

Chronic Kidney Failure

By Dr. Karen Becker

Hi, I'm Dr. Karen Becker. Your pet's kidneys are very important organs. They regulate your dog's or cat's blood pressure, blood volume, water consumption in the blood, as well as pH levels. The kidneys also produce a variety of hormones, including erythropoietin, that stimulate red blood production

As blood flows through your pet's kidneys, they filter out waste products generated from the break down of food, old cells and metabolic byproducts, toxins or poisons, and many drugs. The wastes are removed when your dog or cat urinates. The kidneys also act as filters to trap good substances, like proteins, back in the body and the bloodstream. Kidneys also help regulate calcium and vitamin D levels.

Chronic kidney disease, which is abbreviated as CKD, in pets is kidney disease in a dog or cat that has been present for months to years. It's also called chronic renal disease, which is CRD, or chronic renal failure, which is abbreviated as CRF, as well as chronic renal insufficiency. There are lots of names for the same syndrome. Dogs and cats of any age can develop chronic kidney failure, but it's more commonly seen in older pets.

Kidney failure often happens so gradually that by the time the symptoms become obvious, it's really too late to treat the problem effectively. The kidneys find amazing ways to compensate as they slowly lose function over a period of months to years, which is why obvious symptoms don't oftentimes appear until very late in the disease process.

There are many different causes of kidney disease, including congenital or at-birth malformation of the kidneys, chronic bacterial infection of the kidneys, high blood pressure, urinary blockage and certain drugs, as well as diabetes, lymphoma which is a type of cancer, and immune-mediated disease. An episode of acute kidney disease, for example from a poisoning that permanently damages an animal's kidneys, can lead to a chronic form of kidney disease as well. And many times, no cause can be found for a dog's or cat's kidney problems.

Dog breeds that are prone to chronic kidney failure include the Samoyed, bull terrier, Cairn terrier, German shepherd, and English cocker spaniel. Abyssinian and Persian cats are also more prone to CKD than other breeds, but in general, cats are much more prone to chronic kidney disease than dogs, in fact, it's one of the leading causes of deaths for kitties.

Symptoms

Symptoms of chronic kidney failure typically occur gradually over a long period of time but they can include vomiting, lethargy, diarrhea or constipation, depression, gradual but consistent weight loss, increased thirst and urination (obviously), anorexia, acute blindness, seizures or coma, blood in the urine, and decreased frequency or amount of urine in some situations as well.

Less common signs include oral ulcerations and bruising, weakness or pathologic bone fractures that can result in animals breaking bones out of the blue or spontaneously. There's actually also a weird symptom of itchy skin from calcium and phosphorus deposition in the skin. GI ulcers or bleeding into the stomach or gut can also be a rare symptom.

Your veterinarian will need to run a complete blood profile that includes a chemical blood profile, complete blood count (CBC), and urinalysis. Pets with chronic renal failure may have anemia, abnormal electrolyte levels, abnormal or elevated blood pressure, and abnormally high levels of creatinine and blood urea nitrogen (BUN). One of the primary indicators of CKD is dilute urine (so on a urinalysis the specific gravity will be low), which means the kidneys aren't capable of recycling water normally. Other tests may include x-rays or ultrasound imaging to check the size and shape of the kidneys for obvious abnormalities. A small kidney size in ultrasound or x-ray is another indicator of CKD.

Diagnosis and Treatment

The severity of CKD can be estimated based on blood waste production levels (BUN) and abnormalities in the urine, such as the presence of protein. A method exists to estimate the stages of CKD, and stages are numbered 1 through 4, where 1 is the least severe and 4 is the most severe. The higher the stage number, typically the greater symptoms that are seen, but that's not always the case.

Occasionally, especially when the kidneys are enlarged instead of abnormally small, a kidney biopsy may be performed to look for a definitive cause of why the kidneys are dysfunctioning. If your pet's kidney disease is caused by some factor other than damaged kidneys, for example a disease that decreases blood flow to the kidneys or a urinary tract obstruction, it's possible the problem with the kidneys can be reversed with appropriate treatment of the underlying disease process.

If the kidney disease is a result of irreversible kidney damage, in many cases renal function will stabilize for weeks or even months at a time. The disease will continue to progress, over time though, and kidney function will continue to deteriorate, but your pet's symptoms can be minimized with supportive treatment. Fluid therapy is the cornerstone of treatment for animals with kidney failure, primarily to prevent dehydration. Subcutaneous or under the skin fluid delivery will be necessary, and many pet owners can learn to do this at home. In fact, we train clients all the time how to give fluids at home so you can reduce stress on your pets, instead of having to bring them to the veterinarian consistently.

Potassium is often added to the fluids or the animal's diet to safeguard against muscle weakness and heart rhythm disturbances that can result from low electrolyte levels. In some cases, intravenous (IV) fluids may also be necessary. Your dog or cat should have round-the-clock access to fresh, clean water. Withholding water, for example overnight, will not solve your pet's need to urinate in the middle of the night and actually can cause terrible additional stress on your pet's kidneys.

You'll need to keep careful track of the amount of food and water your pet consumes each day. If consumption decreases, additional fluids may need to be administered, such as subcutaneous IV, to prevent dehydration. You should also weigh your pet at least weekly to make sure she's getting enough calories to maintain her weight.

The food you feed a pet with chronic kidney failure is also critically important for disease management and overall well-being. I advocate an organic, fresh food diet for animals with kidney dysfunction. A reduced amount of high-quality, human-grade protein is really essential, as is eliminating all dry foods, which can exacerbate your pet's dehydration. Feeding a high-moisture, reduced phosphorus diet is really essential.

An integrative or holistic veterinarian is your best resource for advice on all the right supplements as well as medications if necessary, as well as a whole host of other therapies that can help sustain your pet's health and quality of life through chronic kidney disease.

[END]