Client information sheet

Chronic Kidney Disease (CKD)



What is chronic kidney disease?

Chronic kidney disease is a progressive condition in which the kidneys gradually lose their ability to work properly. It can affect both dogs and cats of any age, although it is one of the most common diseases in older cats.

What causes chronic kidney disease?

Any long-term damage to the kidneys can lead to chronic kidney disease. Possible causes include inherited conditions, such as polycystic kidney disease (common in Persian cats), kidney tumours, stones, infections, exposure to toxic substances, some medicines or certain autoimmune diseases.

However, in most cases it is not possible to identify a specific cause. In these situations the disease is described as idiopathic chronic kidney disease. Over time, the functional kidney tissue is replaced by scar tissue, which progressively reduces its ability to filter the blood (senile nephropathy).

What are the signs of chronic kidney disease?

Signs usually appear gradually, although in some cases they can appear more suddenly. The most common include:

- Weight loss.
- Increased thirst and amount of urine (polyuria and polydipsia).
- Reduced appetite.
- Behaviour changes.
- Vomiting.
- Lethargy or reduced activity.

How is chronic kidney disease diagnosed?

Diagnosis starts with a conversation about the signs you have noticed at home and a complete physical examination of your pet. As the symptoms usually appear gradually and can go unnoticed, in many cases the disease is detected during a routine check-up or a vaccination visit.

If the veterinary team suspects chronic kidney disease, they may recommend the following tests:

- **Blood tests,** to assess the levels of waste substances normally removed by the kidneys, check the balance of mineral salts and rule out other possible causes of the symptoms.
- **Urine tests,** to assess the kidneys' ability to concentrate urine and detect possible urinary infections.
- **Abdominal ultrasound scan,** which allows the structure of the kidneys to be examined and abnormalities such as tumours, stones, cysts or other lesions to be identified.

- **Kidney biopsy,** a test that is only carried out in specific cases when rare diseases, such as some types of cancer or autoimmune diseases, are suspected, as it is a more invasive procedure.

Once the diagnosis has been confirmed, it is usual to carry out additional tests to determine how far the disease has advanced and plan the most suitable treatment. These may include:

- **Further urine tests,** to measure the amount of protein lost in the urine.
- **Blood pressure measurement,** as kidney disease can cause or worsen high blood pressure.

How is chronic kidney disease treated?

The damage that has already occurred in the kidneys cannot be reversed. However, if a treatable cause is identified, such as stones, tumours or an infection, treatment can help limit the damage and preserve kidney function. In most cases, when the cause is not known, the aim of treatment is to slow the progression of the disease and improve the pet's quality of life.

Treatment will depend on the stage of the disease, the clinical signs your pet shows and its individual needs. Not all options are suitable for all patients, so your veterinary team will help you establish the most appropriate treatment plan.

Specific diet

A diet formulated for patients with chronic kidney disease is one of the most effective measures to improve quality and length of life once the pet has been stabilised. These diets contain controlled amounts of protein and phosphorus to reduce the workload of the kidneys, as well as healthy fats that help maintain good nutritional status.

To obtain the maximum benefit, the renal diet should be the main source of food for the pet. However, the transition should be gradual and supervised, as some animals may take time to adapt or show a reduced appetite. If your pet refuses the renal diet, it is better for it to keep eating its usual food than to stop eating, as maintaining a suitable weight is a priority.

Medication to protect kidney function

Kidney disease causes changes in the body that can accelerate the deterioration of the kidneys. Certain medicines help slow this process, protect kidney function and control some of the complications associated with the disease. Your veterinary team will tell you which are the most suitable depending on your pet's condition.

Maintaining good hydration

Pets with chronic kidney disease produce larger amounts of urine and find it difficult to concentrate it, so they are at greater risk of dehydration. In turn, dehydration can worsen kidney function and accelerate the progression of the disease. To encourage good hydration, you can:

- Provide running water sources, such as pet fountains or a slightly dripping tap, especially for cats.
- Offer flavoured water, for example by adding a little chicken or tuna broth (with no salt or seasoning).
- Prioritise wet food or foods with gravy.
- Add a little water to the usual food to increase fluid intake.
- In some cases, the veterinary team may recommend giving subcutaneous fluid therapy, both at the clinic and, if necessary and after receiving the right instructions, at home.

Supportive treatments

Although these treatments do not cure kidney disease or restore kidney function, they can help control symptoms and improve the pet's quality of life. Depending on each case, the veterinary team may recommend:

- **Appetite stimulants,** if the pet eats little.
- Medication to control nausea and vomiting.
- **Stomach protectors,** to relieve the digestive discomfort associated with the disease.
- **Antibiotics,** when there is a urinary infection or another bacterial infection.
- **Potassium supplements,** if potassium levels are persistently low.
- **Treatment for anaemia,** using oral or injectable medication when necessary.
- **Medication to control blood pressure,** especially in pets with high blood pressure or protein loss in the urine, helping protect the kidneys and other organs such as the heart, eyes and brain.
- **Phosphate binders,** when blood phosphate levels are high, to reduce their effects on the body.

Hospitalisation

On some occasions it may be necessary to hospitalise your pet to give it fluid therapy and other supportive treatments, especially if it has an episode of dehydration or a sudden worsening of kidney function. The aim is to stabilise its condition, correct the dehydration and help restore the best possible kidney function.

What is the prognosis/outlook for Chronic Kidney Disease?

It is important to know that the clinical signs of kidney disease usually appear when the kidneys have already lost a significant part of their ability to work properly.

To assess how the disease is progressing, there is a staging system developed by the International Renal Interest Society (IRIS) for dogs and cats. This system takes into account different parameters, such as blood test results (creatinine and SDMA), the kidney's ability to concentrate urine (urine specific gravity or USG), the amount of protein in the urine (UPC) and blood pressure.

A simplified summary of the different stages of the disease is shown below:

Stage	Criteria	Usual signs
1	Normal creatinine or mildly increased SDMA. Dilute urine (low USG).	No clinical signs.
2	Mildly increased creatinine or SDMA. Dilute urine (low USG).	No or mild signs.
3	Moderately increased creatinine or SDMA. Dilute urine (low USG).	Mild to moderate signs.
4	Severely increased creatinine or SDMA. Dilute urine (low USG).	Moderate to severe signs.

Within each stage there are substages, which are determined by blood pressure and the amount of protein in the urine. The higher the blood pressure or protein loss, the more advanced the substage.

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Chronic kidney disease is progressive and, over time, all patients move from one stage to another, although the speed of progression varies greatly from one animal to another. Some can keep a good quality of life for years, while in others the disease progresses more quickly. Factors such as body condition, the presence of anaemia or other associated diseases also influence how it develops.

Regular check-ups, together with blood and urine tests (the frequency of which will depend on the stage of the disease), make it possible to monitor progression and adapt treatment to each pet's needs. Appropriate follow-up can help slow the progression of the disease and improve quality of life. If your pet gets nervous during veterinary visits, there are medicines that can help reduce stress before tests such as blood sampling.

Useful resources

- International Cat Care: Chronic kidney disease
  https://icatcare.org/articles/chronic-kidney-disease-ckd-in-cats
- International Renal Interest Society (IRIS): Information for owners
  https://www.iris-kidney.com/what-pet-owners-should-know