



RENAL HEALTH. **GET A HEAD START.**

Your early diagnosis, together with appropriate management and nutrition, can help maintain a pet's quality of life.



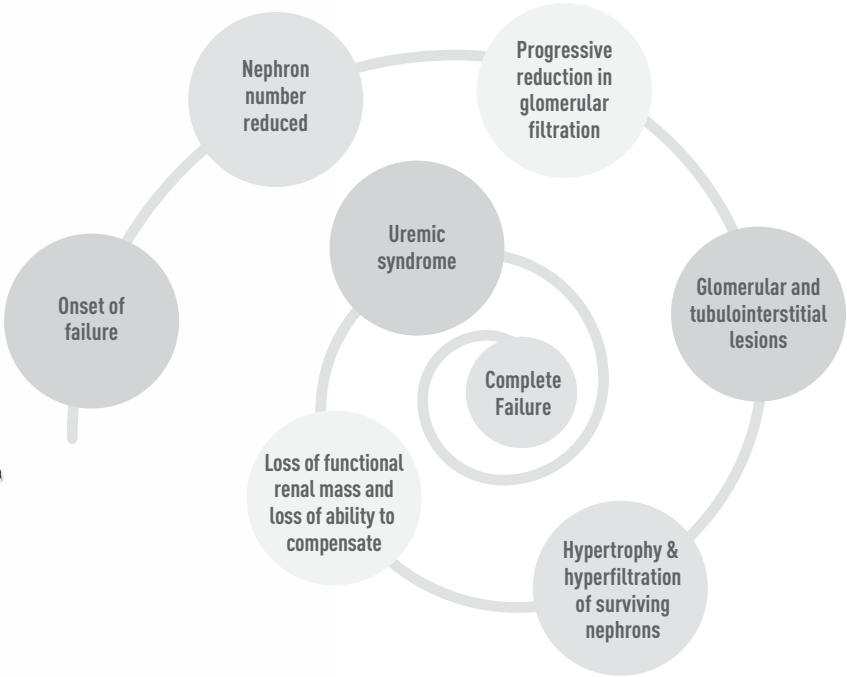
CHRONIC KIDNEY DISEASE

IN CATS AND DOGS



Chronic Kidney Disease (CKD) is commonly seen in older cats and dogs but can be diagnosed at any age. Because the kidneys naturally have a large capacity to filter blood, clinical signs may not become apparent until a considerable amount of kidney tissue is damaged. In fact, typically the clinical signs of CKD do not appear until 75% of kidney function is lost.^{1,2} CKD is irreversible but often can be managed with appropriate diagnostics and therapy. The disease worsens as the kidneys continue to decline and result in further build-up of toxins in the blood that can lead to further kidney damage and increased illness. By encouraging annual or semi-annual examinations, especially with senior pets, veterinarians can diagnose CKD at an earlier stage, thereby increasing the success of treatment.

PROGRESSION OF CHRONIC KIDNEY DISEASE



1. Hall JA, Yerramilli M, Obare E, Yerramilli M, Jewell DE. Comparison of serum concentrations of symmetric dimethylarginine and creatinine as kidney function biomarkers in cats with chronic kidney disease. J Vet Intern Med. 2014;28(6):1676–1683.
2. Hall JA, Yerramilli M, Obare E, Yerramilli M, Almes K, Jewell DE. Serum concentrations of symmetric dimethylarginine and creatinine in dogs with naturally occurring chronic kidney disease. J Vet Intern Med. 2016;30(3):794–802.

WHY IS NUTRITIONAL MANAGEMENT IMPORTANT?

GOALS OF DIETARY MANAGEMENT

- 1 LIMIT PHOSPHORUS**
 - Helps reduce risk of toxic build-up of high phosphorus levels in the blood
 - Helps prevent development of secondary hyperparathyroidism
- 2 MAXIMIZE ENERGY DENSITY**
 - Helps provide adequate calories for pets who have reduced food intake
 - Reduces risk of weakness, depression and lethargy
- 3 IMPROVE AND MAINTAIN BODY CONDITION**
 - Helps reduce risk of pets becoming emaciated and cachectic
- 4 BALANCE PROTEIN LEVEL**
 - Assists in limiting the production of uremic toxins
- 5 HELP MAINTAIN HEALTHY IMMUNE SYSTEM AND HELP REDUCE INFLAMMATION**
 - Provides antioxidant blend
 - Provides omega-3 fatty acids from fish oil to help reduce inflammation



EARLY DETECTION IS KEY

EARLY DETECTION

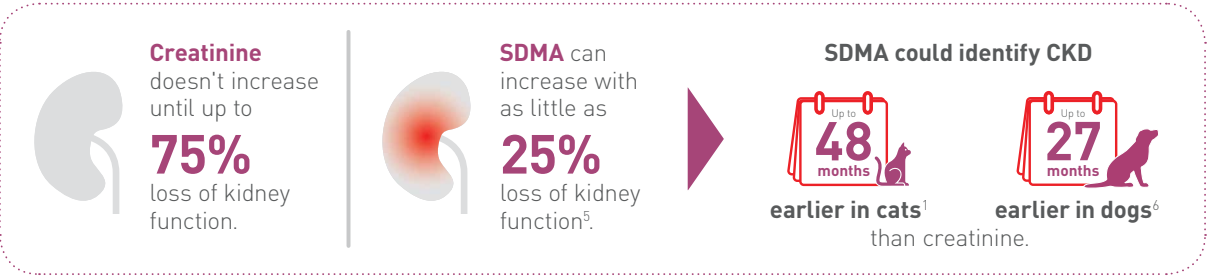
The earlier CKD is diagnosed, the more time you have for intervention.

For many pets, diagnosis occurs only after the onset of symptoms visible to the owner when kidneys have lost more than 75% of their function^{1,2}



SDMA biomarker allows early detection for cats and dogs **when only 25% of the kidney is lost.**

Blood creatinine is the long-established marker in diagnosis and monitoring of feline CKD. **Symmetric Dimethyl Arginine (SDMA)** can be a more sensitive biomarker at an earlier stage. This biomarker is also not impacted by muscle mass or other extrarenal factors^{3,4}.



Using SDMA alongside creatinine can improve early diagnosis.



Recent breakthroughs in research and harnessing the power of data now enables a veterinarian to **detect if cats are at risk of developing CKD up to 2 years prior to onset.**

RenalTech™ uses the computing power of artificial intelligence and machine learning to predict whether or not a cat will develop chronic kidney disease (CKD) up to 2 years prior to the diagnosis with 95% accuracy.

THE CURRENT ALGORITHM ANALYZES SEVEN PARAMETERS:

- WBC (white blood cell count)
- BUN
- Creatinine
- Urine specific gravity
- Urine pH
- Urine protein
- Age of cat

GET 3 POSSIBLE ANSWERS

- Negative:** Highly unlikely to develop chronic kidney disease in the next 2 years.
- Inconclusive:** Insufficient certainty to predict likelihood of chronic kidney disease. Repeat in 3- 6 months.
- Positive:** Patient is highly likely to develop chronic kidney disease in the next 2 years.



1 algorithm predicting accurately in **95%** of cases if a cat will or will not develop CKD within 24 months¹.

RenalTech™ early adopters report pet owners feel empowered by the information RenalTech™ provides, and significantly, are engaged in a more rigorous care plan to maximize the benefits of early intervention.

IF CKD IS DIAGNOSED EARLIER, NUTRITION CAN CONTRIBUTE TO MANAGING SIGNS AND MAY HELP IMPROVE PETS' WELLBEING.

1. Hall JA, Yerramilli M, Obare E, Yerramilli M, Jewell DE. Comparison of serum concentrations of symmetric dimethylarginine and creatinine as kidney function biomarkers in cats with chronic kidney disease. J Vet Intern Med. 2014;28(6):1676–1683.

2. Hall JA, Yerramilli M, Obare E, Yerramilli M, Almes K, Jewell DE. Serum concentrations of symmetric dimethylarginine and creatinine in dogs with naturally occurring chronic kidney disease. J Vet Intern Med. 2016;30(3):794–802.

3. Hall JA, Yerramilli M, Obare E, Yerramilli M, Yu S, Jewell DE. Comparison of serum concentrations of symmetric dimethylarginine and creatinine as kidney function biomarkers in healthy geriatric cats fed reduced protein foods enriched with fish oil, L-carnitine, and medium-chain triglycerides. Vet J. 2014; 202(3): 588–596.

4. Hall JA, Yerramilli M, Obare E, Yerramilli M, Melendez LD, Jewell DE. Relationship between lean body mass and serum renal biomarkers in healthy dogs. J Vet Intern Med. 2015;29(3):808–814.

5. Nabity MB, Lees GE, Boggess MM, Yerramilli M, Obare E, Yerramilli M, Rakitin A, Aguiar J, Relford R. Symmetric dimethylarginine assay validation, stability, and evaluation as a marker for early detection of chronic kidney disease in dogs. J Vet Intern Med. 2015; 29(4): 1036–1044.

6. Hall JA, Yerramilli M, Obare E, Yerramilli M, Almes K, Jewell DE. Serum concentrations of symmetric dimethylarginine and creatinine in dogs with naturally occurring chronic kidney disease. J Vet Intern Med. 2016;30(3):794–802

RenalTech™ is a service provided by Antech Diagnostics in North America.

1. Bradley R, Tagkopoulos I, Kim M, Kokkinos Y, Panagiotakos T, Kennedy J, De Meyer G, Watson P, Elliott J. Predicting early risk of chronic kidney disease in cats using routine clinical laboratory tests and machine learning. J Vet Intern Med. 2019;33(6):2644–2656.

ROYAL CANIN® DIETS

SPAN ACROSS ALL RENAL STAGE NEEDS

FROM DIAGNOSIS TO NUTRITIONAL MANAGEMENT

EARLY STAGES

ADVANCED STAGES

FOOD AVERSION/
LOSS OF APPETITE

STAGE I

STAGE II

STAGE III

STAGE IV



RENAL SUPPORT
EARLY CONSULT

Help support the kidneys at early stages of the disease.



RENAL SUPPORT

Help support the kidneys at advanced stages of impairment and help stimulate the pet's appetite.

KEY NUTRIENTS IN RENAL SUPPORT DIETS

HIGHLY DIGESTIBLE PROTEINS

Accumulation of metabolic waste products from protein is one of the leading complications from kidney disease.

ROYAL CANIN® RENAL SUPPORT therapeutic diets are developed with highly digestible sources of protein that can help reduce the metabolic waste build-up in the blood while providing the necessary nutrients to avoid malnutrition.

OMEGA-3 FATTY ACIDS

ROYAL CANIN® RENAL SUPPORT diets are enriched with omega-3 fatty acids from fish oil which can

- Help reduce inflammation
- Decrease glomerular capillary pressure

ANTIOXIDANTS

RENAL SUPPORT formulas are enriched with a blend of antioxidants to help maintain a healthy immune system and help reduce DNA damage in cells

- Vitamin E
- Vitamin C

STAGE
1

RENAL SUPPORT EARLY CONSULT DIETS

RENAL SUPPORT EARLY CONSULT DIETS are complete nutrition to support pets who have been diagnosed with early stages of kidney impairment or for pets who are predicted to develop CKD in the near future.

RENAL SUPPORT
EARLY CONSULT



EARLY RENAL SUPPORT: Formulated with moderate phosphorus, EPA+DHA and an antioxidant complex to support the kidneys at an early stage

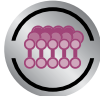


DIETS RECOMMENDED FOR

- IRIS Stage 1 chronic kidney disease (CKD)

- DOG

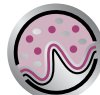


EPA+DHA: EPA and DHA are long chain omega-3 fatty acids that help support renal function
- 

ANTIOXIDANT COMPLEX: Enriched with a blend of antioxidants to help neutralize free radicals and promote tissue and cellular health
- CAT



(formerly Senior Consult)
- 

AGE SUPPORT: Designed with nutrients, including antioxidants and New Zealand Green Mussel (dry only), to help support cats with early signs of aging
- 

DIGESTIVE SUPPORT: A combination of highly digestible proteins, balanced fibers, prebiotics and EPA + DHA, supports digestive health

SIZES / FORMATS

- DOG

Wet: 5.1 oz can

Dry: 5.5 lb and 17.6 lb bags
- CAT

Wet: 3.0 oz can

Dry: 12 oz, 4.4 lb and 8.8 lb bags

RENAL SUPPORT DIETS

RENAL SUPPORT DIETS offer a wide range of aromatic profiles and textures to help ensure palatability and adequate food intake while supporting the kidneys at more advanced stages of CKD.

DIETS RECOMMENDED FOR

- The management of IRIS stages 2-4 chronic kidney disease (CKD)
- Renal proteinuria



RENAL SUPPORT: Formulated with low phosphorus and restricted amounts of high quality protein



ADAPTED ENERGY: Adapted energy content to reduce meal volume and help compensate for a decreased appetite



AROMATIC CHOICE: A specific aromatic profile with a dedicated kibble shape or texture to help stimulate the cat or dog's appetite, particularly in cases prone to food aversion

RENAL SUPPORT



RENAL SUPPORT F (FLAVORFUL)

SIZES / FORMATS

DOG Dry: 6 lb and 17.6 lb bags
CAT Dry: 12 oz, 3 lb and 6.6 lb bags



RENAL SUPPORT T (TASTY)

SIZES / FORMATS

DOG Wet: 13.5 oz can
CAT Wet: 3 oz can



RENAL SUPPORT A (AROMATIC)

SIZES / FORMATS

DOG Dry: 6 lb and 17.6 lb bags
CAT Dry: 12 oz, 3 lb and 6.6 lb bags



RENAL SUPPORT E (ENTICING)

SIZES / FORMATS

DOG Wet: 13.5 oz can
CAT Wet: 5.1 oz can



RENAL SUPPORT S (SAVORY)

SIZES / FORMATS

DOG Dry: 6 lb and 17.6 lb bags
CAT Dry: 12 oz, 3 lb and 6.6 lb bags



RENAL SUPPORT D (DELECTABLE)

SIZES / FORMATS

DOG Wet: 13.5 oz can
CAT Wet: 3 oz can

GETTING THE PET TO EAT IS CRUCIAL TO MANAGING CKD

ROYAL CANIN® RENAL SUPPORT DIETS CAN BE MIXED AND MATCHED TOGETHER

A wide RENAL SUPPORT diet range, including several aromatic profiles along with kibble texture, shape and size, can help stimulate decreased appetites and help ensure optimum food acceptance and compliance.

- The nutritional profile is very similar throughout all offerings – making transitioning from one diet to another much easier and with less stress on the digestive system.
- Improved acceptance when rotating wet products in cats and dogs.
- Improved acceptance when mixing dry and wet food in cats and dogs.

DIFFERENT AROMATIC PROFILE

As an animal's first impression of a diet is made with the nose, the **RENAL SUPPORT** diets have been developed to each have a unique aromatic profile.



DIFFERENT TEXTURES AND KIBBLE SHAPE & SIZE



With the same nutritional performance.

cat options shown above



Each RENAL SUPPORT diet can be fed independently, or 3 wet and 3 dry foods can be combined **for a total of 9 mixed-texture feeding options for cats and for dogs.**

TO MEET EVERY INDIVIDUAL PREFERENCE

MULTIFUNCTION DIETS

MULTIFUNCTION

RENAL SUPPORT | HYDROLYZED PROTEIN

Royal Canin® Renal Support + Hydrolyzed Protein dry cat and dog foods are the only veterinary-exclusive diets that support kidney health and food sensitivities in adult cats and dogs.



MULTIFUNCTION RENAL SUPPORT products offer a single solution to help manage your patients' multiple nutritional needs.

DIETS RECOMMENDED FOR

- Chronic kidney disease (all stages)
- Renal proteinuria
- Dietary elimination trial
- Adverse food reaction with dermatologic and/or gastrointestinal signs



RENAL SUPPORT: Formulated with low phosphorus and restricted amounts of high quality protein



ADAPTED ENERGY: Adapted energy content to reduce meal volume and help compensate for a decreased appetite



HYDROLYZED PROTEIN: Hydrolyzed soy protein, composed of low molecular weight peptides, is highly digestible and supports gastrointestinal and dermatological health



SKIN BARRIER: Formulated to support the skin's natural protective barrier for optimal skin health

SIZES / FORMATS

DOG Dry: 7.7 lb and 17.6 lb bags

CAT Dry: 12 oz and 6.6 lb bags

MULTIFUNCTION

RENAL SUPPORT | ADVANCED MOBILITY SUPPORT

Royal Canin® Renal Support + Advanced Mobility Support Diets support kidney health and mobility issues in adult dogs.



DIETS RECOMMENDED FOR

- All stages of chronic kidney disease (CKD) with concurrent joint conditions
- Renal proteinuria and concurrent joint conditions



RENAL SUPPORT: Formulated with low phosphorus and restricted amounts of high quality protein



ADAPTED ENERGY: Adapted energy content to reduce meal volume and help compensate for a decreased appetite



ADVANCED MOBILITY SUPPORT: In a clinical study, 88% of dogs showed an improvement in mobility using this nutritional approach



JOINT NUTRITION: Formulated with select nutrients, including collagen, to help protect joint cartilage health

SIZES / FORMATS

DOG Wet: 13 oz can **Dry:** 7.7 lb and 17.6 lb bags

RENAL SUPPORT LIQUID

RENAL SUPPORT LIQUID

RENAL SUPPORT LIQUID diets support cats and dogs with feeding tubes during hospitalization or convalescence.



DIETS RECOMMENDED FOR

- Management of all stages of chronic kidney disease
- Hepatic encephalopathy



NUTRITION TO SUPPORT RENAL HEALTH: Formulated with optimal nutrient levels to support kidney health, including restricted protein and phosphorus, and EPA+DHA



HIGH ENERGY: Very high energy density that provides daily energy requirements in a reduced feeding volume



ANTIOXIDANT COMPLEX: Synergistic antioxidant blend of vitamin C, vitamin E, lutein and taurine to help manage oxidative stress



EASY TUBE FEEDING: Liquid formula with adapted viscosity for easy use

SIZES / FORMATS

DOG and CAT Liquid: Available in a 4-pack of 8 fl oz bottles

TIPS FOR FEEDING PATIENTS WITH RENAL DISEASE

- Feeding a renal diet to a hospitalized patient may likely lead to food aversion. Hospitalized patients, therefore, should be fed their regular diet. Once home, a slow 7-day or longer transition to the renal diet is recommended.
- Ensure adequate daily calorie intake and try feeding smaller amounts more often.
- Palatability of food may be enhanced by moderate warming of wet diets or adding warm water to dry diets.
- Multiple aromatic profiles along with kibble texture, shape, size and canned food can help stimulate decreased appetites.
- Avoid feeding treats, snacks, or human foods, as many of these products may increase phosphorus or protein intake and may worsen clinical signs.



ONE GOAL

Over the past 50 years researchers from ROYAL CANIN® together with specialists and veterinary practitioners from all over the world have been working hard toward a common goal:

help manage renal health of pets through nutrition.

Royal Canin® Renal Support diets are formulated for every stage of chronic kidney disease.



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