Frequently Asked Questions
Hill’s® Prescription Diet® Renal Pet Foods

Q: How do you diagnose chronic kidney disease (CKD)?
A: Polyuria/polydipsia, inappetence, vomiting and weight loss are common clinical signs; however, they are not specific for kidney disease. Most often CKD is diagnosed by identifying azotemia with inappropriately concentrated urine (specific gravity < 1.035 in dogs and < 1.040 in cats). However, some cats with CKD may have azotemia and still be able to produce concentrated urine (specific gravity > 1.040). In the absence of azotemia, you should suspect CKD in dogs or cats with persistent proteinuria or decreased urine concentrating ability. Serial monitoring of serum creatinine concentrations also may be useful; gradually increasing serum creatinine concentrations over time suggest progressive CKD, even if values remain within the normal range. Since the kidneys have a considerable reserve capacity, clinical and biochemical signs of disease are often not appreciated until 70% or more of the functional mass of the kidneys is lost. Therefore, it is recommended that pets at risk for CKD, particularly those > 7 years of age, be screened every 6-12 months for signs of kidney disease. Assessing blood pressure, serum creatinine, urine specific gravity, and presence of proteinuria over time can help you determine the severity and progression of CKD.

Q: What are the most effective treatment options for managing pets with kidney disease?
A: Nutritional management has been the primary method for long-term treatment of dogs and cats with CKD. Clinical studies support the recommendation to feed a therapeutic renal food (Hill’s® Prescription Diet® k/d® Canine or Feline) to dogs and cats with naturally occurring CKD. Dogs with CKD lived more than twice as long, had a significant reduction in clinical signs, and had higher quality of life scores with the support of Hill’s® Prescription Diet® k/d® Canine. A similar feline study showed that cats fed a maintenance food had a significantly greater number of uremic episodes compared with cats fed Hill’s® Prescription Diet® k/d® Feline. In addition, the study showed a significant reduction in renal mortality in cats fed k/d® Feline.

Q: How does avoiding excessive dietary protein and phosphorus help patients with chronic kidney disease?
A: Therapeutic renal foods are formulated to avoid excessive protein, phosphorus and sodium, and they contain adequate amounts of nutrients to maintain body condition of adult dogs and cats. While no data conclusively show that avoiding excessive dietary protein alone delays progression of CKD, studies in dogs and cats with naturally occurring kidney disease show that feeding a therapeutic renal food that avoids excessive protein has beneficial effects. In addition, reducing the amount of dietary phosphate intake has been shown to limit mineralization and fibrosis in the kidneys, slow the decline of kidney function in cats, and enhance survival for dogs with chronic kidney disease.

Q: How does the addition of dietary antioxidants help pets with kidney disease?
A: Two studies recently explored the effects of antioxidant supplementation on dogs and cats with CKD. Dogs with CKD fed a dry therapeutic renal food supplemented with vitamin E, vitamin C and beta-carotene (Hill’s® Prescription Diet® k/d® Canine) had significantly lower levels of serum creatinine, serum urea nitrogen, and markers of oxidative stress compared with dogs with CKD fed the same renal food without antioxidant supplementation. A similar feline study showed that a renal food supplemented with vitamin E, vitamin C and beta-carotene (Hill’s® Prescription Diet® k/d® Feline) significantly reduced serum urea nitrogen and markers of oxidative stress in cats with CKD compared with the same food without antioxidants. Both studies indicate that feeding Hill’s® Prescription Diet® k/d® can lower levels of oxidative stress and improve kidney function in pets with CKD.

Q: Is it recommended to supplement Hill’s® Prescription Diet® k/d® pet food with any canned food?
A: No. Hill’s® Prescription Diet® k/d® canned food is the only effective complement to Hill’s® Prescription Diet® k/d® dry food, and vice versa. Many pet owners supplement Hill’s® Prescription Diet® k/d® dry pet foods with canned grocery store pet foods and assume it does no harm. However, this practice can decrease the effectiveness of Hill’s® Prescription Diet® foods and jeopardize the pet’s chances for recovery. Hill’s® Prescription Diet® k/d® therapeutic foods have reduced phosphorus to slow progression of kidney disease, reduced sodium to help decrease systemic and renal hypertension, and reduced protein to decrease kidney workload, compared with these nutrient levels in ordinary pet foods. Friskies® Fancy Feast® Flaked Fish and Shrimp Feast, for example, provides six times the phosphorus, four times the sodium and almost three times the recommended levels of protein for pets with chronic kidney disease. To retain the proven beneficial effects of the therapeutic renal food, pet owners should supplement the dry food only with Hill’s® Prescription Diet® k/d® canned pet foods.

Q: My patient was recently diagnosed with chronic kidney disease and won’t eat her therapeutic food. What should I do?
A: There are many strategies you can use to increase the chance your patients will accept a therapeutic renal food. However, failure to implement gradual transition is probably the single most important reason for treatment failure. To gradually transition the pet from the current food to the new food, the pet owner should introduce small amounts of the therapeutic food along with a decreased amount of the old food, increasing the ratio of new food to old food over time. The transition period should be a minimum of 7 days. Many cats and some dogs may need a transition period of 3-4 weeks or longer.

Other tips to increase acceptance of therapeutic renal foods include:

- Educate pet owners about the important role of nutritional management for prolonging survival time and quality of life in dogs and cats with CKD.
• Begin nutritional management sooner versus later. Uremic patients are less likely to accept a new food and therefore will not receive the optimal beneficial effects of a therapeutic renal food.

• Postpone offering a new therapeutic food to a sick or hospitalized patient until after the pet goes home or is feeling better, or the pet may develop a food aversion, causing decreased acceptance of the food.

• Use fresh food at room temperature. Although some patients may accept refrigerated food that is warmed, others will only eat food from a newly opened container.

• Offer foods with different textures (e.g., minced formulas such as Hill’s® Prescription Diet™ k/d® with Chicken Feline) or formulations (dry instead of moist, or vice versa).

• Add flavor enhancers (chicken broth, tuna juice, oregano, brewer’s yeast, small amount of regular food) to enhance palatability and encourage the patient to eat all the therapeutic food. Try to use the smallest amount that is effective, and avoid supplementing with excessive sodium.

Q: How long should clients feed Hill’s® therapeutic renal food to their dogs or cats with CKD?

A: Since CKD is an irreversible, progressive disease, we recommend feeding therapeutic renal food to these patients for life to delay the progression of the disease and improve the pet’s quality of life. Ensure their owners understand the importance of frequent monitoring and veterinary care, and that they shouldn’t attempt any changes to their pets’ nutritional or medical management without consulting you.

Q: I have a canine patient with CKD who was recently diagnosed with pancreatitis. What are the nutritional options for managing both conditions?

A: Hill’s® Prescription Diet® g/d® Canine may be beneficial for dogs with multiple disease conditions who do not tolerate higher fat foods. This includes patients with CKD, heart disease, hypertension, or hepatic disease who may also have conditions such as pancreatitis, hyperlipidemia, or obesity and may benefit from the nutrient profile provided by g/d® Canine.

Q: How soon after diagnosing CKD is it appropriate to recommend changing to a therapeutic renal food?

A: On the basis of current evidence, it is recommended to begin feeding a therapeutic renal food to dogs and cats with CKD when serum creatinine concentration exceeds 2 mg/dl. It may be helpful to begin therapeutic renal foods prior to this point; however, this has not been studied. Hill’s® Prescription Diet® g/d® Canine or Feline pet food is an alternative for dogs or cats with early CKD (serum creatinine ≤ 2 mg/dl).

Q: When should dogs with CKD switch from Hill’s® Prescription Diet® k/d® Canine to Hill’s® Prescription Diet® u/d® Canine?

A: The change from k/d® Canine to u/d® Canine is based on worsening clinical signs, continued elevation of serum urea nitrogen and creatinine concentrations, and apparent unresponsiveness to therapy with k/d® and supportive management. There is not one single factor that determines when a change from k/d® to u/d® should occur. This decision is based on clinical signs (depression, anorexia, nausea, vomiting, diarrhea, stomatitis, uremic breath, suspected gastrointestinal bleeding) with one or more of the following laboratory parameters AND failure to improve when feeding k/d® Canine:

- Significant hyperphosphatemia (serum phosphorus concentration above reference range on more than one occasion)
- Significant azotemia (BUN > 75 mg/dl; serum creatinine > 5 mg/dl) on more than one occasion and increasing along with uncontrolled or worsening uremic signs
- Evidence of persistent metabolic acidosis (Total CO₂ < 18 mmol/L)

Q: I’ve heard that renal foods may not contain adequate protein to maintain body weight and condition in pets with CKD. Is this true?

A: No. Therapeutic renal foods are formulated to avoid excessive protein compared with typical maintenance pet foods; however, they are not protein deficient. They contain an adequate amount of protein to meet the needs of adult dogs and cats. In addition, these foods contain proteins of high biologic value (i.e., those that supply primarily essential amino acids). In a 2-year clinical study of cats with CKD, feeding Hill’s® Prescription Diet® k/d® Feline was associated with maintaining body weight and body condition compared with feeding a higher protein maintenance food. If a patient is not maintaining his body weight or condition while eating a therapeutic renal food, first calculate the pet’s energy requirements and determine if he is eating the appropriate amount of food. There are a variety of potential causes for failure to maintain...
body weight or condition including proteinuria, inappetence due to uremia, and presence of concurrent diseases (e.g., pancreatitis, inflammatory bowel disease). Also, CKD may be associated with metabolic acidosis, which can cause catabolism of muscle protein and lead to a cachetic appearance.

Q: It is my understanding that long-term feeding of low protein foods can cause dilated cardiomyopathy in certain breeds of dogs. For a dog with CKD, what are my options for nutritional management?

A: In the 1990s, low protein foods were associated with dilated cardiomyopathy in certain breeds of dogs.11,12 It was suggested that taurine and L-carnitine are conditionally essential amino acids in certain breeds fed low protein foods.12 While dilated cardiomyopathy has been associated with both taurine13-16 and L-carnitine17-20 deficiencies in dogs, the exact mechanism of this is unclear.

Based on this information, all Hill’s® Prescription Diet® therapeutic renal foods are now supplemented with both taurine (since 1995) and L-carnitine (since 2002). There are no known reports of canine dilated cardiomyopathy associated with feeding these foods.

Q: What is the role of nutritional management for dogs with proteinuria in the absence of azotemia?

A. Current evidence supports the use of nutritional management with therapeutic renal food for dogs with proteinuria, even if azotemia is not present.21,22 In a study with dogs with X-linked hereditary nephritis (a familial disease that causes glomerular proteinuria and progressive renal dysfunction), dogs fed Hill’s® Prescription Diet® k/d® Canine showed less reduction in renal function and lived 53% longer than dogs fed a regular food.23 In addition, severity of glomerular lesions was reduced in dogs fed the therapeutic renal food.

In another study, dogs with kidney disease that consumed a food supplemented with omega-3 polyunsaturated fatty acids had lower mortality, better renal function, fewer renal lesions and less proteinuria than dogs fed saturated fats or omega-6 fatty acids.24 Hill’s® Prescription Diet® k/d® Canine is supplemented with omega-3 fatty acids to reduce the severity of proteinuria in dogs with kidney disease, improve renal function and manage canine patients with kidney disease, even when azotemia does not exist.

REFERENCES


