



# Chronic Kidney Disease

**What is kidney disease?** There are many diseases that can damage your pet's kidneys – inherited and congenital conditions, infections, immune-mediated conditions, toxins, tumours. Irrespective of the cause there is a gradual decline in kidney function due to loss of functional units, but obvious clinical signs do not occur until about 75 % of these units have been destroyed. The initial cause of the disease is often unknown, and the deterioration can take months to years.

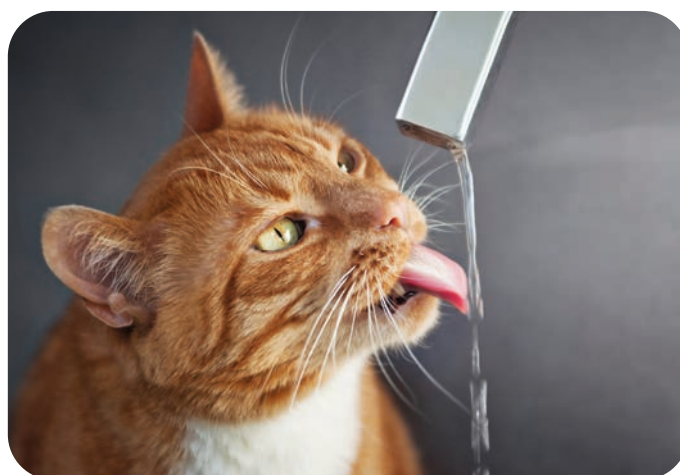
## How do the kidney's work?

The main functions of the kidneys include eliminating waste products from the body, maintaining the normal amount and composition of body fluids and producing several hormones (necessary for red blood cells production, regulating blood pressure and manage calcium and phosphorus metabolism).

Chronic kidney disease can affect a patient of any age, but is most common in older patients.

## What are the symptoms of chronic kidney disease?

Initially the signs are non specific and may be contributed to ageing. Therefore attending senior health clinics, monitoring blood pressure and regular blood test checks are vital to early detection of the renal disease. Cats are able to concentrate their urine until quite late on in the disease and they hide any health problems well.



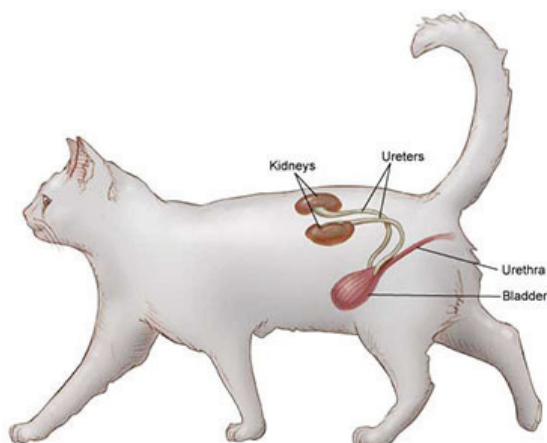
As the disease advances you will notice that your pet drinks more and urinates frequently, losses weight and appetite. Following that 'uremia' will develop – vomiting, inappetance, lethargy and weakness.

The clinical signs of kidney disease are due to the waste products accumulation. Although the loss of kidney function is a slow and gradual process, some animals – especially cats – may present with a sudden onset of signs.

The kidney damage is irreversible, however the clinical signs can be managed to provide a good quality of life over months to years.

## What tests are needed?

The diagnosis of the kidney disease is based on clinical signs and few tests. The initial diagnosis is based on a blood test and urinalysis. The blood test checks the waste products levels in the blood stream (creatinine, urea and phosphorus)



to assess the severity of the disease. Elevated levels of creatinine and urea are called 'azotemia'.

The urine test checks the kidneys' ability to concentrate the urine and to ensure that the increase in kidney values is not just due to dehydration. Once the renal disease is diagnosed, further tests check the stage of the disease – the amount of the protein in the urine and blood pressure.

## CKD stages

The International Renal Interest Society (IRIS) has developed a staging system based on the patient's serum creatinine concentration, proteinuria (protein in urine) and blood pressure.

The IRIS CKD stages are :

- **Stage 1** (*non-azotemic*)
- **Stage 2** (*mild azotemia*)
- **Stage 3** (*moderate azotemia*)
- **Stage 4** (*severe azotemia*)

A new test called 'symmetric dimethylarginine' SDMA can be used to detect the loss of kidney function at early stages and is also used for monitoring the disease.

Imaging – an ultrasound scan – is used to determine if there are any structural changes to the kidneys, obstruction of the urine flow from the kidneys (ureteral stones) or small kidneys typical of chronic kidney disease (but not always present).

If the pet is presented very ill, an intravenous fluids and supportive care in the hospital may be necessary.

The initial treatment of a stable patient starts with a special diet, which is low in protein and phosphorus. Treatment for high blood pressure and proteinuria may be necessary as well and with time a phosphorus binder may be added.

## Management of kidney disease

Treatment of the chronic disease depends on the presentation and stage of the disease.

It is crucial to ensure that the patient with chronic kidney disease is well hydrated. Providing clean, fresh water in several places in the house, feeding wet diet with added water are advised. Occasionally injection of fluids under the pet's skin may be necessary and a permanent cannula can be placed to allow this.

Pets with chronic kidney disease can dehydrate easily and stop eating. On occasions supportive care in the hospital may be needed, including rehydration, appetite stimulants and anti-emetics (to prevent nausea).

As kidneys produce a hormone crucial in production of red blood cells, a supplementation of iron and the hormone may be necessary at later stages of the disease.

Once chronic kidney disease is diagnosed and the pet is stable, regular follow-up appointments will be scheduled by your veterinary surgeon. Regular evaluations and adjustments in treatment will provide the best management for your pet.



**If you are concerned about your cat or want to discuss anything further, please contact your local Scarsdale practice.**