



Chronic Renal (Kidney) Disease in Cats:

Chronic Kidney disease (also known as renal insufficiency or renal failure) is a common problem among older cats. In animals with this disease, the kidneys slowly lose their ability to filter harmful waste materials out of the blood and to retain water in the body. As a result, wastes build up in the body, causing illness and other complications. Although there is no cure, treatment is aimed at helping to slow the progression of the disease and to give your pet a more comfortable life.

Clinical signs: increased drinking, increased urination, vomiting, decreased appetite, lethargy, weight loss and dehydration. Kidney disease can also be associated with other abnormalities in the body like hypertension (high blood pressure).

Untreated hypertension can lead to retinal detachment and blindness, which may or may not be reversible depending on how long it has been present for. If your cat suddenly becomes blind or their pupils become dilated (large), please book an appointment with a vet as soon as possible as this condition can be treated if caught early.

Diagnosis:

There are a number of tests that are important in the diagnosis and monitoring of kidney disease.

1. **Urine Specific Gravity (USG):** is a measure of the concentration of urine. A dilute urine sample has a specific gravity less than 1.030. A concentrated sample would have a USG over 1.040. A failing kidney by definition cannot make concentrated urine.
2. **Blood Urea Nitrogen (BUN):** is a protein metabolite excreted by the kidney and is one of the toxins that we are concerned about. This is non-specific test as it can be influenced by daily protein, your pet's hydration, and gastrointestinal bleeding. This is always looked at in conjunction with other tests before a diagnosis of kidney disease is made.
3. **Creatinine (Crea):** is another protein metabolite although this one is more specific to kidney disease. BUN and Crea will be monitored over time and in response to different treatments.
4. **Phosphorous (Phos):** The calcium/ phosphorous balance can become deranged in kidney failure. An increase in these values can cause painful mineral deposits in the body and rubbery bones. Keeping phosphorous levels in the low normal range has been correlated with improved survival.
5. **Potassium (K):** The failing kidney is unable to conserve potassium efficiently and supplementation may be needed. The sign of hypokalaemia (the scientific name for low blood potassium) is weakness, especially drooping of the head and neck.
6. **Packed cell volume/ haematocrit (PCV):** is a ratio of red blood cells to plasma in the body. The red blood cell number can drop in kidney disease because the hormone responsible for red blood cell production is manufactured by the kidney. This can lead to weakness, poor appetite and overall poor quality of life.

7. **Blood pressure (BP):** is an important parameter in the monitoring of kidney patients as there is a tendency for hypertension to develop in kidney failure. Special medications may be needed to manage this problem should it arise.
8. **Urinary Protein (UPC):** in the failing kidney, the fine filtering system of the kidney is lost and in some cases, large quantities of blood protein can be lost into the urine. If this complication cannot be controlled, survival time is dramatically shortened.

**Your pet's lab results can be printed for you on request
(if you would like to keep a record of these)**

From these blood results, your cat will be graded into stage 1-4 kidney disease depending on the creatinine values, and substaged depending on blood pressure and urine-protein levels. The advantage of staging this disease is that we can have a better idea of the long-term prognosis, ideal treatment plan, and frequency of monitoring (especially when we can see the trend over a few months of treatment).

STAGE	CREATININE VALUES
Stage 1 (pre-failure)	< 160
Stage 2 (mild failure)	160 - 280
Stage 3 (moderate failure)	280 - 500
Stage 4 (severe failure)	> 500

Treatment: As there is no cure for kidney disease, treatment is lifelong. The first treatment that your pet will start is a specialised kidney diet. There are 3 versions of this to choose from: Hills k/d, Eukanuba Renal and Royal Canin Renal. Dry food does not cause kidney disease but once it is diagnosed, the best food to be on is wet food to increase the water intake in your cat. Increased water intake (even though they will be drinking a lot already), will improve the flow of toxins through the kidneys, as well as reduce dehydration in your cat. If a wet food only diet is not possible, then as much wet food as possible should be fed and your cat should have free access to water at all times. If your cat is in an advanced stage of kidney disease then extra fluids can be supplemented by subcutaneous injection (under the skin) of fluids at home. We can teach you how to do this.

Daily recommended feeding amounts of wet food for an average sized (4kg) cat:

- 1.5 tins of Eukanuba renal
- OR 1.5 tins of Hills k/d
- OR 1.5 sachets of Royal Canin Renal CHICKEN
- OR 2 sachets of Royal Canin Renal TUNA

We will need to perform follow up diagnostic tests (blood tests and blood pressure readings) over the next few months to stabilise your cat's condition, followed by six-monthly checks thereafter (for monitoring purposes).