



CHRONIC KIDNEY DISEASE IN CATS AND DOGS

What is chronic kidney disease?

To understand chronic kidney disease (also called chronic renal failure, or CRF), and what we can do in response, it is helpful to know a little about how the kidneys function. Each kidney is made up of many individual working units, called *nephrons*, which help filter the body's protein waste products and adjust the concentration of the urine to help meet the body's fluid needs. Your pet has many more nephrons than it needs. It is felt that as much as 75% of the kidneys' tissue must be non-functional before *azotemia*, the accumulation of the normally filtered waste products in the bloodstream, develops. This state is reflected by a rise in the creatinine and BUN levels that we measure in the blood. Severe reductions in renal function may result in uremia, a crisis situation that affects many organ systems in addition to the kidneys.

Kidney disease is often classified as acute or chronic. Acute renal failure, often caused by exposure to toxic substances or by traumatic injury (among other reasons), usually has a sudden onset, and in some cases the damage to the kidneys may be reversible. Chronic renal failure often has a more insidious onset, however, pets with CRF may still *appear* to have a sudden onset of disease, because often the early signs are subtle and may go unnoticed.

What are the signs of chronic kidney disease?

Signs of CRF often depend on the stage of the disease, the ability of the pet to compensate for the compromise in kidney function, and other health issues that may be concurrently happening. Early renal disease may produce no visible signs. Often the earliest sign may be a decrease in the ability to make adequately concentrated urine. Pet owners may notice a resulting increase in drinking and urinating as the first visible sign of disease. Note that several other diseases may present with the same signs, so that ***an increase in your pet's water consumption and/or urination is an indication to schedule an examination.*** As CRF progresses increases in blood creatinine and BUN become evident. If left untreated, the pet may proceed to a uremic crisis often accompanied by lethargy, depression, loss of appetite and vomiting as well as severe elevations of BUN, creatinine and phosphorous levels.

CRF affects many organ systems besides the kidneys. Uremia may produce ulcers in the stomach or sores in the mouth, which may become infected. Pets with CRF often become anemic as the disease progresses. CRF also may be associated with a rise in blood pressure which can affect the heart as well as the eyes. A decrease in potassium levels may result in weakness and/or lethargy. Other concurrent health conditions may either exacerbate or mask CRF. For example, hyperthyroidism, a common problem of older cats, may mask the signs and effects of CRF only to have then appear once treatment for the hyperthyroidism is started, however, like CRF, hyperthyroidism may raise the blood pressure.

Can chronic kidney disease be treated?

While we cannot cure CRF, treatment plans are directed at making the pet comfortable and slowing the disease progression as much as possible. *At a minimum, ensuring that plenty of fresh water is always available and that accommodations are made for your pets increased urination needs.* Often special low protein diets are used in an attempt to lighten the protein waste product burden on an already compromised kidney. Some pets may benefit from potassium supplements, as CRF is often accompanied by potassium depletion. Pets who cannot keep up with their increased fluid needs by drinking may need routine fluid supplementation. Many owners are able to learn how to give subcutaneous (under the skin) fluids on a regular basis; alternatively, our hospital staff can administer fluids. Routine monitoring of blood and urine values as well as blood pressure values help us follow along your pet's status. Pets that present in a uremic state usually need more intensive treatment that may involve hospitalization for several days of intravenous fluids.

TREATMENT RECOMMENDATIONS FOR _____

Diet: _____

Medications: _____

Current weight = _____ lbs. ****Monitor for changes in body weight****

Have bloodwork checked in _____ (Please schedule an appointment)

Have a urinalysis checked in _____ (Please schedule an appointment or submit sample)

Schedule a recheck examination _____

Have blood pressure checked in _____ (Please schedule an appointment)

In summary, while more common in older animals, even younger pets can develop chronic kidney disease. Early detection of CRF often is associated with a better prognosis than when it is diagnosed in its later stages. Our goal in treatment is to provide relief through various means so that we can maximize your pet's quality of life for as long as possible. Please feel free to contact the Drs. or staff if you have any comments or questions.