

## BASIC INFORMATION

### Description

The pancreas is a flat, thin organ located in the front of the abdomen, near the stomach, that contains two major types of cells. One group of cells (*endocrine pancreas*) produces hormones (insulin, glucagon) that regulate blood sugar, and the other group (*exocrine pancreas*) produces digestive enzymes that are released into the intestines to break down food.

Pancreatitis is inflammation of the exocrine part of the pancreas. When the pancreas becomes inflamed, it becomes painful and swollen and may affect the stomach, small intestine, and liver. Swelling and irritation of the pancreas and these other organs are responsible for most of the clinical signs seen.

### Causes

Two forms of pancreatitis exist: acute and chronic. Dogs most commonly develop acute pancreatitis, but chronic pancreatitis can occur and is more common in some breeds than in others. In many cases, the cause of pancreatitis is unknown, but eating foods that are unusual (such as human food or garbage) or high in fat is known to increase the risk for acute pancreatitis. Other risk factors include obesity and the presence of diseases of the liver, small intestine, or adrenal glands (hyperadrenocorticism). Occasionally pancreatitis develops following abdominal trauma or surgery, or from tumors near the pancreas or certain infections.

### Clinical Signs

The most common signs of acute pancreatitis are vomiting, dehydration, a painful abdomen, lethargy, and fever. These signs are vague and may arise with diseases of many other organs, which must be ruled out.

Dogs with chronic pancreatitis usually have a poor appetite and lethargy. Vomiting, dehydration, and a painful abdomen occur occasionally, particularly during flare-ups. It is very common for signs of chronic pancreatitis to come and go in the dog; even when the dog seems to feel better, the pancreas can still be inflamed.

Over time, persistent inflammation can cause loss of exocrine pancreas tissue, which leads to diarrhea from poor digestion of food. Some dogs with chronic pancreatitis develop diabetes mellitus if the insulin-producing cells are damaged. Bouts of chronic pancreatitis also make diabetes more difficult to regulate in dogs.

### Diagnostic Tests

Reaching a diagnosis of pancreatitis can be quite complicated. Your veterinarian may recommend several types of blood tests and x-rays:

- Routine blood tests are used to look for other diseases with similar signs.

- A specialized test measures a form of digestive enzyme in the bloodstream that is increased with pancreatitis. Your veterinarian may combine this test, called the *specific pancreatic lipase immunoreactivity test* (SpecPL), with other tests that assess the function of the small intestine.

An abdominal ultrasound is commonly used to look for an enlarged, swollen pancreas. The pancreas can be difficult to see on ultrasound, so your veterinarian may refer your dog to a veterinary specialist for this examination.

## TREATMENT AND FOLLOW-UP

### Treatment Options

Dogs with acute pancreatitis often require hospitalization for fluid therapy, medications for pain and vomiting, and other supportive care. Food and water are initially withheld to allow the pancreas to heal. A feeding tube may be recommended in some dogs. Severe acute pancreatitis can be life-threatening and can rapidly deteriorate if not treated promptly.

Many dogs with chronic pancreatitis do not require hospitalization; however, those with severe bouts may be hospitalized for intravenous fluid therapy. For dogs with chronic pancreatitis, every effort is made to identify any other abdominal diseases, such as inflammatory bowel disease (IBD) or cholangiohepatitis, because the presence of these diseases can make recovery more complicated and prolonged.

With diagnosis of pancreatitis, the diet is changed to one with a lower fat content. If the dog does not respond to the new diet within 2-3 weeks, anti-inflammatory medications may be tried. These drugs must be used with care, because they can have significant side effects. Steroid medications are particularly problematic for dogs with diabetes mellitus.

Chronic pancreatitis can be a frustrating disease to control, and several different treatment approaches and fine-tuning of the therapies may be required.

### Follow-up Care

Follow-up visits are usually done periodically based on the severity of the disease. The SpecPL test is often repeated after 2-3 weeks to gauge whether the inflammation is improving.

### Prognosis

Prognosis for dogs with severe, acute pancreatitis requiring hospitalization and fluid therapy is often difficult to predict. Some dogs die of this disease, even with the best possible care. Prognosis for dogs with chronic pancreatitis is generally good, particularly if a change to a lower-fat diet is all that is necessary to control the inflammation and the clinical signs.