



勝利動物醫院  
Victory Animal Hospital

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Blk B, 1/F, Chung Yuen Mansion, 71b Waterloo Rd., Kln, Hong Kong

Phone: 852 2711 0332

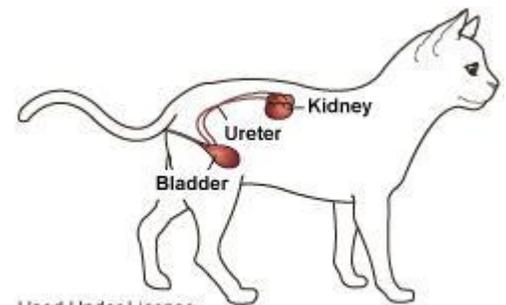
Email: [info@globavet.com](mailto:info@globavet.com)

## Kidney disease in Cats

The kidneys have many functions. They principally act to remove metabolic waste products from the blood stream, regulate the levels of certain essential nutrients such potassium and sodium, conserve water and produce urine.

### What is chronic renal failure?

The kidneys have a large amount of spare capacity to perform their various functions so at least two-thirds (67% to 70%) of the kidneys must be dysfunctional before any clinical signs are seen. In many cases, this means that the damage to the kidneys has been occurring over a number of months or years (chronic) before failure is evident. Chronic renal failure (CRF) is mainly a problem in older cats..



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### What are the clinical signs of chronic kidney failure?

Early signs of disease such as weight loss and poor coat quality are often dismissed as normal aging changes. In the initial stages of kidney failure, the kidneys produce a larger amount of more dilute urine). After approximately two-thirds of the kidney tissues have failed, there is a rapid rise in waste products in the bloodstream and an apparent sudden onset of severe disease.

### What are the causes of CRF?

CRF is the end stage of a number of different disease processes rather than a specific disease in its own right. Diseases or conditions that can eventually lead to CRF include:

1. Congenital malformations of the kidneys – such as polycystic kidney disease in long haired cats
2. Pyelonephritis – bacterial kidney infections
3. Glomerulonephritis – inflammation and damage to the kidney's filtration membrane
4. Neoplasia – various tumors of the kidney, most commonly lymphosarcoma
5. Amyloidosis – this is the build-up of an unusual protein in the kidney that prevents the kidney from functioning normally
6. Viral infections such as feline leukemia virus (FeLV) or feline infectious peritonitis virus (FIP)
7. Kidney stones or ureteral stones

## How is the disease diagnosed?

Renal disease is usually diagnosed by looking at the level of two biochemical byproducts in the bloodstream, blood urea nitrogen

(BUN) and creatinine, in conjunction with the urine specific gravity (USpG). Microalbuminuria (or the presence of small protein molecules in the urine) is another indicator of CRF. Tests to measure the blood levels of other substances such as proteins, potassium, phosphorus and calcium as well as the red and white blood cell counts are important in order to determine the extent of failure and the best course of treatment. Test such as SPMA may be used to evaluate gravity and diagnosis.



## How does CRF affect my cat?

Because the kidneys perform a variety of different functions, the clinical signs of renal failure can be somewhat variable. The most common changes seen are weight loss, poor hair quality, halitosis (bad breath), variable appetite which may be associated with mouth ulcers, lethargy and depression. Less common signs include increased drinking or urinating, vomiting, diarrhea, and anemia.

## What treatments are available?

The treatment of CRF depends on the results of blood tests, and specific treatments are aimed at resolving specific abnormalities.

- Special diets – feeding low protein and low phosphorus diets help lower the level of waste products in the bloodstream. These can be prepared at home or are available ready prepared from your veterinary practice.
- Phosphate binders – Reducing blood phosphorus can have a major effect on improving your cat's well being and slowing disease progression.
- Antibiotics – Cats with CRF develop bladder infections more frequently and routine urine cultures are recommended for many patients.
- Potassium supplementation – cats in renal failure tend to lose too much potassium in the urine.
- Vitamins B and C – when the failing kidneys are unable to concentrate the urine, these water-soluble vitamins are lost and affected cats need daily supplementation.
- Anti-emetics – for those cats that are experiencing vomiting, the use of anti-emetics reduces nausea, thereby improving appetite.
- Blood-pressure lowering drugs – significant numbers of cats with kidney failure have high blood pressure, which can lead to further damage to the kidneys.
- Treatment of anemia – the kidneys initiate the production of red blood cell in the bone marrow.

*This client information sheet is based on material written by: Ernest Ward, DVM*

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