

# FELINE NF RENAL FUNCTION™ EARLY CARE

Complete dietetic pet food for adult cats for the support of renal function in case of early stages of feline chronic renal insufficiency (CRI).

## RECOMMENDED FOR & NOT RECOMMENDED FOR

- ✓ Early stages (IRIS stages 1 & 2) of chronic renal insufficiency
- ✓ Temporary renal insufficiency\*
- ✓ Reduction of formation of urate stones
- ✓ Support of heart function in the case of chronic cardiac insufficiency
- ✗ Not suitable for pregnancy, lactation and growth

\* The recommended period for use is two to four weeks.



## KEY BENEFITS



### Moderate amount of high quality protein

to support renal function from the early stages of CRI and help maintain an adequate muscle mass



### Restricted level of phosphorus

to help slow the progression of CRI from the early stages



### With restricted phosphorus levels and added omega-3 fatty acids, potassium and antioxidants

to help support renal function

## ADDITIONAL BENEFITS & CHARACTERISTICS

**Specifically formulated to meet the needs of cats with early stages of CRI**

**High palatability for good acceptance**

**Dietary phosphorus restriction**

to help slow the progression of CRI and minimise the risk of secondary renal hyperparathyroidism

**Added potassium**

to help reduce the risk of hypokalemia in CRI

**Minimises formation of toxic uraemic compounds**

by providing a moderate amount of amino acids

**May help to reduce glomerular hypertension and inflammation**

thanks to omega-3 fatty acids

**Added B-complex vitamins**

to compensate losses through polyuria linked with CRI

**Contains sources of fibre to promote good faecal consistency in cats with CRI**

**Helps reduce the recurrence of uroliths (calcium oxalate) requiring urine alkalisant\***

\* In most instances, however, PPVD UR Urinary™ would be the product of choice for CaOx management.

# FELINE NF RENAL FUNCTION™ EARLY CARE

## COMPOSITION (DRY)

Wheat flour<sup>#</sup>, corn<sup>#</sup>, rice<sup>#</sup>, wheat gluten<sup>#</sup>, soya meal<sup>#</sup>, corn protein meal<sup>#</sup>, pork fat, dried beet pulp, dried egg<sup>#</sup>, minerals, pea hulls, hydrolysed soya protein<sup>#</sup>, fish oil, digest<sup>#</sup>, yeast, xylose.

<sup>#</sup> Protein sources.

## COMPOSITION (POUCH)

Pork (kidney, liver, meat, dehydrated protein), chicken 8%, dried egg, fish oil, sunflower oil, dried yeast, salmon, rice, cellulose, minerals, various sugars.

## KEY NUTRIENT VALUES\*

	Dry	Pouch
Moisture	6.5%	80%
Protein	29.0%	8.5%
Fat	12.0%	6.6%
- Omega-6 fatty acids	1.8%	1.45%
- Omega-3 fatty acids	0.3%	0.22%
- EPA + DHA	0.23%	0.11%
Carbohydrates	44.5%	2.7%
Crude fibre	3.0%	0.5%
Calcium	0.6%	0.17%
Phosphorus	0.35%	0.11%
Potassium	0.8%	0.34%
Sodium	0.2%	0.07%
Vitamin A	25668 IU/kg	29450 IU/kg
Vitamin D <sub>3</sub>	1261 IU/kg	422 IU/kg
Vitamin E	585 IU/kg	272 IU/kg
Taurine	1400 mg/kg	1230 mg/kg
Metabolisable energy (ME) <sup>†</sup>	379 kcal/100g	99 kcal/100g

\* Typical analysis in the final product as fed.

<sup>†</sup> Calculated following NRC 2006 equations.

## FEEDING GUIDELINES

The recommended period of use is initially up to 6 months, although the product can be used long term. A gradual transition to the new diet may be especially helpful in cats with CRI. Cats with CRI that remain inappetent should be assessed for nausea. Warming the product to room temperature can enhance palatability for cats with a fussy appetite.

## ADULT MAINTENANCE

Body weight (kg)	Daily feeding quantity			
	Dry only	Pouch only	Dry + pouch combined	
	Dry (g/day)	Pouch/day	Dry (g/day)	Pouch/day
2	30	1 ⅓	20	⅓
3	45	2	30	½
4	60	2 ¾	35	1
5	75	3 ⅓	50	1
> 5	+ 15 g/kg	+ ⅔ pouch/kg	+ 15 g/kg	1

# FELINE NF RENAL FUNCTION™ ADVANCED CARE

Complete dietetic dry pet food for adult cats for the support of renal function in case of advanced stages of feline chronic renal insufficiency (CRI).

## RECOMMENDED FOR & NOT RECOMMENDED FOR

- ✓ Help support later stages (IRIS stages 3 & 4) of chronic renal insufficiency
- ✓ Temporary renal insufficiency\*
- ✓ The reduction of urate stones formation
- ✓ The support of heart function in the case of chronic cardiac insufficiency
- ✗ Not suitable for pregnancy, lactation and growth

\* The recommended period for use is two to four weeks.



St/Ox

195 g

85 g

1.5 kg and 5 kg



## KEY BENEFITS



### Restricted but high quality protein

to help minimise loss of muscle mass and toxin formation and restricted phosphorus to help slow the progression of CRI



### Increased levels of omega-3 fatty acids: with EPA and DHA

to help support kidney function in the advanced stages of CRI



### Great taste to satisfy cats

with reduced appetite

## ADDITIONAL BENEFITS & CHARACTERISTICS

**Specifically formulated to meet the needs of cats with advanced stages of CRI**

### Dietary phosphorus restriction

to help slow the progression of CRI and minimise the risk of secondary renal hyperparathyroidism

### Source of omega-3 fatty acids

which may help reduce glomerular hypertension and minimise glomerular inflammation

### Added potassium

to help reduce the risk of hypokalemia in CRI

### Added B-complex vitamins

to replace losses through polyuria linked with the CRI

### Helps reduce the risk of metabolic acidosis in CRI

### Contains sources of fibre to promote good faecal consistency in cats with CRI

### Highly digestible formula to help cats with compromised GI function

# FELINE NF RENAL FUNCTION™ ADVANCED CARE

## COMPOSITION (DRY)

Wheat flour<sup>#</sup>, rice<sup>#</sup>, wheat gluten<sup>#</sup>, soya meal<sup>#</sup>, pork fat, corn protein meal<sup>#</sup>, corn<sup>#</sup>, dried beet pulp, dried egg<sup>#</sup>, fish oil, minerals, digest<sup>#</sup>, yeast, xylitol.

<sup>#</sup> Protein sources.

## COMPOSITION (CAN)

Pork liver, turkey, poultry heart and liver, salmon, pork fat, rice flour, minerals, sunflower oil, fish oil, various sugars.

## COMPOSITION (POUCHES)

### Salmon variety:

Pork (kidney, liver, meat, dehydrated protein, fat), chicken, salmon (6%), rice, wheat gluten, dried yeast, sunflower oil, fish oil, cellulose, minerals, various sugars.

### Chicken variety:

Pork (kidney, liver, meat, dehydrated protein, fat), chicken (8%), salmon, rice, wheat gluten, dried yeast, sunflower oil, fish oil, cellulose, minerals, various sugars.

## KEY NUTRIENT VALUES\*

	Dry	Can	Pouches**
Moisture	6.5%	79%	77.2%
Protein	28.0%	7.0%	7.2%
Fat	16.0%	9.1%	9.4%
- Omega-6 fatty acids	2.0%	2.03%	1.32%
- Omega-3 fatty acids	0.8%	0.24%	0.2%
- EPA + DHA	0.6%	0.14%	0.14%
Carbohydrates	43.0%	2.9%	4.1%
Crude fibre	2.0%	0.02%	0.4%
Calcium	0.6%	0.23%	0.18%
Phosphorus	0.33%	0.09%	0.11%
Potassium	0.8%	0.44%	0.34%
Sodium	0.2%	0.06%	0.07%
Vitamin A	25509 IU/kg	75530 IU/kg	35296 IU/kg
Vitamin D <sub>3</sub>	1523 IU/kg	282 IU/kg	368 IU/kg
Vitamin E	586 IU/kg	306 IU/kg	282 IU/kg
Taurine	1400 mg/kg	1470 mg/kg	1365 mg/kg
Metabolisable energy (ME) <sup>†</sup>	407 kcal /100g	115 kcal /100g	122 kcal /100g

\* Typical analysis in the final product as fed.

\*\* Average of the two varieties.

<sup>†</sup> Calculated following NRC 2006 equations.

## FEEDING GUIDELINES

The recommended period of use is initially up to 6 months, although the product can be used long term. A gradual transition to the new diet may be especially helpful in cats with CRI. Cats with CRI that remain inappetent should be assessed for nausea. Warming the product to room temperature can enhance palatability for cats with a fussy appetite.

## ADULT MAINTENANCE

Body weight (kg)	Daily feeding quantity						
	Dry only	Can only	Pouch only	Dry + can combined		Dry + pouch combined	
	Dry (g/day)	Cans/day	Pouch/day	Dry (g/day)	Cans/day	Dry (g/day)	Pouch/day
2	30	½	1	10	⅓	10	⅓
3	40	¾	1 ⅓	10	½	20	½
4	55	1	2 ¼	10	¾	30	1
5	70	1 ¼	2 ¾	15	1	45	1
> 5	+ 15 g/kg	+ ¼ can/kg	+ ½ pouch/kg	+ 10 g/kg	1	+ 15 g/kg	1

For cats over 5kg: for each additional 1 kg of body weight, feed an additional ¼ can or ½ pouch per day when only wet food, and 15 g of dry food when only dry food fed.

When feeding dry and wet can, for each addition of ½ Feline NF can reduce by 20g dry kibble.

# NUTRITIONAL MANAGEMENT OF CHRONIC RENAL INSUFFICIENCY (CRI) IN CATS

1 in 3 cats over the age of 10 years will be diagnosed with CRI<sup>1,2</sup>.

CRI is considered an irreversible condition, but with appropriate dietary intervention we can help to:

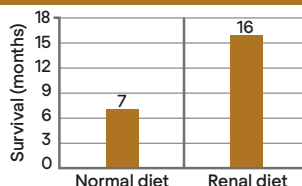
- Ameliorate or prevent clinical consequences of CRI and uraemia;
- Slow progression of CRI and/or prolong survival;
- Minimise derangements of electrolyte, mineral, and acid-base balance;
- Maintain adequate nutrition<sup>3</sup>.

## THE ROLE OF NUTRITION IN CRI

For most cats with CRI, dietary intervention represents the single most important therapeutic intervention<sup>4-6</sup>. As well as improving the quality of life for the cat, clinical studies have consistently shown that well-designed dietary intervention for cats with CRI has the power to help prolong survival and reduce adverse uraemic events<sup>7</sup>.

Numerous studies have shown that veterinary diets specially formulated for renal conditions favour better clinical outcomes, improve quality of life, and can extend life span in cats, when compared to feeding maintenance diets<sup>4,5,8,9</sup>.

### DIETARY MANAGEMENT OF CRI SIGNIFICANTLY IMPROVES SURVIVAL IN CATS



Survival (months) of cats with CRI fed a conventional ('normal') diet or commercial renal diet<sup>4</sup>

The IRIS (International Renal Interest Society) board was created to help practitioners better understand, diagnose and treat renal disease in cats and dogs. They have created an internationally recognised set of guidelines for classifying and managing chronic kidney disease (CKD).

**The staging system facilitates appropriate treatment and management recommendations, and advises on monitoring and further diagnostics<sup>3</sup>.**

**Accurate staging of CRI is key in order to provide the right management to your feline patients at every stage.**

1. Lulich JP, et al. (1992) Feline renal failure: Questions, answers, questions. *Compendium of Continuing Education for Practicing Veterinarians*, **14**(2), 127-151.
2. Sparkes A, et al. (2016) ISFM Consensus guidelines on the diagnosis and management of Feline Chronic Kidney Disease. *J Fel Med and Surg*, **18**, 219-239.
3. International Renal Interest Society, IRIS staging of CKD (modified 2019). Available at: [http://www.iris-kidney.com/pdf/IRIS\\_Staging\\_of\\_CKD\\_modified\\_2019.pdf](http://www.iris-kidney.com/pdf/IRIS_Staging_of_CKD_modified_2019.pdf)
4. Plantinga EA, et al. (2005) Retrospective study of the survival of cats with acquired chronic renal insufficiency offered different commercial diets. *Vet Rec*, **157**: 185-87.
5. Elliott J, et al. (2000) Survival of cats with naturally occurring chronic renal failure: effect of dietary management. *J Small Anim Pract*, **41**: 235-42.
6. Plotnick A. (2007) Feline chronic renal failure: long-term medical management. *Compend Contin Educ Vet*, **29**: 342-50.
7. Polzin DJ, et al. (2016) Controversies in Veterinary Nephrology: Renal diets are Indicated for cats with international renal interest society chronic kidney disease stages 2 to 4: The Pro View. *Vet Clin North Am Small Anim Pract*, **46**: 1049-65.
8. Cupp CJ, et al. (2008) The role of nutritional interventions in the longevity and maintenance of long-term health in aging cats. *Int J App Res in Vet Med*, **6**(2), 69-81.
9. Ross SJ, et al. (2006) Clinical evaluation of dietary modification for treatment of spontaneous chronic kidney disease in cats. *Journal of the American Veterinary Medical Association*, **229**(6): 949-957.

# NUTRITIONAL MANAGEMENT OF CHRONIC RENAL INSUFFICIENCY (CRI) IN CATS

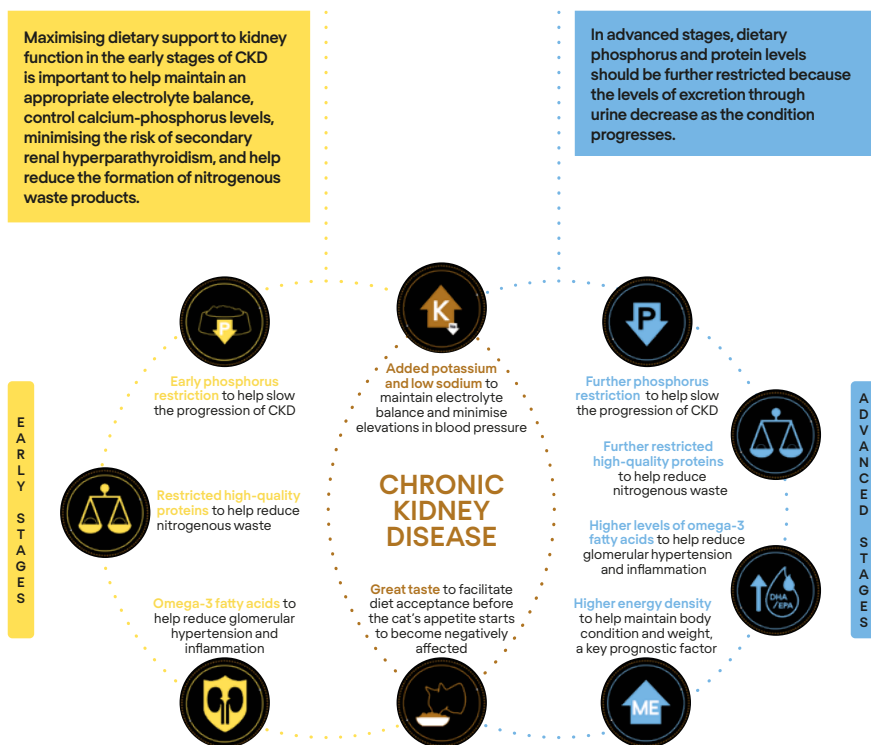
## IRIS STAGING AND NUTRITION

During the **earlier stages of CRI (IRIS 1 & 2)**, there is progressive damage to the kidney tissue. There is often an absence of clinical signs at this stage, meaning that unless there are regular veterinary health checks and screening of individuals then this progression of CRI can go missed. 11% of cats with CRI are detected on routine screening, demonstrating the benefit of this. Azotaemia and clinical signs of CRI generally start to become detectable towards the end of IRIS stage 2. An increasing number and severity

of clinical signs are seen in the more **advanced stages (IRIS 3 & 4)**, once less than 33% of functional kidney tissue remains. Cats at different stages of CRI can have very different nutritional requirements.

**Renal diet ranges now offer different formulations depending on the IRIS stage of CKD.** The challenge is to balance the unique nutrient needs of cats, as obligate carnivores, and the dietary modifications that will help ameliorate clinical signs and slow the progression of CRI.

## NUTRITIONAL MODIFICATIONS AND BENEFITS OF DIETS SPECIALLY FORMULATED FOR RENAL CONDITIONS IN CATS<sup>1,2,3,4,5,6</sup>



# NUTRITIONAL MANAGEMENT OF CHRONIC RENAL INSUFFICIENCY (CRI) IN CATS

## ★ CLINICAL ADVANTAGES WITH THE USE OF FELINE NF RENAL FUNCTION™

### PRO PLAN® VETERINARY DIETS NF RENAL FUNCTION™ EARLY CARE

- **Early phosphorus** restriction to help slow the progression of CRI
- Moderate levels of **high quality proteins** to help reduce nitrogenous waste
- Added **omega-3** fatty acids
- Added **potassium** and reduced **sodium**

### PRO PLAN® VETERINARY DIETS NF RENAL FUNCTION™ ADVANCED CARE

- Further **phosphorus** restriction to help slow the progression of CRI
- Further restricted **high quality proteins** to help reduce nitrogenous waste, which can lead to nausea and inappetence
- Higher levels of **omega-3** fatty acids
- Added **potassium** and reduced **sodium**
- Higher **energy density** than Early Care to help maintain body weight, a key prognostic factor

It is important to ensure that **patients will accept the diet and will eat it consistently from the early stages of CRI**, before their appetite starts to become affected as a consequence of uraemic toxins.

The **biological value of protein**, including a complete amino acid profile and high protein digestibility, is key to maintain lean muscle mass and maintain healthy weight at any stage of CRI.

1. Plantinga EA, et al. (2005) Retrospective study of the survival of cats with acquired chronic renal insufficiency offered different commercial diets. *Veterinary Record*, **157**(7), 185-187.
2. Ross SJ, et al. (2006) Clinical evaluation of dietary modification for treatment of spontaneous chronic kidney disease in cats. *Journal of the American Veterinary Medical Association*, **229**(6): 949-957.
3. Laflamme D, et al. (2020) A review of phosphorus homeostasis and the impact of different types and amounts of dietary phosphate on metabolism and renal health in cats. *J Vet Int Med*. **34**(6), 2187-2196.
4. Barber PJ, et al. (1999) Effect of dietary phosphate restriction on renal secondary hyperparathyroidism in the cat. *J Small Anim Pract*. **40**(2): 62-70.
5. Syme HM, et al. (2006) Survival of cats with naturally occurring chronic renal failure is related to severity of proteinuria. *J Vet Intern Med*. **20**(3): 528-535.
6. Polzin D, et al. (2016) Controversies in veterinary nephrology: renal diets are indicated for cats with international renal interest society chronic kidney disease stages 2 to 4: the pro view. *Vet Clin North Am Small Anim Pract*. **46**(6): 1049-1065.