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A Team-Based Approach to Supporting Kidney Patients

Chronic kidney disease (CKD) is an irreversible, progressive loss of kidney function that is frequently encountered in small animal veterinary medicine. In its advanced stages, severe anorexia, nausea, and weight loss may culminate in death or euthanasia. A coordinated effort from the entire veterinary team is essential for the early diagnosis and implementation of management needed to slow disease progression and maintain quality of life.

What Owners Say About Pets with Chronic Kidney Disease

- “She’s having accidents in the house.”
- “He’s waking me up to go out to pee.”
- “I have to scoop the litter box more than usual.”
- “I’m scooping larger clumps of urine from the litter box.”
- “I’m constantly filling up the water bowl.”
- “She’s now drinking from the toilet/water cups/sink/etc.”
- “He’s gotten picky about his food.”
- “She’s not finishing her dinner like usual.”

Understanding Chronic Kidney Disease

The kidneys are responsible for filtering waste products from the blood and maintaining fluid levels, electrolyte balances, and appropriate blood pressure. In patients with CKD, the kidneys progressively lose more of their function, leading to widespread effects, including:

- Decreased ability to filter waste products, causing nausea, poor appetite, and weight loss
- Excessive fluid loss from the release of voluminous, poorly concentrated urine, leading to dehydration
- Electrolytes and minerals such as phosphorus and potassium becoming deranged
- Rising blood pressure, stressing pressure-sensitive organs like the retinas and the kidneys themselves

The International Renal Interest Society (IRIS) classifies CKD into 4 stages based on laboratory testing that is indicative of disease progression based on stage, with further substaging.¹ The prognosis and recommended management interventions will vary based on the patient’s disease stage.

Spotting the Likely Renal Patient

The first line of defense for early detection of CKD is through astute history-taking by veterinary team members.

The classic renal patient is typically presented for excessive urination, increased drinking, reduced appetite, weight loss, and/or vomiting (see *What Owners Say About Pets with Chronic Kidney Disease*).² Owners may complain that the pet is having accidents in the house, asking to go out more than usual, or using the litter box more frequently.

Although pets of any age can develop CKD, older pets are more likely to develop decreased kidney function, with some estimates indicating $\leq 80\%$ of geriatric cats having CKD.³ It is important to note that some pet owners will not consider signs of kidney dysfunction to be of concern or will attribute them to normal aging, so thorough history-taking is essential, especially in older pets.

Chronic Kidney Disease Diagnostics

CKD detection is generally made based on physical examination findings, patient history, blood work, and urinalysis findings. Although blood work results alone may be suggestive of kidney insufficiency, urine testing must also be performed to evaluate the kidneys' concentrating abilities, test for protein loss, and screen for UTIs. Veterinarians may prefer either a first morning urine sample (the most concentrated urine of the day) or a sample obtained at the same appointment as the blood draw (to compare kidney values with urine concentration at a single point in time).⁴ Additional diagnostics (eg, blood pressure, imaging, urine culture) may also be recommended to further stage the kidney disease and evaluate for secondary issues.

Team Roles in Management & Monitoring

In early stages of CKD, management plans are focused on slowing the progression of disease,^{5,6} and team member contribution should be centered on owner education and encouragement to achieve the best possible compliance. Common management includes:

- **Renal diet.** The cornerstone of CKD management, therapeutic renal diets are specially formulated with appropriate balances of phosphorus, protein, sodium, and potassium to support the kidneys.⁷ Team members should educate owners on gradual food transitions over the course of 1 to 2 weeks to avoid food rejection caused by too-fast transitions. Pet owners should be encouraged to contact the veterinary team if their pet is not eating the renal diet.
- **Improved water intake.** Pets with CKD should have access to fresh water at all times to avoid dehydration.^{5,6} Team members can help owners brainstorm ideas to improve water intake (eg, water fountains, oral hydration support).
- **Phosphorus reduction.** Renal diets alone may not be enough to appropriately manage serum phosphorus levels, or a pet may not eat a renal diet; thus, phosphate binders such as Naraquin™ from Nutramax Laboratories Veterinary Sciences, Inc. may be recommended to decrease absorption of dietary phosphorus from the gut.^{8,9}
- **Additional support.** Dependent on the patient's stage, additional medications may be prescribed. Owners may need advice on best pilling practices to administer daily medications.

Patients should receive periodic check-ups at the clinic to monitor progress and for management plans to be adjusted

as needed. Along with blood work and urinalysis, weight, body condition score (BCS), muscle condition score (MCS), and blood pressure should be tracked as well. Veterinary technicians may be partially or solely responsible for rechecks and should ensure all these values are obtained, with blood pressure always measured first to avoid stress-related elevations.

As kidney dysfunction worsens in these patients, management emphasis shifts to correcting clinical signs and improving quality of life.⁵ Additional support may include:

- **Nausea and appetite control.** Antiemetics and appetite stimulants keep pets eating to maintain weight, muscle mass, and energy.
- **Supplemental hydration.** The veterinary team may be tasked with discussing alternative oral hydration support options or either administering or teaching owners how to administer subcutaneous fluids.

Team members should have close contact with owners during the end stages of management, providing an important source of answers and emotional support.

Conclusion

From the first phone call to end-stage patient support, the veterinary team's knowledge, attitude, and involvement are key to managing CKD effectively. Regular team education and comprehensive clinic protocols can help ensure that all team members are engaged in CKD detection and management to the best of their abilities.

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