



Pancreatitis

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Pancreatitis, or inflammation of the pancreas, a v-shaped organ located behind the stomach, is generally regarded as under-reported and universally considered difficult to diagnose. A “typical” pancreatitis candidate is an older, obese spayed female who exercises little and who has recently ingested a high fat meal. But although it is true that the mean age of dogs diagnosed with the disease is 6.7 years, and that both female dogs and desexed dogs have statistically higher rates of pancreatitis than their male and unneutered counterparts, such factors are by no means prerequisites. Just ask Kristi Fowler, whose Scottie girl Shade had acute pancreatitis when barely a year old, or Dawn Head, whose Agatha began experiencing chronic pancreatitis when only two. Pancreatitis is difficult to diagnose because its origins are poorly understood. In addition to those cited above, risk factors for the disease include:

- Terrier or non-sporting breed
- Pancreatic traumas, particularly those resulting in impaired blood supply
- Hypercalcemia (caused by dysfunction of the parathyroid gland or by too much calcium in the diet)
- Drugs such as glucocorticoids; toxins such as organophosphate insecticides
- Infectious agents such as the *T. gondii* parasite that causes toxoplasmosis

However, most cases of pancreatitis are recorded as idiopathic, that is, of un-

known causation.

Anatomy of an Organ—and an Illness

The pancreas, which has two distinct parts and two distinct functions, is classified as both a digestive organ and as an endocrine gland. The exocrine pancreas produces enzymes to help break down food, while the endocrine pancreas secretes insulin, which aids nutrition by helping glucose pass through cell membranes. Each part of the pancreas can be afflicted with distinct disorders, as well, and although the endocrine pancreatic disease diabetes mellitus can both precede and result from pancreatitis, the primary exocrine pancreatic disease, the two maladies are not necessarily linked.

Pancreatitis results when the exocrine portion of the organ suffers some insult resulting in inflammation causing autodigestion. Normally, pancreatic enzymes exist in inactive form within the organ and are loosed from their granular casing only upon release into the intestine. When inflammation closes off their route to the intestine through the pancreatic duct, however, digestive enzymes collect in the pancreas, eventually overwhelming defense mechanisms that ordinarily prevent premature activation.

As you might guess, this disease process can be painful. Nonetheless, dogs eventually diagnosed with pancreatitis often present with vague, nonspecific symptoms, such as depression and lethargy. It is important to recognize that there are actually two forms of the disease: acute and chronic, and while both are serious—and sometimes life-threatening—dogs suffering from chronic pancreatitis may not appear to be profoundly ill. Even an acute attack of pancreatitis may be hard to recognize, for its hallmark anorexia, vomiting, and diarrhea can indicate any number of gastrointestinal problems. On the other hand, some victims of acute pancreatitis begin exhibiting severe symptoms without warning: Such was the case with rescue Scot, Duffy, who was approximately five years old when Daphne Branzell came home one day to



find him comatose in the back yard of her home. Duffy was in shock, “bleeding from both ends,” and only quick action on the part of Daphne and her emergency vets, who performed CPR on Duffy, saved his life. Nonetheless, as sometime happens, Duffy went on to develop chronic pancreatitis, the recurring form of the disease, although his subsequent bouts with the disease have not been as severe.

By way of contrast, as a puppy Kristi’s Shade endured repeated—but not alarming—episodes of vomiting before suffering an acute attack of pancreatitis in 2002 when she was just over a year old. Since then, fortunately, Shade has not had a recurrence. Dogs who suffer a single attack of pancreatitis can recover fully, without any lasting effects. Some dogs even seem to recover spontaneously from chronic pancreatitis, as Dawn’s

Agatha did: After two years of recurrences, Agatha remained free of the disease until she succumbed to kidney failure when she was 14½. More often, however, chronic inflammation of the pancreas can lead to scarring and permanent pancreatic malfunction in the form of diabetes, whereby the endocrine pancreas fails to produce sufficient insulin, and exocrine pancreatic insufficiency (EPI), failure to produce adequate digestive enzymes. Other organs and bodily systems can also be affected by pancreatitis, which can result in cardiac arrhythmia, kidney failure, liver disease, pulmonary edema and embolism, inflammatory bowel disease, and—perhaps most alarmingly—blood coagulation problems (disseminated intravascular coagulation, or DIC). Pancreatitis can also prove fatal, as Deborah Rudy learned when her seven-year-old Scottie, Molly, died in hospital while undergoing treatment.

How to Recognize Pancreatitis;

What to do About It

The effects of both acute and

chronic pancreatitis can be mitigated by early recognition and treatment. Some commentators consider the disease so serious they recommend that any dog exhibiting signs of inexplicable pain be evaluated for the disease. Because pancreatitis can be a medical emergency, owners are well advised to take their Scots to a veterinarian as quickly as possible after noting any of the following symptoms:

- Prolonged depression or lethargy
- Prolonged anorexia (lack of appetite) or nausea (indicated by lip licking and/or excessive salivation)
- Prolonged vomiting or diarrhea
- Fever or dehydration
- Abdominal pain (indicated by back arching or by “position of relief,” i.e., “bowing” on front elbows)



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Above all, you do not want to allow—let alone encourage—a symptomatic Scottie to eat or drink. Virtually all pancreatitis treatment regimens begin with NPO, *nulla per os* or nothing by mouth, thus preventing stimulation of the pancreas.

Your vet has a number of diagnostic tools at her disposal, usually commencing with blood work. A CBC (complete blood count) can reveal indications of disease, such as an elevated number of white blood cells and a high packed cell volume (evidence of dehydration). A serum biochemistry profile will measure whether the dog’s liver enzymes—particularly alkaline phosphatase (ALP) and alanine transaminase (ALT)—are elevated, as they frequently are with pancreatitis. Blood work will also reveal whether levels of the pancreatic

enzymes amylase and lipase are high, as they often (but not always) are when the organ is inflamed. Pancreatic function can be measured with the trypsin-like immunoreactivity test (TLI) and the newer, and possibly more sensitive pancreatic lipase immunoreactivity (PLI) test, although some vets forego these tests as it may take some time for results to come back from the few labs that perform them. Radiographs (x-rays) may be ordered, but because of their relative lack of specificity, ultrasound (sonogram) is the preferred imaging diagnostic. Even sonograms can be misinterpreted, however: Lisa’s Nora, who died of liver failure, was misdiagnosed with pancreatitis by a board certified radiologist after a full abdominal sonogram. The ultimate diagnostic tool is pancreatic biopsy, but few opt for this invasive procedure, which can aggravate pancreatic inflammation. Surgery to remove pancreatic abscesses is sometimes performed but seldom successful.

If your Scottie is found to have pancreatitis—unless the case is a mild one—she will possibly be hospitalized for a few days to a few weeks so that intravenous fluid therapy (often supplemented with pain medication, anti-emetics to prevent vomiting, and antibiotics) can be administered. Sometimes, you will be able to take your dog home right away. In either case, nothing is to be given by mouth until at least 24 hours after your dog has stopped vomiting. Severely affected dogs who do not respond to prolonged fasting and IV therapy may have to be fed intravenously or

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