









Nutrients of Concern for Diseases and Select Specific Conditions

Disease Category	Specific Conditions	Nutrients of Concern	Notes
Adverse food reaction 	Cutaneous adverse food reaction	<ul style="list-style-type: none"> • Limited antigen diet <ul style="list-style-type: none"> • Novel/hydrolyzed protein • Limited ingredients 	<ul style="list-style-type: none"> • Ingredients impact success of treatment • Noningredients may also impact success (e.g., additives, Maillard production reaction)
	Food intolerance		
	Food-responsive chronic enteropathy		
Inflammatory skin condition 	Non-food-related skin condition	<ul style="list-style-type: none"> • High n-3 fatty acids <ul style="list-style-type: none"> • Consider n-6:n-3 ratio • High vitamin A • High vitamin E • High zinc • Added antioxidants 	<ul style="list-style-type: none"> • Individual diseases may require different supplements and doses
Osteoarthritis 		<ul style="list-style-type: none"> • High EPA/DHA • Added glucosamine • Added chondroitin • Added antioxidants • Low energy density if overweight/obese 	<ul style="list-style-type: none"> • Additional supplementation may be required to achieve optimal dose • High n-3 fatty acid supplementation may result in gastrointestinal disturbance
Neurologic conditions 	Cognitive dysfunction	<ul style="list-style-type: none"> • Added lipoic acid • Added carnitine • High EPA/DHA • Added antioxidants 	<ul style="list-style-type: none"> • Synergistic effects of nutrients when combined
	Idiopathic epilepsy	<ul style="list-style-type: none"> • High medium-chain triglycerides 	
	Anxiety	<ul style="list-style-type: none"> • Added L-tryptophan • Added hydrolyzed casein • Added antioxidants • Modified fiber 	
Cardiovascular disease 	Degenerative valve disease	<ul style="list-style-type: none"> • Controlled sodium • High EPA/DHA • Avoid low protein 	<ul style="list-style-type: none"> • Supplement potassium as required • Maintain optimal body and muscle condition
	Hypertrophic cardiomyopathy		
	Dilated cardiomyopathy	<ul style="list-style-type: none"> • Controlled sodium • High EPA/DHA • Avoid low protein • Added taurine • Added carnitine 	




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Nutrients of Concern for Diseases and Select Specific Conditions, Continued

Disease Category	Specific Conditions		Nutrients of Concern	Notes
Urolithiasis 	Calcium oxalate		<ul style="list-style-type: none"> • Low oxalate ingredients • Controlled calcium with appropriate calcium to phosphorus ratio • Avoid vitamin C supplementation • Low relative supersaturation • Added water 	<ul style="list-style-type: none"> • Many of these nutrients of concern can be incorporated into other diets but may be difficult to identify unless specifically labeled for this use • Aim for USG ≤ 1.020 (dogs) or ≤ 1.035 (cats) • Struve urolithiasis in dogs is typically infection related and special diet may not be required long term
	Struvite		<ul style="list-style-type: none"> • Controlled magnesium • Controlled phosphorus • Controlled protein • Target acidic urine pH • Added water 	
	Urate		<ul style="list-style-type: none"> • Low purines <ul style="list-style-type: none"> • Does not necessarily mean low protein • Target alkaline urine pH • Added water 	
	Cystine		<ul style="list-style-type: none"> • Controlled cystine • Controlled methionine • Target alkaline urine pH • Added water 	
Lower urinary tract disease 	Matrix-crystalline plugs		<ul style="list-style-type: none"> • Based on mineral content of the plug • Added water 	
	Feline idiopathic cystitis		<ul style="list-style-type: none"> • Added antioxidants • High EPA/DHA • Added water • Low energy density if overweight/obese 	
Pancreatic disease 	Endocrine	Diabetes mellitus	<ul style="list-style-type: none"> • High soluble and insoluble fiber • Low carbohydrate (cats) • High protein (unless contraindicated, e.g., proteinuria) • Low energy density if overweight/obese 	<ul style="list-style-type: none"> • Consistency of meal timing and insulin regimen are most important
	Exocrine	Pancreatitis	<ul style="list-style-type: none"> • Low fat (dogs) • Limited antigen (cats) 	<ul style="list-style-type: none"> • Dietary fat recommendations may depend on baseline intake and degree of hyperlipidemia
		Exocrine pancreatic insufficiency	<ul style="list-style-type: none"> • Achieve optimal body condition 	<ul style="list-style-type: none"> • In most cases no specific diet is needed with appropriate enzyme supplementation • Assess serum cobalamin and supplement if indicated • In cases with persistent soft stool, additional fiber supplementation may be warranted





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Nutrients of Concern for Diseases and Select Specific Conditions, Continued

Disease Category	Specific Conditions	Nutrients of Concern	Notes	
Gastrointestinal 	Acute vomiting, diarrhea	<ul style="list-style-type: none"> Highly digestible Low to moderate fat 	<ul style="list-style-type: none"> Difficult to identify digestibility unless specifically labeled for this use 	
	Chronic enteropathy	<ul style="list-style-type: none"> Limited antigen diet <ul style="list-style-type: none"> Novel/hydrolyzed protein ± modified fiber ± low fat 	<ul style="list-style-type: none"> Assess serum cobalamin and folate and supplement if indicated 	
	Intestinal dysbiosis	<ul style="list-style-type: none"> Modified fiber 	<ul style="list-style-type: none"> Assess serum cobalamin and supplement if indicated 	
	Protein-losing enteropathy	<ul style="list-style-type: none"> Low fat ± limited antigen 		
	Fiber-responsive colitis	<ul style="list-style-type: none"> Moderate to high fiber Mixed fiber types 	<ul style="list-style-type: none"> Fiber can be separately supplemented 	
	Large bowel diarrhea			
	Constipation	<ul style="list-style-type: none"> Moderate to high fiber Mixed fiber types Low energy density if overweight/obese Increased water 	<ul style="list-style-type: none"> Investigate underlying causes (e.g., hypercalcemia, hypokalemia, obesity) 	
	Obstipation	<ul style="list-style-type: none"> Highly digestible Low energy density if overweight/obese 	<ul style="list-style-type: none"> Difficult to identify digestibility unless specifically labeled for this use Caution with high-fiber weight loss diets 	
Other endocrine 	Hyperlipidemia	<ul style="list-style-type: none"> Low fat 	<ul style="list-style-type: none"> Consider EPA/DHA supplementation 	
	Feline idiopathic hypercalcemia	<ul style="list-style-type: none"> Controlled calcium Avoid excess vitamin D Avoid excess vitamin A ± increased fiber 		
	Hyperthyroid	<ul style="list-style-type: none"> Low iodine 	<ul style="list-style-type: none"> Impossible to achieve necessary level of iodine restriction without specific formulation and production procedures Specific nutritional modification not required if hyperthyroidism is managed by other means 	
Liver disease 	Encephalopathic	<ul style="list-style-type: none"> Low protein ± B12 supplementation 	<ul style="list-style-type: none"> Avoid organ meats Consider vegetarian protein sources 	
	Nonencephalopathic	Portosystemic shunt	<ul style="list-style-type: none"> Moderate protein 	
		Microvascular dysplasia		
		Chronic hepatitis		
Copper-associated hepatopathy	<ul style="list-style-type: none"> Low copper Added zinc 	<ul style="list-style-type: none"> Only specifically designed low-copper diets are below AAFCO minimums 		

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Nutrients of Concern for Diseases and Select Specific Conditions, Continued

Disease Category	Specific Conditions	Nutrients of Concern	Notes
Kidney 	Protein-losing nephropathy	<ul style="list-style-type: none"> • 25–50% protein reduction from current intake <ul style="list-style-type: none"> • Meet essential amino acid requirements • High EPA/DHA • Low phosphorus if azotemic 	<ul style="list-style-type: none"> • Protein recommendations will depend upon the degree of proteinuria • Many medications used to address proteinuria and hypertension may exacerbate hyperkalemia, and reducing dietary potassium intake may help
	Acute kidney injury	<ul style="list-style-type: none"> • Moderate protein 	<ul style="list-style-type: none"> • Consider as a critical care disease category when hypercatabolic
	Chronic kidney disease	<ul style="list-style-type: none"> • Low phosphorus • ± potassium supplementation • High EPA/DHA • Increased energy density to maintain body and muscle condition (unless obese) • Excess protein 	<ul style="list-style-type: none"> • Many medications used to address proteinuria and hypertension may exacerbate hyperkalemia, and reducing dietary potassium intake may help • Consider vitamin D supplementation • Protein intake can vary based on staging, presence of uremia, and proteinuria
Obesity 		<ul style="list-style-type: none"> • High protein • Moderate to high fiber • Low energy density • Increased nutrient to calorie ratio • Moderate to low fat 	<ul style="list-style-type: none"> • Restriction below RER is not recommended with over-the-counter products
Dental disease 		<ul style="list-style-type: none"> • Mechanical action or masking flavor for <ul style="list-style-type: none"> • Plaque or tartar reduction and/or prevention • Control of bad breath odor 	<ul style="list-style-type: none"> • Mechanical brushing and dental prophylaxis are most effective
Critical care 		<ul style="list-style-type: none"> • Highly digestible • Increased energy density • High fat • Added antioxidants • Texture more amenable to tube feeding slurry use 	<ul style="list-style-type: none"> • Difficult to identify digestibility unless specifically labeled for this use

AAFCO, Association of American Feed Control Officials; DHA, docosahexaenoic acid; EPA, eicosapentaenoic acid; RER, resting energy requirement; USG, urine specific gravity.

The 2021 AAHA Nutrition and Weight Management Guidelines for Dogs and Cats are available at aaha.org/nutrition.

These guidelines were prepared by a Task Force of experts convened by the American Animal Hospital Association (AAHA) and were subjected to a formal peer-review process. This document is intended as a guideline only, not an AAHA standard of care. These guidelines and recommendations should not be construed as dictating an exclusive protocol, course of treatment, or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to each individual practice setting.