MANAGEMENT OF CATS AND DOGS WITH CHRONIC KIDNEY DISEASE

STATE OF THE ART CLINICAL APPROACH DETAILED

1 CKD DIAGNOSIS

Early stage of CKD*:
One or more of the following findings:

- Increasing blood creatinine or SDMA within the reference range, over several visits.
- Persistent increased SDMA >14µg/dL.
- Abnormal kidney imaging.
- Decreasing urine specific gravity (USG) within usual values, over several visits.
- Persistent renal proteinuria (urine protein: creatinine (UPC) ratio > 0.4 in a cat, > 0.5 in a dog).

More advanced stage of CKD:
Both of these findings:

- Persistent increased blood creatinine or SDMA above the reference range in a stable patient (correctly hydrated).
- Diluted urine: USG < 1.035 in cat, < 1.030 in dog.

**ROYAL CANIN® RENAL DETECT is a new tool, which uses artificial intelligence [based on blood creatinine, urea and urine analysis] to help you identify cats at risk of developing CKD within 12 months.*

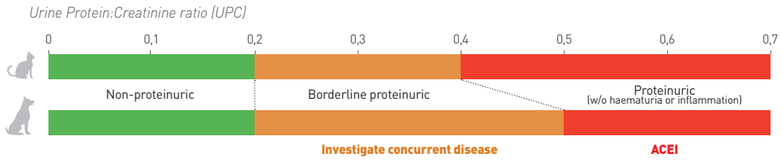
2 CKD STAGING

Staging is based on blood creatinine and SDMA assessed on at least two occasions, in a hydrated, stable patient. SDMA may be a more sensitive marker that is less impacted by loss of lean body mass. In case of staging discrepancy between creatinine and SDMA, patient muscle mass and other factors should be considered. If in any doubt, it is advised that the higher stage be assigned.

3 CKD SUB-STAGING

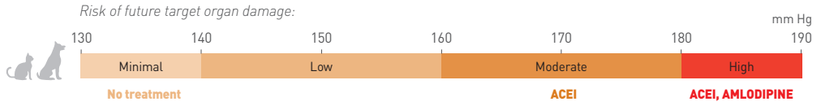
ASSESSING PROTEINURIA

Proteinuria is associated with a decreased life expectancy**.



Proteinuria without an increase of blood creatinine
When nephrotic syndrome occurs (glomerulopathy), recommend a diet from the RENAL range.

MEASURING ARTERIAL BLOOD PRESSURE



***Harley, L. and Langston, C. (2012). Proteinuria in dogs and cats. The Canadian Veterinary Journal, 53(6): 631–638.*

4 OTHER PARAMETERS INFLUENCING NUTRITIONAL RECOMMENDATION

Checking whether blood phosphate concentration is within the IRIS target range once the patient has been recommended and fed a renal diet will allow you to determine if the diet is helping to control hyperphosphataemia or if the pet needs additional phosphate binders.

****A more realistic target phosphataemia is <1.6 mmol/L (5.0 mg/dL) for pets in Stage 3, and <1.9 mmol/L (6.0 mg/dL) for pets in Stage 4.*

In cats in particular, blood calcium concentration should be followed as well: in case of hypercalcaemia, consider switching to a diet with more moderate phosphorus restriction (early renal diet).

OVERVIEW OF CLINICAL APPROACH & NUTRITIONAL RECOMMENDATION

IRIS STAGES

		STAGE I	STAGE II	STAGE III	STAGE IV
BLOOD CREATININE	CAT	< 1.6mg/dL < 140 µmol/L	1.6-2.8 mg/dL 140-250 µmol/L	2.9-5.0 mg/dL 251-440 µmol/L	> 5.0 mg/dL > 440 µmol/L
	DOG	< 1.4 mg/dL < 125 µmol/L	1.4-2.8 mg/dL 125-250 µmol/L	2.9-5.0 mg/dL 251-440 µmol/L	> 5.0 mg/dL > 440 µmol/L
BLOOD SDMA	CAT	< 18 µg/dL	18-25 µg/dL	26-38 µg/dL	> 38 µg/dL
	DOG	< 18 µg/dL	18-35 µg/dL	36-54 µg/dL	> 54 µg/dL

NUTRITIONAL RECOMMENDATION

EARLY RENAL

SINGLE CONDITION

RENAL

SINGLE CONDITION

MULTIPLE CONDITIONS (MULTIFUNCTION DIETS)

TUBE-FEEDING (LIQUID DIETS)

CAT

Thin slices in gravy — Pillow kibble — Loaf — Thin slices in gravy

Different aromatic profiles and textures to support each pets individual preferences.

DOG

Thin slices in gravy — Adapted kibble size for dogs under 10 kg — Thin slices in gravy — Loaf — Nutrient intolerance

OTHER DETERMINING FACTORS

CAT	- Cats screened at risk of developing CKD within 12 months† - Secondary hypercalcaemia	Renal proteinuria
DOG		Renal proteinuria