

Veterinary Centre

Chronic Kidney Disease (CKD)

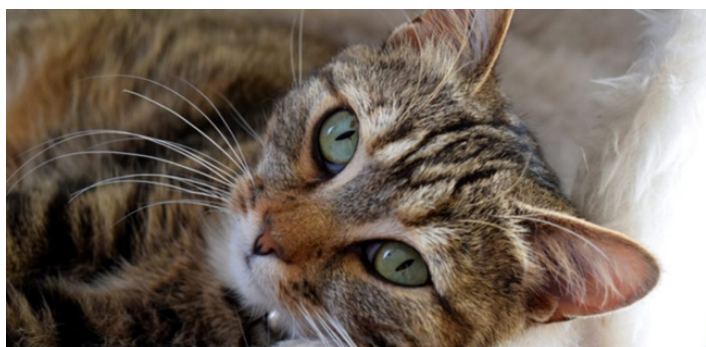
INFO
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What is Chronic Kidney Disease?

CKD is a common condition affecting older animals, especially cats. In most cases CKD is progressive over time so that there is a gradual decline and worsening of the disease. The rate of decline varies considerably between individual animals.

The kidneys are responsible for: helping maintain fluid balance in the body; producing certain hormones; regulating many electrolytes in the body; and excreting waste products (via urine). In CKD, all these regulatory processes can be interfered with, causing a wide range of different signs.

Although CKD is not a curable or reversible disease, appropriate support and treatment can both increase the quality of life, and prolong life by slowing down the progression of the disease.



What Causes Chronic Kidney Disease?

CKD occurs where there is long-standing, irreversible damage to the kidneys that impairs their ability to function and remove waste products from the blood. Although most cases of CKD are idiopathic (have an unknown underlying cause), some causes are well recognised. These include:

- Polycystic kidney disease (PKD)
- Kidney tumours
- Infections
- Toxins
- Glomerulonephritis
- Birth defects

If an underlying cause can be identified, in some cases this may be treatable and so progression of the condition may be halted. In most cases though, treatment is aimed at management of the disease and complications that arise from it.

Clinical Signs

In most cases CKD is a progressive disease. Initially, clinical signs are often very subtle and mild, but will gradually get worse over a long period of time. More rarely, signs may appear to develop quite suddenly (often as a result of decompensation or sudden worsening

of the condition, for example if an animal with CKD is deprived of water – think of a cat accidentally locked in a garage).

Diagnosis

A diagnosis of CKD is usually made by collection of blood sample and a urine sample.

Traditionally, two substances in the blood – urea and creatinine – are commonly analysed, as these are by-products of metabolism that are normally excreted by the kidneys. Another blood test has also become available called SDMA (symmetric dimethylarginine) which may allow earlier detection of CKD and may also allow more accurate staging of CKD.

Blood tests may also show any important complications that have developed as a result of CKD. As high blood pressure is a relatively common complication of CKD, we will also want to measure your pet's blood pressure. Sometimes other investigations such as X-rays, ultrasound or even biopsies may be indicated depending on individual circumstances.

Urine tests assess the capacity of the kidney to concentrate urine. Additional tests of the protein content in urine (protein:creatinine ratio) can be important with CKD. Increased loss of protein in the urine (proteinuria) may be a marker of progressive CKD and a cause of weight loss. Using medications to reduce this loss can help slow progression of CKD and maintain weight.

The combination of routine bloods and urine testing allows us to **stage** your pet's kidney disease. Periodic retesting allows us to monitor disease progression and respond to any complications arising from CKD.



The Most Common Signs are:

- Weight loss
- Poor appetite
- Lethargy
- Increased thirst
- Increased urination

Other Signs may include:

- Poor coat
- High blood pressure
- Vomiting
- Bad-smelling breath
- Weakness
- Anaemia

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Treatment

If a specific cause for the CKD is identified (e.g. bacterial infection of the kidneys), treatment may be possible to slow disease progression. In most cases though, treatment is symptomatic and supportive. Some animals may require initial intravenous fluid therapy to correct dehydration but once stable, treatment is aimed at supporting kidney function and minimising the complications of CKD.

Dietary modification is important the most important aspect in CKD to improve quality of life and slow progression of disease.

Other medications may need to address complications (e.g. high blood pressure) as they arise. Monitoring progression of kidney disease is also important through regular blood and urine tests.

Diet and Management of CKD

Dietary management is critical in cats with CKD, and there are three main aspects to this:

Water Intake

Animals with CKD are more likely to become dehydrated (due to the reduced ability of the kidneys to conserve water). It is important to have multiple sources of fresh, clean water available. Water additives (e.g. salt-free stock or juice from tuna in spring water can) can help to make water more appealing. Wet food, kidney diet sachets, is an easy way to add extra water content. Some animals may require intermittent subcutaneous or intravenous fluid therapy. Some owners care able to give subcutaneous fluids at home.



Protein Content

An ideal diet for a pet with renal failure should have a restricted protein content. Many of the toxic products that accumulate in the blood in CKD are a result of protein breakdown, and feeding a reduced protein diet will help to minimise this and improve quality of life. Protein restriction has to be performed with care though as too little protein can be extremely detrimental to general health.

Low phosphate content

Restricting the phosphate content of the diet is key in protecting the kidneys from further damage. While restricting protein in the diet helps maintain quality of life, restricting phosphate appears to prolong the life of pets with CKD. If blood phosphate concentrations remain high despite being on a low phosphate diet, further treatment with drugs known as 'phosphate binders' to reduce the amount of phosphate absorbed from the intestine may also be indicated.

Because of the very specific requirements to manage CKD patients, feeding a specific veterinary kidney diet designed to manage all these aspects is strongly recommended. These diets are only available through your vet, but have a vital role to play in managing the disease.

Managing the Change to a New Diet

Some animals, especially cats, will often develop a strong preference for diets. This means that changing animals to a prescription diet can sometimes be difficult. These tips may help:

- Always make a change in diet gradually - slowly increase the amount of new food mixed with the old food over several weeks.
- Start by mixing a very small amount of the new food with the old food, and make sure it is well mixed
- Warming the food to body temperature (around 30C) may help increase the palatability
- If necessary, talk to your vet about using drugs to increase the appetite to make the transition easier

In most cases with sufficient care and time, cats can be very successfully transitioned to a new diet, and as this is such an important part of managing CKD it is worth taking the time to do properly. If cats absolutely refuse to eat any of a new diet, it is important that they eat something, so keep offering their old diet in this situation and contact your vet for further advice.

What is the Prognosis for Animals with CKD?

Once sufficient damage has been done to the kidneys to cause CKD, the compensatory changes and adaptations that occur to try to maintain normal kidney function usually eventually fail and progressive kidney damage occurs. The disease is usually therefore progressive over time. However the rate of progression of renal disease varies considerably between individuals and appropriate support and treatment can both increase the quality of life of affected animals and also potentially slow down the progression of the disease.