

### **How do the Kidneys Function?**

The kidneys filter and remove waste materials from the blood stream. They also regulate the composition and volume of body fluids.

### **What is Kidney Disease?**

Kidney disease is any impairment of normal kidney function. It is one of the most common medical problems of dogs and cats, especially older dogs and cats. The disease usually progresses and the kidneys are less and less able to perform properly, and waste material (toxic substances) accumulate in the blood. A loss of appetite, increased thirst, frequent urination, poor coat, depression and/or vomiting may result.

### **What Causes Kidney Disease?**

There are many causes of kidney disease, including inherited defects, infections and toxins. Even though it is often not possible to determine the cause of the disease, your veterinary surgeon, through examination and testing, can evaluate the severity of the disease and advise on the best method of management.

### **Will my Pet Recover?**

The more common forms of kidney disease are generally progressive and may become more serious especially without proper care. Through proper management, most pets with kidney disease can live a relatively normal life.

### **How is Kidney Disease Managed?**

If kidney disease is detected before serious complications develop, a change in diet may be all that is required. If your pet is obviously ill, hospitalisation may be necessary. At home, management of kidney disease should include the following:

1. Allow free access to clean, fresh water.
2. Protect your pet from stress, such as extreme exertion, excitement, and hot or cold temperatures.
3. Feed a diet that is specially formulated to reduce the problems for animals with damaged kidneys.
4. If your veterinary surgeon has prescribed drug treatment, follow instructions carefully, even though your pet may appear to be better.
5. Consult your veterinary surgeon if any problems arise.

Normal kidneys filter and remove waste materials. When your pet breaks down protein, waste materials are produced that are eliminated in the urine. When there is reduced kidney function, filtration is inadequate so waste materials remain in the blood.

The feeding of a correctly balanced diet containing a reduced quantity of protein (but of high quality) means that less waste materials are formed. This means that the damaged kidneys have less filtration to perform and a build up of waste materials in the blood is decreased.

### **Dietary Management of Kidney Disease:**

Your veterinary surgeon has foods available which are formulated by veterinary nutritionists for dietary management. They provide excellent nutrition, meet special needs and help pets to function in spite of disease problems. They are different from non-dietary pet foods in their purpose, colour, texture, ingredients and nutrient content.

Special dietary foods are formulated to reduce the problems caused by impaired kidneys. The protein used in these products is of excellent quality and is provided in a decreased amount, so there is less waste material to be eliminated by the kidney. Because excess phosphorus intake can worsen kidney disease, the phosphorus level in these products is also reduced. Our clinic nurses offer free appointments to discuss appropriate diets. If your pet is one of the very few that will not eat these special diets then the nurses can advise you about suitable alternatives.

### **Medical Management of Kidney Disease:**

#### **ACE Inhibitors:**

ACE inhibitors, eg: Fortekor, can improve blood flow to the kidney and thus aid kidney function. It is a once a day tablet that comes in a fairly palatable form (over 80% cats will eat the tablet). Use of ACE inhibitors often improves the quality of life and slows the progression of renal disease.

#### **Laurabolin/Vitamin B12 Injections:**

Laurabolin is a derivative of testosterone given by injection. It can be given every 21 days to improve appetite and reduce the weight loss often seen in cats with chronic renal disease. Vitamin B12 can also stimulate appetite and is essential for health. This combined injection will often improve the quality of life for cats that are not responding well to dietary management. It is best to avoid laurabolin if liver disease is present or during pregnancy.

### **How is Kidney Disease Diagnosed?**

Your veterinary surgeon will carry out one or more of the following tests to evaluate your pet's kidney function.

#### **Blood Chemistry Tests:**

- ▶ *Blood Urea Nitrogen (BUN):* BUN is produced by the liver and excreted by the kidneys. Testing for it helps to detect liver and kidney abnormalities.
- ▶ *Creatinine (CREA):* Creatinine is a byproduct of muscle metabolism and is excreted by the kidneys. Elevated levels can indicate kidney disease or urinary obstruction.
- ▶ *Phosphorus (PHOS):* Can be an indicator of kidney disease when elevated.
- ▶ *Electrolytes (Sodium, Potassium, Chloride):* The balance of these chemicals is vital to your pet's health. Abnormal levels can be life threatening. Electrolyte tests are important in evaluating vomiting, diarrhoea and cardiac symptoms.

#### **Haematology Tests:**

- ▶ *Haematocrit (HCT) or Packed Cell Volume (PCV):* Provides information on the amount of red blood cells (RBCs) present in the blood. This test is used to diagnose anaemia.
- ▶ *Complete Blood Count (CBC):* A more complete panel of tests, a CBC provides detailed information on red and white blood cells and platelets. These tests can indicate the presence of inflammation, stress or an inability to fight infection. Low platelets can indicate a potentially serious problem such as bleeding during or after surgery.
- ▶ *Morphological Inspection:* Looking at cells through a microscope can provide information on the type of anaemia or inflammation, or other abnormalities.

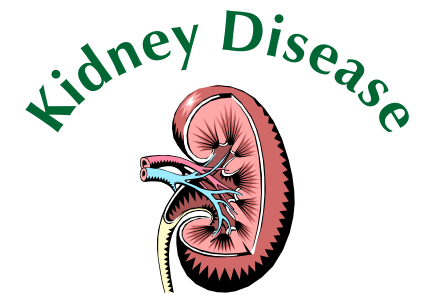
These tests may be repeated to monitor your pet's progress.

#### Other Tests:

- ▶ *Urine Sample:* A urine sample can give us useful information about kidney function. Kidney disease often results in proteins leaking into the urine and this can predispose cats to infections. Ruling out a bladder infection is important to prevent further damage to the kidneys and for the comfort of the cat. Many cats with cystitis do not show clinical signs and a urine sample is the only way it can be diagnosed.
- ▶ *Blood Pressure Management:* There are many causes of high blood pressure including chronic renal disease. High blood pressure is relatively common in cats and can result in further kidney damage. High blood pressure can be controlled relatively easily with medication and may indicate the presence of other conditions. Regular blood pressure measurements are advised for all cats over seven years old.



## Quick Reference Guide



### Endell Veterinary Group

49 Endless Street, Salisbury, Wiltshire, SP1 3UH

Tel: 01722-333291 Fax: 01722-338778

[www.endellveterinarygroup.co.uk](http://www.endellveterinarygroup.co.uk)