

Chronic Kidney Disease

The kidneys' main job is to filter the bloodstream and remove waste products which are eliminated in urine. One of the most common disorders of senior cats is chronic renal disease (CRD). After a lifetime of wear and tear, kidney function declines as a cat ages. CRD now accounts for a significant amount of illness and death in senior cats. Fortunately, our understanding of kidney function and CRD has also increased dramatically so that more effective treatment options are available.

Each kidney is composed of thousands of working units called *nephrons*. As some of the nephrons are damaged and lost, the remainder of the nephrons work harder to maintain function. Two-thirds or more of nephrons and total kidney function must be lost before most cats will show signs of illness or changes are seen on blood tests. CRD is an ongoing, irreversible disease process that progresses over months to years.

Signs

Signs of CRD include weight loss, poor appetite, lethargy, vomiting, increased thirst, and increased urination. In severe disease, other signs may appear including ulcers in the mouth and bad breath produced by toxic levels of waste products. The hair coat may be dry and cats may suffer from constipation from dehydration. The kidneys also produce a hormone called erythropoietin that stimulates the bone marrow to make new red blood cells to replace older damaged ones. In some cats with CRD, erythropoietin levels may fall causing the bone marrow to produce fewer red blood cells and anemia may result.

The kidneys also play a role in regulating blood pressure so that about 1 in 5 cats with CRD will develop high blood pressure (hypertension). Cats with hypertension may be lethargic, may have behavior changes (especially vocalizing at inappropriate times), and may suffer eye damage that can result in sudden blindness. An unfortunate few will suffer neurologic disease similar to a stroke.

Treatment

Wherever possible, senior cats are best treated on an outpatient basis. However, some cats with CRD are in need of hospitalization for rehydration and sometimes tube feeding. Many cats improve markedly when their dehydration is corrected and nutrition is supplied. In some cases, several days of treatment with intravenous fluids can help improve blood levels. While dialysis is commonly available for people with CRD, it is not commonly available for cats.

Dietary therapy plays an important role in the treatment of CRD patients, that are low in protein (to reduce the kidney's workload), low in phosphorus, higher in potassium and higher in calories. Some CRD patients with low potassium levels will benefit from daily potassium supplementation. Other medications that might be prescribed include: phosphate-binders to reduce phosphorus levels, appetite stimulants, antacids to reduce nausea and improve appetite, and medications to control hypertension. If anemia is severe, synthetic forms of human erythropoietin can be given by injection.

While most cats with CRD are larger quantities of water, they still typically do not drink enough to sustain their needs. Improving fluid intake helps prevent dehydration and improves kidney function. For this reason, canned food is preferred over dry food. Subcutaneous fluid therapy can also have a profound effect on the cat's health and improve quality of life. We can teach you how to perform this simple but very helpful procedure at home on a regular basis.

Prognosis

Cats with CRD need frequent monitoring by a veterinarian. Blood work needs to be monitored to help judge the success of any treatments and allow for any adjustments that might be needed. Owners should also monitor thirst, urination, appetite, weight, and the cat's overall quality of life. Many cats with CRD will eventually be euthanized when their disease becomes intractable and their quality of life becomes poor. The amount of care a CRD patient needs depends on the severity of the disease and whether complications such as anemia and hypertension are present. In many cats, CRD progresses slowly, allowing time to improve quality of life without too much intervention. In other cats, the disease may not be recognized until it is quite severe, in which case more intensive treatment will be needed. The earlier in the course of the disease it is diagnosed and treated, the better the prognosis.

For more information, please visit:

The International Renal Interest Society (IRIS; www.iris-kidney.com)

AAFP: <http://www.catvets.com/cat-owners/cat-owners/disease-and-conditions/chronic-renal-disease>