

# Chronic Kidney Disease in Cats

© Terrence P. Daly, D.V.M.  
North County Cat Hospital  
760-758-6228



## Overview

Chronic kidney disease is a common condition in older cats. It is caused by damage to the kidneys that gradually occurs throughout the cat's life. In essence, the kidneys "wear out." As this happens, the kidneys lose their ability to function.

## Function Loss

Because the kidneys have a lot of reserve, we generally don't see any signs and can't detect the disease until about 65% of the kidney function is lost.

**The first function** of the kidneys that is usually diminished is their ability to conserve water. They gradually lose the ability to concentrate urine. Because of this, the first sign usually seen with chronic renal failure is increased drinking and urinating. The urine becomes noticeably dilute - more and more like water. This can be detected with a urinalysis.

**The second function** to be diminished occurs when the kidneys have lost about 75% of their function. The kidneys start to lose their ability to excrete toxins and waste products. They also lose their ability to produce certain kidney hormones. As this happens, the cat starts to show signs associated with the increased levels of toxins and wastes in his or her blood, such as lethargy and weight loss.

## Treatment

Treatment of kidney disease is aimed at:

- Preventing dehydration
- Reducing progression of the disease
- Treating secondary conditions (e.g., toxin accumulation, anemia)

**Ultimately, the goal of treatment is to increase the quality and length of the cat's life. The success of treatment varies but many cats live for years with this disease.**

It is important to remember that a main goal of treatment is to increase or maintain quality-of-life. If a given treatment diminishes this quality-of-life significantly, then it should be discontinued.

It is also important to remember that it is our job to advise you of the best possible medical care and that this level of care can be expensive. Obviously, it is up to you to decide what tests and treatments are appropriate for your cat.

# Tests for Cats with Kidney Disease

## *Weight*

Weighing the patient is a critical means of assessing effect of treatment and progression of disease. Regardless of the results of the other tests, if the patient is losing weight, something is wrong.

## *Physical Exam*

We recommend a complete exam every 6 months to assess the overall condition of the patient. It is to look for problems related to the kidney disease and to look for new disease.

## *Urinalysis*

The kidneys produce urine so it makes sense that testing urine can tell us a lot about the status of the kidneys. A urinalysis can tell us whether the kidneys are currently concentrating the urine (this usually does not improve with treatment). It can also give an indication of something else occurring within the kidneys – e.g., infection, crystal formation.

## *Blood Chemistry Panel / CBC*

The blood tests that are included in the panel look for changes that occur as the kidney disease progresses:

- BUN / Creatinine / Phosphorous – waste products that increase with disease.
- Potassium ( $K^+$ ) – decreases with kidney disease. Low potassium can also cause/contribute to reduced kidney function.
- $CO_2$  – is an indirect measure of total body acid –  $CO_2$  decreases as acid levels increase.
- Calcium ( $Ca^+$ ) – increases.

A complete blood count (CBC) measures the number and types of cells in the blood. It is used to diagnose anemia (low red blood cell count). It can also give an indication of infection – sometimes hidden within the kidneys causing further damage.

## *Blood Pressure*

The kidneys help regulate blood pressure, and as their function diminishes, cats often develop high blood pressure. This high blood pressure can damage internal organs – including the kidneys themselves.

## *Urine Culture and Sensitivity*

As the urine becomes more dilute and as the kidneys become more “sick”, they are more susceptible to infection. This infection can further damage the kidneys and is best treated with long-term antibiotics. Since infection is often hidden (i.e., the urinalysis can be normal even with infection present) it is best to culture the urine occasionally to check for infection.

## *Radiographs*

It is worthwhile to radiograph the abdomen to look at kidney size and shape and to check for stones.

## Treatments for Cats with Kidney Disease

### *Water*

We consider water to be the most important treatment for kidney disease. It is imperative that your cat always has plenty of fresh water available. Most cats prefer bottled or filtered water to tap water and it is worth the small expense to provide this. If your cat prefers to drink running water, we recommend a fountain made for cats (Petwell Pet Fountains have worked well, in our experience). You can also encourage water consumption by adding clam or tuna water to a bowl of water. This should be in addition to the fresh water, not instead of fresh.

### *Low Protein / Low Phosphorous Diets*

The kidneys eliminate the waste products created from the metabolism of protein. When kidney function is compromised, these waste products, including phosphorous, increase and contribute to the cat's lethargy and malaise. Low protein diets can help offset this but only if the cat eats them. If the cat doesn't eat the diet, he or she will start to use body muscle for energy and this will make things much worse. It is more important that your cat eats than that he or she eats the correct diet. We recommend gradually changing to a low protein diet and monitoring weight closely.

The low protein diets are only available through veterinarians. We recommend the one that your cat prefers. We have diets made by Hills, Purina, Eukanuba and IVD.

### *Calcitriol*

This is an oral drug that can help decrease the production of a hormone called PTH. PTH is a substance that is increased with kidney disease and contributes to the negative clinical signs seen with the disease. Some of the blood tests should be repeated a month after this medication is started to assess for negative effects.

After we call in a prescription, you can order this drug from Triad Pharmacy at 1-800-851-7900

### *Pepcid AC*

With kidney disease, stomach acids are sometimes increased, causing a loss of appetite. This human over-the-counter drug can decrease the amount of acid. We usually recommend trying Pepcid AC at ¼ to ½ tablet every day or every other day. If it seems helpful in improving appetite, then the Pepcid should be continued.

Pepcid AC, or its generic equivalent, famotidine, can be found at most stores. Do not use Pepcid Complete.

### *Omega-3 (n-3) Fatty Acids*

There is some evidence that omega-3 fatty acids may decrease the progression of renal disease. It may be helpful to supplement your cat's diet with omega-3's – i.e., fish oils (not flaxseed oil).

### *Individualized Treatment*

There are several other treatments for cats with renal disease that may be recommended based on the results of the tests.

## Things to Keep in Mind for Cats with Kidney Disease:

- **Cats with kidney disease can't conserve water.** If for any reason they aren't able to drink (e.g. no access to water or vomiting), they will become dehydrated quickly. For this reason, they must always have water available and should be treated promptly for any other sickness that they develop.
- **A low protein, low phosphorous diet** can be helpful for the health of cats with damaged kidneys but some cats don't like any of these diets. It is more important that these cats eat than that they eat the correct food. It is usually best to introduce the diets gradually and if your cat won't eat the prescribed food, feed him or her something else.
- **Commercial diets** designed for older cats are made with the assumption that older cats are overweight. As such they are usually low in fat but not low in protein.
- **Commercial diets** made "to promote urinary health" are not made for cats with kidney disease. They are made for cats with urinary bladder disease. As such, they are high in acid and are potentially detrimental to cats with kidney disease.
- **The blood parameters** fluctuate normally throughout the day. For this reason, one abnormal reading may not be significant. So we often don't start treating based on one blood test.