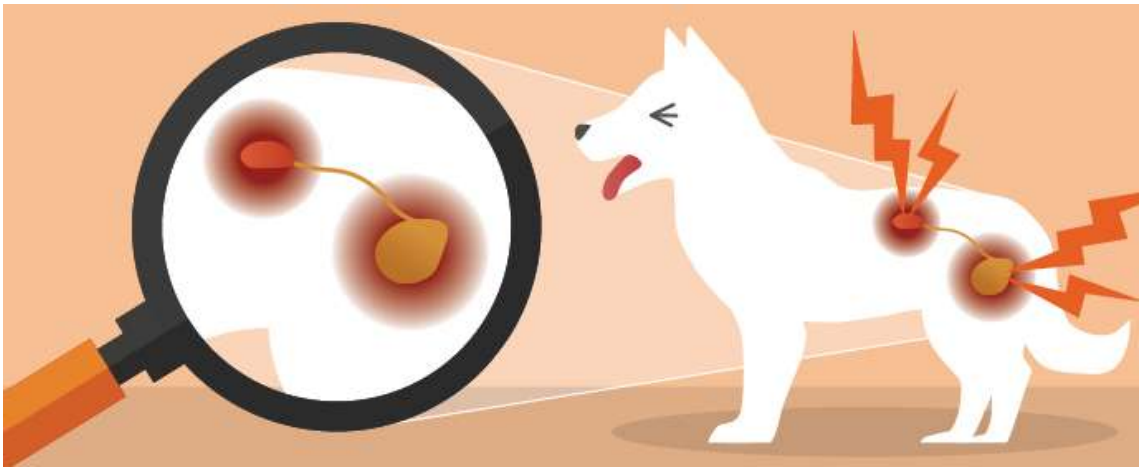
Kidney Disease

Chronic kidney disease (CKD) is progressive and irreversible. Early detection does give us the best chance of extending the quality and length of our patient's lives.

CKD is now being detected earlier in some pets through the use of SDMA testing. SDMA stands for symetric dimethyl arginine and is a biomarker of kidney function. SDMA increases when there is on average a 40% decrease in GFR. In some cases, SDMA increases earlier when there is 25% reduction of GFR, representing 25% loss of kidney function.[1] SDMA thus enables veterinarians to diagnosis CKD in dogs or cats months or even years earlier than traditional tests when there are significantly more nephrons still functional in the kidneys.



In CKD, polyuria and polydipsia are one of the early common indicators that the kidneys have decompensated. As the kidneys lose their ability to concentrate urine, urine becomes quite dilute and polyuria ensues. The compensatory mechanism of the patient is polydipsia to counteract dehydration. As the disease progresses and the ability of the kidneys to remove uraemic waste diminish, the patient may become inappetant, nauseous and begin vomiting. As a result of reduced calorie intake and cachexia, the pet may lose significant amounts of weight and become lethargic. In advanced cases of CKD, uraemia can make our patients feel extremely unwell with halitosis and vomiting because of nausea. Remembering the kidneys also help stimulate red blood cell production and regulate blood pressure, some pets may be anaemic or present for blindness because of high blood pressure.

There are 4 general goals for treatment of cats and dogs with CKD, and they include:

- Control the clinical signs – uraemia being one of the most critical to manage
- Maintain fluid, electrolyte, acid-base balance
- Provide adequate nutrition, not only to meet basic energy needs but to prevent loss of lean muscle mass; and
- Minimise progression of disease as much as possible

Although nutrition is listed as one goal, it plays an important role in all other goals as well.
In fact nutrition is the cornerstone of managing CKD. It is very important to educate pet owners about the critical role nutrition has in the management of chronic kidney disease. Feeding a therapeutic kidney food is the only treatment that has been shown to prolong survival time in cats with kidney disease (and 1 of 2 treatments with a similar result in dogs).

A common misconception is that Hill's Prescription Diet k/d foods are merely restricted in protein where in fact they contain a complete package of nutritional benefits for CKD patients.

This package includes:

- High-quality, high biological value, easy to digest protein. This reduces the waste products associated with protein breakdown, in turn minimising the clinical signs of uraemia such as nausea and inappetance in addition to reducing phosphorus.
- Reduced dietary phosphorus slows the progression of the disease.[2] Restricting dietary phosphorus minimises the risk of the patient developing secondary renal hyperparathyroidism which can lead to mineralisation of the kidneys which in turn can cause further renal damage and contribute to progression.
- Low sodium chloride (salt). Feeding a high sodium diet to cats with undetected kidney disease resulted in a significantly increased progression of their disease in just 3 months.[3]
- Added omega fatty acids help fight kidney inflammation. Omega-3 fatty acids have lots of benefits for renal disease such as decreased glomerular hypertension, decreased proteinuria, improved food intake for some patients and even some evidence they may be reno-protective. Omega-3 fatty acids are also beneficial in minimising loss of muscle mass which often occurs with CKD (called cachexia) .

- Added B vitamins to help compensate for urinary losses due to kidney disease. Animals with CKD are at risk of B-vitamin deficiency because of decreased appetite, vomiting, diarrhoea and polyuria.
- Added antioxidants (vitamin C & E and beta-carotene) Defend cells from free radical oxidation, promoting a healthy immune system. Kidney patients are systemically inflamed, and inflammation produces a lot of free radicals. It's important to protect healthy kidney tissue for as long as possible, in order to minimse progression.
- Increased L-carnitine helps improve utilization of fat as an energy source to prevent muscle catabolism
- Increased essential amino acids to support cat's and dog's with CKD natural ability to build and maintain lean body mass.
- Enhanced Appetite Trigger (E.A.T.) Technology is a breakthrough technology in Hill's kidney care foods that stimulates appetite in cats and dogs with kidney conditions and increases caloric amendments.

Case

A 13 year-old neutered female domestic shorthair cat was examined for weight loss of several months' duration. The owners had also noticed an increase in drinking, increased urination, decreased appetite and a few episodes of vomiting in the last month. The cat also seemed weaker than usual. The cat was normally fed twice per day, a mixture of canned and dry cat food purchased from the supermarket. The owners noted that the cat was still eating but its overall appetite was decreased.

Physical examination revealed a very thin cat, with a body weight of 3.4kg. Medical records indicated that the cat had weighed 5kg two years earlier. Moderate accumulation of dental calculus was noted. Abdominal palpation revealed excess accumulation of gas in the intestines and a small left kidney. The right kidney could not be palpated.

Results of a complete blood count indicated mild anaemia (i.e. decreased total RBC count, haemoglobin and PCV). Significant biochemistry findings included an increased blood urea nitrogen (BUN), 18mmol/L [Range 5.7-12.9 mmol/L], elevated creatinine, 220 mmol/L [Range 49-165mmol/L] and elevated SDMA, 18 ug/dL [range, 0-14 ug/dL], in addition to hyperphosphataemia, low serum potassium concentration and metabolic acidosis. Serum thyroxine (T_4) concentration was normal. Urinalysis was normal except for a specific gravity of 1.015. She was diagnosed with stage 2

chronic kidney disease based on the International Renal Interest Society (IRIS) staging protocols.

Test your knowledge

1. **What could be another differential diagnosis for this cat prior to obtaining blood results?**

    a. Hyperthyroidism
    b. Neoplasia
    c. Diabetes mellitus
    d. All of the above

2. **What are the primary nutrients that should be controlled to help manage chronic kidney disease? Select all that apply.**

    a. Fat
    b. Protein
    c. Sodium
    d. Phosphorous

3. **What other dietary factors should be considered in the management of chronic kidney disease?**

    a. Omega-3 fatty acids
    b. L-carnitine
    c. Increased essential amino acids
    d. All of the above

4. **Why is this cat's urine specific gravity so low?**

    a. Polydipsia
    b. Polyuria
    c. Both

5. **What Hill's diet would you recommend for this cat?**

    a. Hill's Prescription Diet k/d kidney care
    b. Hill's Prescription Diet k/d plus mobility
    c. Hill's Science Diet Senior Vitality
    d. Hill's Science Diet c/d urinary care

1. Idexx Laboratories. Idexx SDMA Testing https://www.idexx.com.au/en-au/veterinary/reference-laboratories/sdma/ 2020 Accessed 16 September 2020
2. Polzin DJ et al. *Vet Clin North Am Small Anim Pract*. 1999;19(3):539-560
3. Kirk CA at el. *Vet Ther* 2005;7:334-336

Answers

- 1. All of the above
- 2. Protein, phosphorous, sodium
- 3. All of the above.
- 4. Both
- 5. Hills Prescription Diet k/d kidney care

Canine Lower Urinary Tract Disease

The diagnostic evaluation of dogs with lower urinary tract signs (LUTS) should always include a urinalysis and diagnostic imaging. The urine sample ideally should always be collected first thing in the morning and before eating. This minimises the fluctuations that can occur throughout the day and after eating. For example, an alkaline pH may occur if the measurement was done several hours after a meal due to the post-prandial alkaline tide.

The urine sample should be analysed within 30-60 minutes of collection otherwise *in vitro* changes may occur including changes to the pH or urine specific gravity. Also, crystals that were not present in the original sample may precipitate out of solution. It's important to always perform an 'in-house' urinalysis on a fresh sample before sending it to the laboratory so you can compare the results from the freshly obtained urine. Also, refrigerate a small, sterile aliquot in case it is needed for culture.

Crystals form only in urine that is supersaturated with crystal-forming substances; therefore, the presence of crystalluria indicates increased risk for urolith formation. However, the presence of crystals alone does not necessarily indicate disease and they may be observed in normal dogs (urate, cystine abnormal). Also urine crystals should not be used as the sole criterion to predict mineral composition of uroliths. For example, the patient may have a calcium oxalate stone with a secondary urinary tract infection and hence struvite crystals may be present due to the increased pH and struvite precursor minerals. There can also be a urolith present in the bladder with no crystals in the urine. This just means that the urine was not oversaturated with crystal forming substances at the time of urine collection.

70% of all uroliths submitted to the Minnesota Urolith Centre from Australia in 2019 were found to be struvite or calcium oxalate.[1]

Struvite uroliths are most common in younger females, the urine pH is typically high, and they nearly always have a urinary tract infection (UTI). Struvite uroliths are composed of magnesium ammonium phosphate. Urease producing bacteria such as Staphylococcus or Proteus spp., 'split urea' into ammonia and carbon dioxide. Ammonia plus water become ammonium and hydroxyl ions which alkalinises the urine. Alkaline urine decreases hydrogen ion concentration, thus increases hydrogen phosphate and phosphate. It's important to investigate the cause of the urinary tract infection as if not addressed, the dog may get repeated UTI's and potentially more struvite uroliths.

The ACVIM Consensus Statement from 2016[2] , recommends that struvite cystoliths and nephroliths should be dissolved with a dissolution diet and antibiotics. The exceptions to this include having obstructing uroliths, having a massive solitary cystolith or other patient/client factors which preclude feeding the dissolution diet. Ideal foods for struvite dissolution include Hill's Prescription Diet c/d Multicare or if the dog is overweight or obese, the recommendation is Hill's Prescription Diet c/d Multicare plus Metabolic.

Calcium oxalate uroliths are more commonly found in older male dogs with a lower pH and are not usually associated with a urinary tract infection unless it is secondary. Calcium oxalate uroliths cannot be dissolved and require a cystotomy. Voiding urohydropropulsion could be attempted but is most likely to be effective with smaller uroliths and/or those with smooth contour. To help reduce the risk of recurrence of calcium oxalate uroliths after they have been removed, it is recommended to feed Hill's Prescription Diet c/d Multicare or if the dog is overweight or obese, the recommendation is Hill's Prescription Diet c/d Multicare plus Metabolic.

Case

'Miffy' is a 5 year old FS terrier cross presented to her vet for multiple frequent attempts to urinate with only small volumes at a time. The owner thought she saw some blood in her urine as well. 'Miffy' is usually kept indoors and she is fed table scraps and grocery style dry food. Her body condition score is 4.5/5. She has no past history of urinary issues and no significant past medical history. On examination her vet palpated multiple small masses in her bladder and the bladder wall felt thickened. A urinary sample was collected for a urinalysis and the results were - urine pH 8.0, USG 1.045, 2+ blood, 2+ proteinuria and struvite crystals were seen. Urine was sent for culture and sensitivity and *staphlococcus intermedius* was grown.

Test your knowledge

1. **What are three reasons why a urinary pH may be elevated in a dog?**
    a. UTI
    b. Postprandially
    c. Urine sample is old (in-vitro)
    d. All of the above

2. **Does the presence of struvite crystals in urine prove that she has a struvite urolith?**
    a. Yes
    b. No

3. **What urolith type would you 'guesstimate' Miffy may have?**
    a. Calcium Oxalate
    b. Urate
    c. Struvite
    d. Calcium phosphate

4. **Which method of treatment would you choose for Miffy?**
    a. Dissolution diet with antibiotics
    b. Cystotomy

5. **If your treatment choice was to feed a dissolution diet with antibiotics, which of the Hill's urinary diets would you choose?**

a. Hill's Prescription Diet c/d Multicare Urinary Care
b. Hill's Prescription Diet c/d Multicare plus Metabolic
c. Hill's Prescription Diet Metabolic Weight Management
d. Hill's Prescription Diet u/d Urinary Care

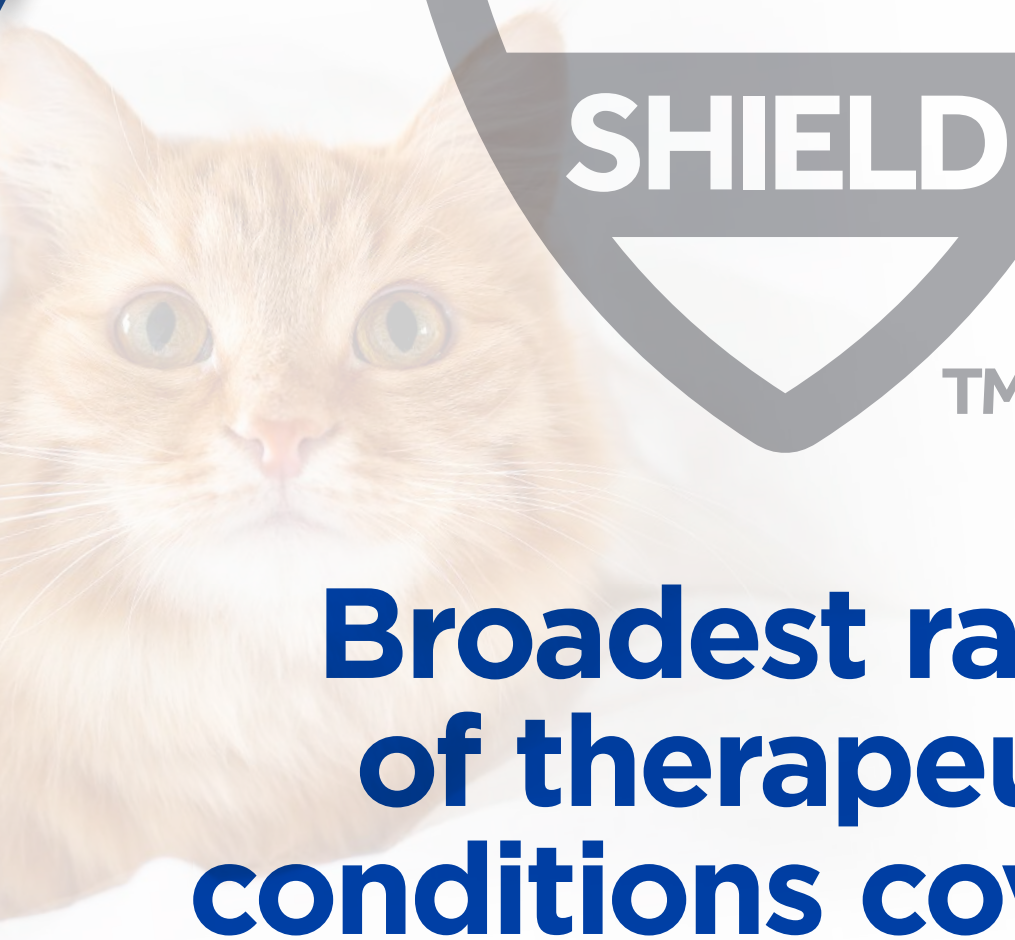
References

1. 2019 Minnesota Urolith Center Global Data. Generated by Minnesota Urolith Center, Feb. 2019, https://www.vetmed.umn.edu/sites/vetmed.umn.edu/files/globaldata.pdf.
2. ACVIM Consensus Statement. *J Vet Int Med* 2016, 30:1564-1574

HIMA.DA.200CF2FE

Answers

- Infection, *in vitro* if the sample is old, post-prandial sample
- No
- Struvite (middle-aged, female, overweight dog with a UTI)
- Dissolution Diet with antibiotics – ACVIM recommended
- Hill's Prescription Diet c/d Multicare plus Metabolic



S+OX SHIELD™

Broadest range of therapeutic conditions covered.

Formulated to help reduce the risk of struvite and calcium oxalate crystals.

Hill's PRESCRIPTION DIET

S+OXSHIELD™

is a seal given to foods that meet a specific nutrient profile formulated to promote a urinary environment that reduces the risk of developing struvite and calcium oxalate crystals.

OUR FORMULAS HAVE NOT CHANGED!

- Manage the primary condition while helping reduce the risk of struvite and oxalate crystals
- Easily communicate this benefit to your clients

THE SCIENCE OF S+OXSHIELD™

To earn the S+OXSHIELD™ seal, foods must meet a nutrition profile with specific ranges for certain nutrients.

This profile was validated in pets to promote a urinary environment that reduces the risk of developing struvite and calcium oxalate crystals by using three tests:

RELATIVE SUPERSATURATION (RSS)

Measures urine saturation of key minerals that affect crystal and stone formation

URINE pH

Measures urine pH, a key aspect in urine that affects the formation of struvite crystals and stones

HILL'S CALCIUM OXALATE TITRATION (COT)

Measures the likelihood for calcium oxalate to precipitate in urine

The COT Test[1]

Hill's calcium oxalate titration (COT) test predicts the potential for calcium oxalate crystals and stones to form in urine.

THE GOAL OF THE COT TEST

We developed the test to help us formulate foods that result in more stable urine with a delayed point of calcium oxalate precipitation.

> Our aim at the Hill's Pet Nutrition Centre is to understand how nutrition can improve the health and well-being of pets.

STEPHEN DAVIDSON
ANALYTICAL CHEMIST
HILL'S PET NUTRITION CENTER

WHY THE COT TEST

- Whole urine contains many compounds that affect crystal and stone formation — some are promoters, and some are inhibitors.
- The COT test analyses whole urine, instead of only certain components (like in RSS). The results from the COT test add to our holistic understanding of the urinary environment.

HOW IT WORKS

1. Start with whole urine.

2. An oxalate salt is gradually added to determine when calcium oxalate crystals form.

3. At a certain point, the urine becomes unstable — oxalate crystals precipitate and the urine becomes cloudy. Stable urine is more resistant to crystal formation.

[1]Davidson SJ, MacLeay JM. The calcium oxalate risk index: A new method for determining the propensity for formation of calcium oxalate uroliths. *J Vet Intern Med.* 2014;28:1083.

FREQUENTLY ASKED Questions

Were the foods with S+OXSHIELD™ reformulated?

No, our foods have not changed — they offer the same great taste and benefits as they did prior to the introduction of the S+OXSHIELD seal. We introduced the S+OXSHIELD seal so you can feel confident communicating to your client that in addition to the food's primary benefit, it's also formulated to help reduce the risk for struvite and oxalate crystals.

If a pet has a history of urinary stones, what should the client feed?

Your clinical judgment should prevail if the pet has multiple conditions and nutrition can help in the management. However, for a pet with a history of stones but no other concurrent conditions, c/d™ Multicare pet food is our first recommendation. If you have questions about more complex cases, please contact our Veterinary Consultation Service (VCS) at 1800-800-733 (AUS), 1800-344-337 (NZ).

If pets eat foods with the S+OXSHIELD seal, does that mean they will never get urinary stones?

There are no guarantees that a pet will never have stones. Many factors can lead to stone formation, some known (e.g., age, breed, disease conditions) and some unknown. But daily nutrition is a key factor, and by recommending Hill's™ Prescription Diet™ foods that carry the S+OXSHIELD seal, you are proactively helping reduce risk of crystals through good daily nutrition.

Do the foods without the S+OXSHIELD seal increase the risk for stones?

No, none of Hill's foods have a nutrition profile that increases the risk for urinary stones. But the foods that carry the S+OXSHIELD seal are formulated to provide the added benefit of helping reduce the risk of struvite and oxalate crystals.

ALL OF THESE HILL'S™ PRESCRIPTION DIET™ FOODS MEET S+OXSHIELD™ NUTRITION STANDARDS

CAT

DENTAL CARE	t/d™
DIGESTIVE CARE	i/d™
DIGESTIVE/WEIGHT MANAGEMENT	w/d™
GLUCOSE/WEIGHT MANAGEMENT	m/d™
JOINT CARE	j/d™
KIDNEY CARE	k/d™
SKIN/FOOD SENSITIVITIES	d/d™
	z/d™
HYPERTHYROIDISM	y/d™
URINARY CARE	c/d™ Multicare
	c/d™ Multicare Stress
WEIGHT MANAGEMENT	Metabolic
WEIGHT MANAGEMENT AND URINARY CARE	Metabolic+ Urinary

DOG

BRAIN AGEING CARE	b/d™
DENTAL CARE	t/d™
DIGESTIVE CARE	i/d™ Low Fat
	i/d™ Stress
DIGEST/WEIGHT/ GLUCOSE MANAGEMENT	w/d™
ENVIRONMENTAL SENSITIVITIES	Derm Defense™
JOINT CARE	j/d™
KIDNEY CARE	k/d™
KIDNEY AND JOINT CARE	k/d™+ Mobility
LIVER CARE	l/d™
SKIN/FOOD SENSITIVITIES	z/d™
URINARY CARE	c/d™ Multicare
WEIGHT MANAGEMENT	Metabolic

Products listed certified as of July 2017

Hill's PRESCRIPTION DIET™

For more information

about any of our products:

- myhillsvet.com.au
- hillsvet.co.nz

- Hill's Veterinary Consultation Service
(VCS) 1800-800-733 (Aus)
0800-344-557 (NZ)

What Prescription Diet Food to Recommend for GI conditions

Prescription Diet Gastrointestinal Biome*	Prescription Diet i/d*	Prescription Diet i/d Low Fat*	Prescription Diet w/d Multi-Benefit*	Prescription Diet z/d & Prescription Diet d/d*
Recommendation for all fibre-responsive GI conditions	Recommended for patients with acute gastroenteritis and/or non-fibre responsive GI conditions	Recommended for patients with GI diseases requiring a low fat food	Recommended for patients with multiple disease conditions and/or obese-prone pets with fibre-responsive GI conditions	Recommended for patients with GI diseases due to adverse food reactions
Indications				
Fibre-responsive enteropathy Antibiotic responsive diarrhoea Constipation (& megacolon responsive to fibre in cats) Colitis High in soluble fibre, fermentable and insoluble fibre ActivBiome+ Technology	Acute gastroenteritis Stress diarrhoea Garbage gut GI disorders that respond to highly digestibility and low fibre foods Indicated for puppies and kittens ActivBiome+ Technology	Pancreatitis Hyperlipidaemia Lymphangiectasia Protein losing enteropathy Exocrine pancreatic insufficiency Contains soluble/ prebiotic fibre ActivBiome+ Technology	Combination of Fibre-responsive GI conditions, Glucose control, Weight management, And / or Urinary management. High in insoluble fibre Appropriate fat Other conditions that respond to high fibre, low fat and low calories	Food allergy or intolerance Food responsive enteropathies (food sensitivities) Hill's z/d - hydrolysed animal protein Hill's d/d - single, intact, novel animal protein (venison) and limited carbohydrate sources

*Information from MyHillsVet.com.au, accessed May 18, 2021.

**Activbiome + Technology included in products above, except for canine i/d Low fat loaf, feline i/d dry, stew & minced, w/d & z/d dry & can and d/d dry.

Nutritional Nuggets

LET'S STAY AHEAD OF EVERY GI ISSUE

NUTRITIONAL MANAGEMENT OF DOGS WITH GI DISORDERS

ACUTE / CHRONIC	ACUTE / CHRONIC	ACUTE / CHRONIC*	CHRONIC
GI Disorders • Acute Gastroenteritis • Dietary Indescretion, etc.	Fat Sensitive Disorders • Exocrine Pancreatic Insufficiency • Pancreatitis • Hyperlipidaemia • Protein-losing Enteropathy	Fibre-Responsive Enteropathies, Antibiotic- Responsive Diarrhoea, Constipation, Diarrhoea • Stress Diarrhoea	Adverse Food Reaction
↓	↓	↓	↓
i/d	**i/d Low Fat**	**GI Biome**	**z/d**
Also suitable for puppies and post-op recovery		*Consider Prescription Diet w/d Multi-Benefit as a secondary option	Once AFR confirmed ↓ **z/d** → **d/d**

NUTRITIONAL MANAGEMENT OF CATS WITH GI DISORDERS

ACUTE / CHRONIC	ACUTE / CHRONIC*	CHRONIC
GI Disorders • Megacolon (not responsive to fibre) • Pancreatitis	Constipation, Fibre-Responsive Enteropathies, Antibiotic-Responsive Diarrhoea, Stress Diarrhoea, Megacolon (responsive to fibre)	Adverse Food Reaction
↓	↓	↓
i/d	**GI Biome**	**z/d** → **z/d** **d/d**
Also suitable for kittens and post-op recovery	*Consider Prescription Diet w/d Multi-Benefit as a secondary option	Once AFR confirmed

1 Hill's data on file, 2018. Clinical study on microbiome changes in dogs.
2 Hill's data on file, 2018. Clinical study on microbiome changes in cats.
3 Hill's data on file, 2018. Two-month clinical study evaluating dogs with chronic diarrhoea.

Ask your rep how the groundbreaking nutrition of Gastrointestinal Biome can help your patients

Hill's PRESCRIPTION DIET™

myhillsvet.com.au

IMMI38917_0919

Hill's
Transforming Lives

POST-SURGERY + ACUTE GI PROTOCOL

HELP MORE PATIENTS BENEFIT FROM THE RIGHT NUTRITION TO GET WELL SOON

Why have a post-surgical nutrition protocol?

Surgeries are stressful for your clients. Active post-surgical nutritional protocol provides:

- Better patient care in your clinic
- Nutritional support to help your patients recover quickly (feed for 6-7 days post surgery)
- Peace of mind to your clients

Prescription Diet i/d is an optimal post-surgical nutrition

- An optimal solution to help support nauseous patients, with a highly digestible formula
- A nutritional complement to help promote growth of beneficial gut bacteria
- An ideal choice for most surgeries including neutering/spaying, dental cleanings and GI surgery

ASSESSING TRADITIONAL CHICKEN & RICE RECOMMENDATION

As a post-surgical and acute GI nutrition, home prepared chicken & rice is inadequate:

Chicken & Rice	Prescription Diet i/d Chicken & Vegetable Stew
	
Unbalanced nutritional choice	Looks like home-made and offers complete & balanced clinically proven nutrition
Deficient in vitamins, minerals and fatty acids	High digestibility maximises absorption of nutrients
Often low in calories, delaying recovery	With prebiotic fibre to feed beneficial gut bacteria
Low client compliance	Suitable for growing puppies and adult dogs alike
Costly and time consuming to prepare	Super-convenient for clients

Recommend the right amount of Prescription Diet i/d cans for post-surgical feeding

12x370g can i/d CANINE with Turkey		370g cans No. of		
Weight of dog	per day	for 7 days (RECOMMENDED)	for 5 days	for 3 days
2 kg	½	3 ½	2 ½	1 ½
5 kg	1	7	5	3
10 kg	1 ⅔	11 ⅔	8 ⅓	5
20 kg	2 ¾	19 ¼	13 ¾	8 ¼
30 kg	3 ¾	26 ¼	18 ¾	11 ¼

24x82g can i/d FELINE Chicken & Vegetable Stew		82g cans No. of		
Weight of cat	per day	for 7 days (RECOMMENDED)	for 5 days	for 3 days
2 kg	2	14	10	5
4 kg	3	21	15	9
5 kg	3 ½	24 ½	17 ½	10 ½
6 kg	4	28	20	12
7 kg	4 ½	31 ½	22 ½	13 ½

24x156g can i/d CANINE Chicken & Vegetable Stew		156g cans No. of		
Weight of dog	per day	for 7 days (RECOMMENDED)	for 5 days	for 3 days
2 kg	1 ⅔	11 ⅔	8 ⅓	5
5 kg	3 ¼	22 ¾	16 ¼	9 ¾
10 kg	5 ½	38 ½	27 ½	16 ½
20 kg	9 ¼	64 ¾	46 ¼	27 ¾
30 kg	12 ⅓	86	61 ½	37

24x156g can i/d FELINE with Chicken		156g cans No. of		
Weight of cat	per day	for 7 days (RECOMMENDED)	for 5 days	for 3 days
2 kg	¾	5 ¼	3 ¾	2 ¼
4 kg	1 ⅓	9	6 ⅔	4
5 kg	1 ⅔	11 ⅔	8 ⅓	4 ¾
6 kg	2	14	10	6
7 kg	2 ¼	15 ¾	11 ¼	6 ¾

12x85g pouch i/d FELINE with Chicken		85g pouches No. of		
Weight of cat	per day	for 7 days (RECOMMENDED)	for 5 days	for 3 days
2 kg	2	14	10	6
4 kg	3 ¼	22 ¾	16 ¼	9 ¾
5 kg	3 ¾	26 ¼	18 ¾	11 ¼
6 kg	4 ⅓	30	21 ½	13
7 kg	5	35	25	15

Targeted GI nutrition for acute and chronic conditions that's

A STEP AHEAD FOR THEIR BEST LIFE