

## Clinical Dietary Formulation

**Pet Name:** Example 'Teddy'

**Owner Name:** Example

**Patient Signalment:** 10 year old male neutered cross breed

**Weight (owner reported):** 8.75kg

**BCS (Owner Reported):** 4 out of 5

**Usual Veterinarian:** Example vet, Example Street

**Formulating Veterinarian:** Dr Charlotte Gray MA VetMB MRCVS

**Relevant Conditions:** Renal Failure (IRIS 2-3), Primary Hypertension (currently managed), Increased liver enzymes (likely secondary rather than primary), some neurological episodes.

### Summary of Medical and Dietary History

Teddy has multiple medical conditions noted above. This recent change of diet is with a view to seeing if we can reduce the incidence of neurological issues if they are hepatic or renal related (lowering protein), and to change to individual supplements rather than the VetChef multi-supplement as we are concerned that the multi-supplement is disagreeing with him.

### Current Medication:

- 1 Nelio
- 2 Amodip
- 3 Apoquel

### Relevant Nutrition Points for Example 'Teddy':

*These notes are here for you and your vets' interest/reference to highlight the reasons for particular adjustments in the formulation below. Please do not worry if you prefer not to read this section but it is included so that you can read more about the reasons behind nutrient adjustments if you'd like to.*

Modifications for kidney disease are intended to reduce nausea and other signs of uraemia, improve high blood pressure, slow progression of kidney damage and to reduce the severity/likelihood of 'acidosis' (a clinical syndrome that can occur in kidney disease where blood pH changes).

Lowering Phosphorus to between 0.2-0.5%DM is important in reducing clinical signs and slowing the progression of kidney disease. It is useful to monitor serum phosphorus/phosphate levels to ensure that they are being kept in the recommended range as this will help decide whether additional phosphate binders are required.

Moderating protein may be helpful in pets with kidney disease, especially in later stages (IRIS Stage 3-4) when reducing protein can reduce nausea and slow kidney damage. The evidence for use of low protein in early stages is not clear. For pets with significant proteinuria (Protein in the urine) it is currently recommended that protein levels are reduced by 25-50% in comparison to the current diet (ref. ACVN). For late stage kidney disease total protein levels of 20%DM are commonly recommended. It is sometimes necessary to reduce protein below this level, but it is challenging to do so safely with wholefood diets. It is vital to monitor pets for signs of cachexia (muscle loss). If this occurs, protein may need to be increased slightly and carefully. The levels of protein provided in these recipes will vary depending on the condition in question, the current diet and the veterinary history/your own vets' recommendation. A nutritional analysis is included later in this document for you and your vet to reference.

Increasing levels of water soluble B vitamins helps to replace those lost in urine. B vitamins are also vital for maintaining appetite so ensuring levels remain good is important in long term health of pets with kidney disease.

Reducing Salt levels in kidney failure helps to control blood pressure and can help to keep it within a normal range. Reducing blood pressure can help to slow progression of kidney disease. Sodium level is kept below 0.3%DM. In some cases very low protein diets may still need some salt added to meet a safe minimum intake requirement.

Providing increased Omega 3 (especially EPA and DHA) can provide anti-inflammatory effects that support the kidney and may slow the ongoing inflammatory damage to the kidney tissue. Omega 3 levels of 0.4%-2.5% are recommended (Small Animal Clinical Nutrition) including plant originating ALA. Total EPA/DHA should be at least MW\*125 (this is approximately 50mg/kg bodweight)

Increased antioxidants (vitamin E, vitamin C and naturally sourced antioxidants from fruit and vegetables) helps to reduce cell damage. Fruit and vegetables provided in high enough volumes can also help to prevent the development of 'acidosis'. Acidosis is a slight change in blood pH that can occur in later stages of kidney disease and makes pets feel very unwell. Preventing this (or reducing it) can make pets feel better for longer.

#### Changeover from current diet:

Please introduce this new recipe gradually over at least 1 week. For sensitive dogs, introducing even more slowly is recommended. For dogs without allergies, I would suggest making a complete batch of the food, then adding a small amount of this complete recipe each day (e.g. a tablespoon on day one, 2 table spoons the second day and so on). If there is any evidence that Example 'Teddy' is not coping with the changeover (vomiting or diarrhoea) please return to the previous stage (or previous diet) and wait until any tummy upset has settled before continuing the transition. If you have trouble with this changeover after 2 attempts, please let me know as we may need to change our plan.

If Example 'Teddy' is unwell (not eating, temperature, vomiting for more than 24 hours, diarrhoea for more than 3 days) please consult your usual veterinarian as Example 'Teddy' require a consultation and health check.

#### Treats

If Example 'Teddy' requires more mental stimulation/chewing, feeding parts of the main meal from a licki-matt or kong can be helpful. Remember - unless stated, recipes are formulated to meet 100% of your dog's calorie requirements, so do remember that additional treats on top will also add extra calories. Some recipes will incorporate treats - these will be listed in your recipe if they are. In recipes where there are clinical requirements (e.g. liver or kidney disease) it is also notable that supplementing this recipe will unbalance some of the therapeutic modifications

**Please continue to use any medications and supplements recommended by your vet.** This diet is formulated to be used in conjunction with ongoing veterinary treatment and does NOT replace any medication. If you are not sure whether to continue use of a medication or supplement - please contact your vet.

***You required sandwich spread to give his tablets in as he is very difficult to tablet and currently has a large number of medications to have twice daily. This has been incorporated into the recipe to ensure that to total salt and phosphorus remain within the clinically recommended limits.***

#### Monitoring/Other information

This diet is balanced to FEDIAF nutritional guidelines and should result in generally good health including normal faeces, coat quality and energy (taking age and medical conditions into account).

Teddy should continue attending regular blood testing appointments with your vet to monitor serum phosphorus and renal parameters. In some cases, serum phosphorus may require further restriction of phosphorus in the diet, or may require additional phosphate binders.

***This recipe is intended to be cooked but ingredients are listed below in raw form to assist with shopping and preparation.***

### Renal, Low Fat FEDIAF Complete Recipe For Example 'Teddy'

*NOTE - all carbohydrate grains, potatoes and seeds need to be cooked even if the weight is listed as 'uncooked' or raw to help with shopping. More notes on preparation are included later in your report.*

Ingredients	Per Day	Per Week	Raw Estimation
Beef Mince 5% Fat	g	g	
Chicken Egg	g	g	
Pearl Barley Uncooked	g	g	
Sweet Potato Raw (Yam)	g	g	
Farmed Atlantic Salmon	g	g	
Wild Salmon Oil	ml	ml	
Tesco Chicken Sandwich Spread (data limited)	g	g	
Beautiful Joe's Dried Liver Treats	g	g	

Cauliflower		g	g	
Carrots		g	g	
Apple w/S		g	g	
<b>Liquid Supplements</b>				
Sunflower Oil		g	g	
Metabolics Ionic Iron per drop	<a href="#">link</a>	Drops	Drops	
Metabolics B Complex liquid per ml (inc. Biotin)	<a href="#">link</a>	ml	ml	
Solgar Vitamin E (per ml)		ml	ml	
<b>Supplement Mix</b>				
<p>Please add any fish oils on the day (rather than mixing into a batch). Other liquid supplements can be added to a larger batch, OR can be added daily if preferred. Dry/Capsule or tablets - <b>In most cases it is easiest to crush tablets/empty powder capsules for a big batch and mix with powders together in a dry jar.</b> You can either add a portion of this powder to each day's ration (e.g. if you make a 7 day batch, you could add 1/7th per day) OR you can mix it into the full batch. For puppies, where amounts will vary as they grow, it is easier to mix it into the overall batch as daily feeding amount will increase as they grow.</p>				
Animal Essentials Seaweed Calcium		teaspoon	teaspoon	
Solgar Chelated Zinc tablets	<a href="#">link</a>	tablet	tablet	
NOW Kelp 150mcg tablets	<a href="#">link</a>	tablet	tablet	

*Ingredient Notes - Generally '%' means the estimated fat percentage of a meat ingredient. NB 'Fat Free' Meat is often just less than 3% fat. 'w/s' usually means with skin. RMB refers to a 'raw meaty bone' where the bone is eaten as well as the meat. A 'mg' is one one thousandth of a gram. E.g. 300mg is 0.3g. Most powder ingredients with small measures come with a scoop, but if not - a set of mini scales can be helpful for this.*

## Vegetables

Vegetables (unless just being fed just as treats/fun) should be either cooked, or blended to a pulp (or both). It can sometimes be helpful for pets who aren't keen on veg (or to help portion it out) to blend then freeze portions into ice cube trays rather than mixing in.

## Carbohydrates must be WELL COOKED

**Carbohydrate ingredients (grains, potato or seeds) need cooking.** For effective digestion all grain or seed ingredients (oats, rice, quinoa etc) should be well-cooked (**stodgy**) before feeding. Ideally grains should ideally also be soaked in plenty of water for 12 hours to remove phytates and other contaminants. Please take note of whether the weight listed in your recipe is cooked or uncooked weight. Grains that are listed as uncooked are only listed that way to help with shopping/cooking - please do not feed any uncooked grains.

## Batch Preparation Tips

If you are using cooked ingredients in this recipe and mixing supplements in, it is important that **supplements are not added until the recipe has cooled** since some are heat sensitive and will be negatively affected by the heat.

If your recipe requires you to use a mix of cooked and raw ingredients, please make sure that you cool cooked ingredients BEFORE mixing otherwise it may cause warming of raw ingredients and bacterial proliferation.

You can make your recipe batches daily, or make larger mixed batches and store in the freezer until they are needed. Generally it is preferable to add any fish oils on the day of feeding rather than mixing into the batch. This includes pumps and capsules.

If you plan to add your powdered supplements into a batch mix – it helps distribution to first mix it into one part of the recipe (e.g. the vegetables) then to mix THIS with the other ingredients.

Batches can be stored chilled for up to 4 days. Most recipes can be kept for up to 6 months in an airtight container/Tupperware in the freezer (-18 degrees).

For small amounts of powder you may want to invest in a set of mini scales. For larger dogs, large plastic trays can be handy for mixing larger batches in.

If Eggshell is included in your recipe, you can use pots of prepared crushed eggshell, or you can crush your own. You should dry the shell, then crush to powder in a pestle and mortar until a fine powder.

## On Day of Feeding

If you have frozen batches previously, defrost your tub in the fridge for 24 hours and serve when fully defrosted. It is ok to warm food a little before feeding. Please avoid accidentally cooking recipes that are intended to be fed raw for both bone safety and nutritional balance reasons.

### Expected Nutritional Breakdown

Note - for some ingredients, a full profile may not be available and levels may appear lower than they will be in reality. This is often the case with pantothenic acid and choline for example.

*Included for you/your veterinarian to reference if required:*

		Per Day	/100gDM
<b>Energy</b>	kcal	485	451
<b>Water</b>	g	59.57%	0
<b>Dry Matter</b>	g	107.5425	100
<b>Protein</b>	g	22.90	21.29
Tryptophan	g	0.25	0.23
Threonine	g	0.86	0.80
Isoleucine	g	0.92	0.86
Leucine	g	1.64	1.52
Lysine	g	1.41	1.31
Methionine	g	0.51	0.47
Cystine	g	0.37	0.35
Methionine and Cystine	g	0.88	0.82
Phenylalanine	g	1.03	0.96
Tyrosine	g	0.70	0.65
Phenylalanine and Tyrosine	g	1.73	1.61
Valine	g	1.15	1.07
Arginine	g	1.26	1.17
Histidine	g	0.57	0.53
<b>Total lipid (fat)</b>	g	12.08	11.23
Linoleic acid *	g	1.63	1.52
Alpha-Linolenic Acid *	g	0.08	0.07
20:5 n-3 (EPA)	g	0.32	0.30
22:6 n-3 (DHA)	g	0.38	0.35
EPA + DHA Total	g	0.70	0.65
Omega 6 : Omega 3		2.16	
<b>Minerals</b>			
Calcium, Ca	mg	802.38	746.11
Iron, Fe	mg	5.08	4.73
Magnesium, Mg	mg	149.89	139.38
Phosphorus, P	mg	371.05	345.03
Potassium, K	mg	953.92	887.02
Sodium, Na	mg	278.67	259.12
Zinc, Zn	mg	25.97	24.15
Copper, Cu	mg	1.82	1.69
Manganese, Mn	mg	1.19	1.10
Selenium, Se	µg	42.83	39.83
Iodine, I	µg	120.00	111.58
Ca:P		2.16	
<b>Vitamins</b>			
Vitamin C, total ascorbic acid	mg	25.30	23.53
Thiamin	mg	1.09	1.01
Riboflavin	mg	1.46	1.35
Niacin	mg	9.51	8.84
Pantothenic acid	mg	3.99	3.71

Vitamin B-6	mg	1.55	1.44
Folate, total	µg	118.51	110.20
Choline, total	mg	193.03	179.49
Betaine	mg	2.50	2.33
Vitamin B-12	µg	47.96	44.59
Retinol	µg	1139.24	1059.34
Carotene, beta	µg	2143.68	1993.33
Vitamin E (alpha-tocopherol)	mg	31.82	29.59
Vitamin D3 (cholecalciferol)	µg	7.19	6.69






### Monitoring Bodyweight:

Weigh your dog regularly. For adult dogs please weigh monthly after introduction of a new diet. For large breed puppies or for dogs with serious medical conditions, weighing every 2 weeks is recommended. The calories in this recipe are calculated based on expected energy requirement for age breed and medical condition, but \*every dog is different\* so please let me know if there is unexpected weight loss or weight gain we can adjust calorie intake accordingly. Body condition scoring is another good way to assess whether your dog is eating the correct amount. A chart is included for your information.

### Body Condition Scoring Chart:

## Not Sure if Your Pet Is Fit or FAT?

In general, dog and cat owners should be able to feel their pet's ribs through a thin layer of fat and see a defined "waist" between the ribs and hips. "You should not be able to see all of a pet's ribs and spine," says Dr. Buisson. "And if you have to really press hard to find his ribs under fat, he's too big." Your veterinarian will be able to give you a more accurate picture of your pet's weight and health based on individual factors; however, you can check the BCS scale below to get an idea of where your pet falls on the weight spectrum:

<p><b>1</b></p>  <p>Very thin</p>	<p><b>2</b></p>  <p>Underweight</p>	<p><b>3</b></p> <p style="color: #55a868; font-size: 1.5em;"><b>Fit</b></p>  <p>Ideal</p>	<p><b>4</b></p>  <p>Overweight</p>	<p><b>5</b></p>  <p>Obese</p>
<p>Ribs are easy to see or feel. When viewed from above, there is an accentuated waist.</p>	<p>Ribs are easy to feel. When viewed from above, there is an hourglass shape.</p>	<p>Ribs can be felt. There is a slight waist when viewed from above.</p>	<p>Ribs are difficult to feel. There is no waist when viewed from above.</p>	<p>Ribs are very difficult to feel. When viewed from above, there is no waist and a broad back.</p>

BCS scale adapted with permission from Hill's Pet Nutrition, Inc.

3-6 months after diet change – It is advisable to undergo a health check with your usual veterinarian with diet and existing clinical conditions in mind. Checking of bodyweight, coat condition and general health can be a helpful way of checking that this diet is working well for your pet and that there are no signs to suggest we should make modifications.

If you are continuing a home-made diet for some months/years, it is important to continue regular checks with your veterinarian to ensure that there are no signs of nutritional deficiency. This recipe is formulated to (and expected to) meet FEDIAF Nutritional minimums but whole food ingredients may not always contain the exact amount of nutrients that we expect. Nutritional issues and deficiencies are unlikely, but it's important to be vigilant. Routine blood tests (biochemistry and haematology) can be helpful, but remember that these cannot test nutritional status per se. Some nutrients can be blood-tested, but this is not usually required.

## **Adjustments**

Minor adjustments may be required early in the course of this diet if (for example) you cannot source specific supplements and I am generally happy to provide assistance on this. Overall calorie adjustment in pets that have gained or lost weight are also generally included (so long as overall profile of diet is not changing). Support on these points is generally provided free of charge for 3 months. Changes to main ingredients (carbohydrate or meat sources) generally requires rebalancing and is generally chargeable as a follow up consult. After 3 months, changes to any aspect of the diet requires veterinary history review (for safety purposes) and as such generally requires follow up consult.

Adjustments to vegetables or supplement items are generally simple and are not usually chargeable. If it becomes necessary to make substantial re-adjustments (for example – a change to the main meat ingredients, or if the fat level needs reducing substantially) there are likely to be additional costs. A follow up consultation (bookable online) may be required if there are changes to your dog's medical condition the requires additional discussions, history review and reformulation.

## **Enquiries/Issues:**

Please do contact me if you have concerns or questions. Ideally compile them into a single email for efficiency. I do still actively work in Veterinary Practice, so please allow 5 days for me to respond to your enquiries.

If it is urgent, please mark it 'URGENT' in the subject and I'll do my best to respond quickly. Please forward enquires/issues by email to [charlotte.gray@companionnutrition.co.uk](mailto:charlotte.gray@companionnutrition.co.uk)

If your pet has been vomiting for more than 24 hours, has had diarrhoea for more than 48 hours, is lethargic or painful - DO NOT wait for a response from me - please go directly to your primary and local vet.

## **DISCLAIMER**

### **Varied Nutrient Content of Wholefoods:**

All calculations are performed using available nutritional data for whole foods and nutritional calculations. Information on novel ingredients may be more limited/less reliable.

Unlike processed pet foods, nutrients in whole foods may vary depending on season, source (free range/intensively reared), storage conditions and method of cooking. In using this recipe you accept that the values in your recipe are likely to vary a little each time you prepare it and that nutritional analysis is an educated estimate and cannot be guaranteed.

### **Veterinarian Qualifications:**

These diets are formulated by myself (Charlotte Gray MA VetMB MRCVS). I am a qualified, registered and practicing veterinary surgeon with additional study in nutrition, but I am not a board certified clinical nutritionist.

### **Veterinarian General:**

This service is a referral service and I do not accepting responsibility for the general veterinary care of your dog or cat (unless you are a client of my own and I have examined your dog directly). You also understand that, as this service is not a veterinary practice, that there is no out of hours on call or emergency service available – you must remain with your own veterinary practice for all veterinary enquiries.

There has been no clinical examination of your pet by myself, and I am relying on veterinary history provided by yourself and your veterinary practice to formulate to required clinical need. I cannot be held responsible for missing data, or failure to note medications/medical conditions that were not noted in veterinary history or client communications with myself.

I/we cannot accept responsibility for adverse events that occur as a result of feeding these recipes (for example – choking, swallowing large pieces of bone, bacterial diseases, parasitic disease). You are responsible for sourcing ingredients, storing them correctly, and for monitoring your dog and their behaviour especially where bones are included. Supervision is recommended during mealtimes.

### **Risks of raw food diets:**

If you are feeding raw, you should take suitable precautions when handling, preparing and storing raw meat. Raw meat may contain pathogenic bacteria which has the potential to cause illness in human or canine members of the household if suitable hygiene precautions are not taken. Dogs fed a raw diet may shed increased number of pathogenic bacteria and may carry bacteria on their coats. For this reason, raw feeding may not be suitable in households with immunosuppressed individuals, or where there are young children.

Raw diets should be kept frozen (at -18 degrees) OR chilled (for up to 4 days maximum). Do not allow raw foods to sit at ambient temperatures as this may cause proliferation of pathogenic bacteria in the foods.

### **Medical conditions:**

Where these diets are fed to dogs with medical conditions, recommendations are based on current available veterinary clinical recommendations (Small Animal Clinical Nutrition, current academic literature) and the history you have provided. We cannot provide a guarantee that a diet will improve or resolve any medical condition. It is your responsibility to work with your own veterinarian to monitor your dog's clinical response to this diet and inform me if your vet feels that alternate or further adjustments are required.

### **Your Vet:**

In line with other referral services, if this report concerns a medical condition, a copy of this report will be sent to your vet.

**Thank you for trusting me with Example 'Teddy's' Dietary formulation and I hope that this recipe works well**

Dr Charlotte Gray MA (*hons*) VetMB MRCVS

Companion Nutrition