed to have an enlarged liver. The remainder of the scan was unremarkable.

**Physical examination**

Frisky was quiet but responsive. Her heart rate was 192 beats per minute, with normal rate and rhythm. No murmurs were ausculted. She was substantially underweight at 2.5 kg with a strong respiratory effort. Auscultation of the heart and lungs was within normal limits, although she seemed to have an enlarged liver. The remainder of the scan was unremarkable.

**Differential diagnoses for the persistent anorexia**

1. Pyelonephritis or occult neoplasia (e.g., intestinal, pulmonary).
2. Hepatic disease, gastrointestinal disease (e.g., inflammatory bowel disease).

**Laboratory findings**

Frisky's pancreatic ultrasonographic findings revealed a prominent pancreas, with diffuse mottling and an irregular margin. The tissue appeared hypoechoic, whilst the surrounding mesentery was hyperechoic. Renal parenchyma was slightly hypoechoic; these changes appeared consistent with age. The remainder of the scan was unremarkable.

**Diagnostic plan**

The initial plan included a complete blood count (CBC), serum biochemical profile, urine analysis and measurement of serum total thyroxine. Serum cobalamin and folate concentrations were determined to evaluate gastrointestinal function, and a Spec fPL™ Test was performed to identify pancreatic inflammation.

**Therapeutic plan**

**Day 1:** Frisky was admitted to the hospital and started on intravenous fluid therapy. Her estimated deficit and on-going needs were provided with lactated Ringer's solution (13 mL/hour initially), supplemented with 16 mEq/L of KCl. A continuous-rate infusion (CRI) of fentanyl (2 μg/kg/hour) was started to manage her pain. Her respiration rate and pain score (see table 1 on page 16) were monitored closely so that adjustments could be made if necessary. Cyanocobalamin was administered subcutaneously (250 μg) to address the hypocobalaminemia.

**Day 2:** Frisky was briefly anesthetized for placement of an esophagostomy feeding tube (e-tube). The procedure took less than 10 minutes and she recovered with no complications. Tube feedings started that same day, using an energy-dense prescription diet (Royal Canin Veterinary Diet™ Recovery RS®). Her calorie needs were calculated based on an estimated optimal body weight of 4 kg (4 kg × 70% = 2.8 kg). To avoid complications from refeeding syndrome, she received one third of her target calorie needs on the first day, divided into 4 equal meals. Her fluids were changed to a maintenance type (Normosol®-M with dextrose, supplemented with 7 mEq KCl/L at 6 mL/hour). Blood glucose and serum electrolytes were rechecked; all parameters were within the normal range. Her packed cell volume (PCV) had decreased to 17%.

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Frisky was quiet but responsive. Her heart rate was 192 beats per minute, with normal rate and rhythm. No murmurs were ausculted. She was substantially underweight at 2.5 kg with a body condition score of 2/9. Moderate dental tartar and calculus were noted, but there was no apparent oral pain. Abdominal palpation was within normal limits, although she seemed uncomfortable in the cranial abdomen. A small thyroid nodule was noted in the left cervical region. Frisky appeared moderately dehydrated (7%) based on skin turgor.

Initial assessment

The most likely differentials for the persistent anorexia were determined to evaluate gastrointestinal function, and a Spec fPL™ Test was performed to identify pancreatic inflammation.

Laboratory findings

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Bilirubin</td>
<td>0.4 mg/dL</td>
<td>0 – 0.6</td>
</tr>
<tr>
<td>ALT</td>
<td>&lt;3 U/L</td>
<td>26 – 84</td>
</tr>
<tr>
<td>AST</td>
<td>20 U/L</td>
<td>20 – 109</td>
</tr>
<tr>
<td>ALKP</td>
<td>27 U/L</td>
<td>110 – 125</td>
</tr>
<tr>
<td>ALP</td>
<td>75 U/L</td>
<td>38 – 67</td>
</tr>
<tr>
<td>Blood Urea Nitrogen</td>
<td>22 mg/dL</td>
<td>16 – 41</td>
</tr>
<tr>
<td>Creatinine</td>
<td>1.9 mg/dL</td>
<td>0.8 – 1.4</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>3.9 mg/dL</td>
<td>2.5 – 4.2</td>
</tr>
<tr>
<td>Calcium</td>
<td>10.7 mg/dL</td>
<td>9.0 – 11.5</td>
</tr>
<tr>
<td>Magnesium</td>
<td>2.4 mg/dL</td>
<td>2.7 – 3.3</td>
</tr>
<tr>
<td>Sodium</td>
<td>137 mmol/L</td>
<td>135 – 145</td>
</tr>
<tr>
<td>Potassium</td>
<td>3.4 mmol/L</td>
<td>3.2 – 4.5</td>
</tr>
<tr>
<td>Chloride</td>
<td>111 mmol/L</td>
<td>103 – 117</td>
</tr>
<tr>
<td>Glucose</td>
<td>2000 mg/dL</td>
<td>High</td>
</tr>
<tr>
<td>Protein</td>
<td>30 mg/dL</td>
<td>High</td>
</tr>
<tr>
<td>Albumin</td>
<td>2.5 g/dL</td>
<td>2.5 – 3.3</td>
</tr>
<tr>
<td>Total T4</td>
<td>2.12 μg/dL</td>
<td>0.78 – 3.82</td>
</tr>
<tr>
<td>Serum Spec fPL</td>
<td>8.6 μg/L</td>
<td>High (0.1 – 3.5)</td>
</tr>
<tr>
<td>Total Protein</td>
<td>6.4 g/dL</td>
<td>High</td>
</tr>
<tr>
<td>Total Electrolytes</td>
<td>330 mEq/L</td>
<td>High</td>
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</tbody>
</table>

Additional testing: Problems identified by the initial laboratory work included nonregenerative anemia, hyperglycemia with glycosuria and microscopic hematuria, hypocobalaminemia and pancreatic inflammation. After reviewing these results, the following additional tests were performed:

- **Blood glucose**: 2000 mg/dL
- **Serum Spec fPL concentration**: 8.6 μg/L (High)
- **Total T4**: 2.12 μg/dL (High)
- **Serum Spec fPL**: High
- **Total Protein**: 6.4 g/dL (High)
- **Total Electrolytes**: 330 mEq/L (High)

Abdominal ultrasonography revealed a prominent pancreas, with diffuse motting and an irregular margin. The tissue appeared hypoechoic, whilst the surrounding mesentry was hyperechoic. Renal parenchyma was slightly hyperechoic; these changes appeared consistent with age. The remainder of the scan was unremarkable.

Cobalamin is a B8-group, water-soluble vitamin that is absorbed from the distal small intestinal along with cofactor produced in the pancreas. Frisky's cobalamin deficiency in face of her normal pancreatic function was indicative of chronic small intestinal disease. Intestinal bowel disease and intestinal lymphoma are the most common causes of hypocobalaminemia in cats, but small intestinal biopsies would be required for definitive diagnosis.

3. Nonregenerative anemia: Likely due to chronic disease.

Frisky had a moderate to severe anemia with no reticulocytosis. Pancreatitis is an inflammatory condition and a nonregenerative anemia is the most frequent hematologic abnormality that occurs with this disease.

Therapeutic plan

**Day 1:** Frisky was admitted to the hospital and started on intravenous fluid therapy. Her estimated deficit and on-going needs were provided with lactated Ringer's solution (13 mL/hour initially), supplemented with 16 mEq/L of KCl. A continuous-rate infusion (CRI) of fentanyl (2 μg/kg/hour) was started to manage her pain. Her respiration and pain score (see table 1 on page 16) were monitored closely so that adjustments could be made if necessary. Cyanocobalamin was administered subcutaneously (250 μg) to address the hypocobalaminemia.

**Day 2:** Frisky was briefly anesthetized for placement of an esophagostomy feeding tube (e-tube). The procedure took less than 10 minutes and she recovered with no complications. Tube feedings started that same day, using an energy-dense prescription diet (Royal Canin Veterinary Diet™ Recovery R5®). Her calorie needs were calculated based on an estimated optimal body weight of 4 kg (4 kg × 0.75 × 70 = 198 calories). Blood glucose and serum electrolytes were rechecked; all parameters were within the normal range. Her packed cell volume (PCV) had decreased to 17%.

**Day 3:** The fentanyl CRI was discontinued and buprenorphine (0.02 mg/kg) was administered subcutaneously. The volume of each e-tube feeding was doubled. Methimazole was restarted at the previous dose (2.5 mg twice daily, through the e-tube).

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management and commitment by the owner is required. In addition, pancreatitis may complicate management of concurrent diseases such as diabetes mellitus, inflammatory bowel disease and cholangiohepatitis. The well-being of these cats will depend upon the successful management of all concurrent conditions.

Table 1.
The Top Five Most Commonly Misdiagnosed Diseases in Veterinary Medicine

<table>
<thead>
<tr>
<th>Pain scoring system for dogs and cats</th>
<th>Analgesia score</th>
<th>Patient observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No pain</td>
<td>Patient moves freely. Responds appropriately to environment and interacts readily. Normal heart rate and respiratory rate.</td>
<td></td>
</tr>
<tr>
<td>2. Slightly painful</td>
<td>Responsive but avoids interaction. Patient looks at affected site if area is palpated but does not demonstrate distress.</td>
<td></td>
</tr>
<tr>
<td>3. Moderately painful</td>
<td>Limited interest in surroundings. Patient is restless and vocalizing but may be comforted by contact. Guards affected site and tries to escape if palpation is performed.</td>
<td></td>
</tr>
<tr>
<td>4. Very painful</td>
<td>Pain could not be assessed. Patient is tense and shivering. Avoids touch if possible. Unrelieved vocalization is noted. May have shallow, labored breathing and increased heart rate. May not move at all.</td>
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</tbody>
</table>

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<tr>
<th>REFERENCES</th>
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</table>

It is challenging enough to make an accurate diagnosis in veterinary medicine, but without the proper diagnostics it can be impossible. Our patients cannot communicate their pain or discomfort and we rely on owners for patient histories that are often inadequate. Our best tool is the physical examination, but even in the most experienced hands, this is often insufficient to make a diagnosis. The need for blood work is paramount in making an accurate diagnosis in the sick patient. Given these diagnostic challenges, it is no wonder that many diseases are misdiagnosed in veterinary medicine. In a turbulent economy, you should have a strategic plan to your diagnostic workup, being smart about when and how you perform your patient’s diagnostic tests. Here are a few tips we use at the Metzer Animal Hospital in our diagnostic approach to the sick animal.

1. Assess every sick patient.

A full history, a thorough physical examination and a minimum database are a necessary first diagnostic step. Occasionally we need to sedate uncooperative or distressed patients to obtain a physical examination and to complete diagnostic procedures. The minimum database should include a CBC, a general chemistry profile with electrolytes and a complete urinalysis. While this may not be sufficient for a diagnosis, it will help indicate necessary further tests or rule out diseases, thus narrowing the list of differential diagnoses. The minimum database should be performed on every sick patient. Not doing so may lead to a misdiagnosis.

2. Consider the most common diseases first.

There is a good reason why we see certain diseases more commonly—they have a higher prevalence and therefore should be the first diseases we consider. For instance, in our clinic we always add a T4 test to the minimum database in cats over the age of 7.

3. Develop a systematic approach to patient diagnosis for your hospital.

A thorough and consistent approach is the best way to prevent excluding necessary testing in misdiagnosing your patients. It will also keep you from performing unnecessary tests that can be costly and help minimize hospital trips, which the owner and your patient will certainly appreciate.

4. Get a baseline in health!

We use our preanesthetic and wellness testing results to start trending values on every patient. Doing so creates an individualized reference interval for that patient. Certain parameters like creatinine change very little in health over the life of the patient. If a patient’s creatinine is increasing—even if it is within the reference interval for that parameter, we become concerned about renal disease.

5. Don’t be afraid to get a second opinion.

A complimentary consultation by a board-certified internist or clinical pathologist is available for all IDEXX blood work, both in-house and at the reference laboratory. These specialists are available by contacting the Internal Medicine Consulting Team at 1-888-433-9987, option 4, option 2. They will help you determine not only the best diagnostic plan but also consult on treatment options and monitoring for your patients.

I have spoken many times about the most commonly misdiagnosed diseases in veterinary medicine at conferences, meetings and seminars. The talk is always crowded since this is a topic of concern for every practitioner. As you can see from the following pages, the list of the top five most commonly misdiagnosed diseases is varied, but one thing is common to them all: if you don’t test for these diseases, you will not make an accurate diagnosis. The following table provides brief descriptions of these diseases and what you can do in your clinic to prevent their misdiagnosis.

To access more information, please visit www.idexxlearningcenter.com/misdiagnosed.