Understanding your dog’s KIDNEY CONDITION
Why are kidneys so important?

Dogs, just like us, have two kidneys located in the abdomen under the lumbar spine.

The kidneys perform many vital functions including:

- Production of hormones.
- Elimination of waste products from the body in the urine.
- Regulation of blood pressure.
- Maintain water balance and hydration.
- Maintain optimal balance of minerals (e.g. phosphorus) in the body.

What kind of kidney disease do dogs get?

Dogs can get a variety of kidney diseases, but the two most common are known as acute kidney injury (AKI) and chronic kidney disease (CKD):

- In acute kidney injury, there is sudden damage that prevents the kidneys from working properly.
- In chronic kidney disease, there is a gradual loss of nephrons in the kidney over time. CKD is more common than AKI in dogs.

Why has my dog developed kidney disease?

Chronic kidney disease is most commonly seen in older dogs. It occurs partly due to ageing changes and partly due to other factors that damage the kidneys. Often it is not possible to find out what these other factors are – but sometimes an underlying cause such as infections, tumours or high blood pressure can be found. Chronic kidney disease usually progresses over time and various signs develop as a result.

Many of these processes occur in tiny filtering units inside the kidneys called nephrons. A healthy kidney contains hundreds of thousands of nephrons. When these nephrons are damaged, the kidneys no longer function properly, leading to the accumulation of toxins in the body.
What are the signs of CKD?

Many signs of CKD arise from the accumulation of toxins in the body that would normally be eliminated through the urine, and through the inability of the kidneys to produce concentrated urine (meaning that your dog will produce larger volumes of urine).

Common signs include:

- Drinking more and urinating more frequently
- Loss of appetite
- Weight loss
- Vomiting
- Lethargy
- Unusual breath odour

How is CKD diagnosed in my dog?

The earlier your veterinary surgeon diagnoses kidney disease, the more effective the treatment is likely to be, that is why it is recommended that you visit your vet at least once a year (or twice a year if your dog is over 7 years of age) for a check-up. Your vet will need to perform blood and urine tests to confirm a diagnosis of CKD. Sometimes an X-ray, ultrasound or even a kidney biopsy may also be suggested.

How is CKD treated?

Treatment is aimed at slowing the progression of the disease and minimising the signs so that your dog maintains a good quality of life.

Different medications may be needed according to the stage (severity) of the disease and the complications that arise. Treatments may be needed, for example, to control:

- Dehydration (e.g. with an intravenous drip)
- Blood pressure
- Nausea or vomiting
- Anaemia

Your veterinary surgeon will discuss what treatments your dog may benefit from with you. After diagnosis, it is also important to have your dog checked regularly by your vet, and to adjust treatments as needed at each check-up.
Food is important.

Feeding your dog the correct food is one of the most effective ways of managing CKD. A correct diet is at least as important as any medications in helping to control the disease, slow its progression and help your dog achieve a good quality of life.

Benefits of feeding Canine NF Renal Function to your dog:

- **Dietary phosphorus restriction**
  To help protect kidney function and slow progression of CKD.

- **Restricted but high quality proteins**
  To help reduce the build-up of toxins in the body and minimise loss of muscle.

- **Omega-3 fatty acids**
  To help reduce high blood pressure in the kidneys and help support the natural anti-inflammatory process.

Canine NF Renal Function is also highly palatable, which is crucial as many dogs with CKD have a reduced appetite.

PURINA®: a name you can trust.

With PURINA® PRO PLAN® VETERINARY DIETS Canine NF Renal Function, you can be confident that your dog will benefit from a diet that provides optimum nutrition. PURINA® PRO PLAN® VETERINARY DIETS are backed by strong science, and the latest nutritional findings are applied to bring you some of the most innovative and effective formulas.

Feeding guidelines for Canine NF Renal Function.

Use only as directed by your vet. The following is a guideline only. You may need to adjust the amount fed to maintain your dog’s optimal weight which is influenced by factors such as environment, activity, body condition and breed. Dogs with CKD often have a poor appetite, so it may help to make the transition to Canine NF Renal Function gradually (by mixing this with your dog’s old diet for 1-2 weeks) so that they can get used to the new diet slowly.

As dogs with CKD can easily become dehydrated, it is important to always provide plenty of fresh drinking water, and to encourage your dog to drink.

**FEEDING RECOMMENDATIONS:**

<table>
<thead>
<tr>
<th>Body weight (kg)</th>
<th>Dry Only (g/day)</th>
<th>Wet Only (can/day)</th>
<th>Wet + Dry Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wet (can/day)</td>
<td>Dry (g/day)</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>70</td>
<td>½</td>
<td>½</td>
</tr>
<tr>
<td>5</td>
<td>110</td>
<td>¾</td>
<td>½</td>
</tr>
<tr>
<td>10</td>
<td>175</td>
<td>1¾</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>225</td>
<td>2½</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>320</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>35</td>
<td>400</td>
<td>3½</td>
<td>1</td>
</tr>
<tr>
<td>45</td>
<td>475</td>
<td>3½</td>
<td>1</td>
</tr>
<tr>
<td>70</td>
<td>640</td>
<td>4½</td>
<td>1</td>
</tr>
</tbody>
</table>

For each additional 5 kg of body weight, feed an additional 30 g of dry food or 1/4 of can per day.