

# Functional Health — Your Pet's Nutrition

A Longevity-Focused Guide for Dogs & Cats

By Dr. Kevin Toman, The Longevity Vet



# Why Nutrition Is a Functional Health Issue

Nutrition is not just fuel. **It is information.** Every meal your pet consumes sends powerful metabolic signals throughout their body, actively shaping their physiology and influencing critical biological processes that determine both lifespan and quality of life.

Functional nutrition asks a fundamentally different question than traditional feeding advice: **"What diet best supports this individual pet's biology over time?"**

This guide is a decision-support tool designed to help you make informed, evidence-based nutrition choices that optimize your pet's healthspan.

- **Inflammation & Immune Balance**

Diet directly modulates inflammatory pathways

- **Metabolic Control**

Insulin sensitivity and glycemic response

- **Organ Function**

Kidney, urinary, and cardiovascular health

- **Microbiome Health**

Gut ecosystem and systemic immunity

- **Cancer Risk**

Long-term disease prevention

## FRAMEWORK

# The 3 Core Goals

This evidence-based framework helps you navigate nutrition decisions systematically, combining clinical insight with measurable outcomes to optimize your pet's health trajectory.



## Clarify What Matters Most Right Now

Understand how food functions as a biologic signal and identify where diet may be impacting your pet's current health status.



## Determine the Next Best Test

Use objective laboratory data to match diet to your pet's unique biology—moving from guesswork to precision.



## Choose the Most Appropriate Next Step

Make informed decisions about diet type, protein sources, and monitoring strategies based on evidence and individual needs.

# Food as a Biologic Signal

Food actively shapes your pet's physiology every single day. Rather than viewing diet as simple caloric input, functional nutrition evaluates how different foods affect critical biological processes that determine long-term health outcomes.

## Inflammatory Signaling

Certain foods promote or quiet systemic inflammation, affecting aging speed and disease risk across all organ systems.

## Glycemic Load & Insulin Response

Carbohydrate quality and quantity influence blood sugar stability, insulin sensitivity, and metabolic health.

## Digestibility & Nutrient Bioavailability

Processing methods dramatically affect whether nutrients reach cells in usable forms.

## Microbiome Balance

Diet composition shapes the gut ecosystem, which influences immunity, behavior, and systemic inflammation.

## Immune Reactivity

Protein exposure patterns affect food tolerance and allergic responses over time.

## Urinary Chemistry

Mineral balance and pH directly impact crystal formation and bladder health.

- ❑ **Core Principle:** There is no universally "best" diet—only the best match for your pet's current biology, adjusted over time as needs change.

# Where Diet Most Often Goes Wrong

## The Ultra-Processed Food Problem

Most commercial kibble undergoes extreme processing that fundamentally alters food chemistry in ways that create long-term health risks:

- **High heat and pressure cooking** denatures proteins and reduces nutrient bioavailability
- **Fat oxidation during coating** introduces rancid lipids that promote inflammation
- **Advanced Glycation End Products (AGEs)** form when proteins and sugars bind under high heat

AGEs are pro-inflammatory molecules linked across multiple species to accelerated aging, insulin resistance, kidney stress, cardiovascular disease, and cancer progression. Chronic dietary exposure to AGEs increases the long-term inflammatory burden that drives age-related disease.



## When Less-Processed Foods Help

Minimally processed diets—including gently cooked, balanced home-prepared, or carefully selected raw options—often offer:

- Higher nutrient bioavailability
- Lower inflammatory load
- Better glycemic control
- Improved stool quality and digestive health
- Enhanced skin, coat quality, and energy levels

For many health-conscious pet households, **gently cooked diets** offer the best balance of nutritional integrity, safety, and convenience.

# Determine the Next Best Test

Functional nutrition is measurable. We do not guess. Objective laboratory data allows us to match diet to biology with precision, moving from assumptions to evidence-based interventions.

## Essential Tests for Diet Optimization

- **CBC & comprehensive chemistry** — baseline organ function
- **Urinalysis** (pH + sediment are critical) — crystal risk and kidney function
- **SDMA** — early kidney stress detection
- **Phosphorus** — kidney health indicator
- **Cholesterol & triglycerides** — fat metabolism and cardiovascular risk
- **Blood glucose ± fructosamine** — glycemic control and diabetes screening
- **Taurine** — essential for cats and at-risk dog breeds
- **B12 & folate** — absorption efficiency markers
- **Fecal analysis or microbiome testing** — selected cases with GI signs

### Protein Tolerance

Kidney values guide safe protein levels

### Carbohydrate Handling

Glucose and insulin response patterns

### Kidney & Urinary Safety

pH, crystals, and early damage markers

### Inflammatory Burden

Systemic inflammation indicators

### Absorption Efficiency

Whether nutrients reach cells effectively

❏ **Critical Insight:** Without objective data, nutrition decisions are guesses. Testing transforms nutrition from opinion into science.



# Choose the Most Appropriate Next Step



## Protein Simplicity & Immune Clarity

Food allergy and intolerance are driven by immune recognition of proteins. Single-protein, limited-ingredient diets reduce immune stimulation and improve skin, ear, and GI issues. Simplicity creates diagnostic clarity.



## Vegetarian Diets: Clear Boundaries

**Dogs** can thrive on properly formulated vegetarian diets—useful in selected allergy cases. **Cats** are obligate carnivores and cannot safely be vegetarian. They require taurine, arachidonic acid, retinol, and specific amino acids from animal sources.



## Taurine & Grain-Free Confusion

Taurine deficiency causes dilated cardiomyopathy, retinal degeneration, and lethargy. Risk factors include poorly formulated grain-free diets, exotic proteins, heavy legumes, and unbalanced home-cooked meals. This is a **formulation problem**, not a grain problem.

## Diet Categories Requiring Extra Scrutiny

### Raw Diets

**Benefits:** High digestibility, excellent palatability, low carbohydrate load

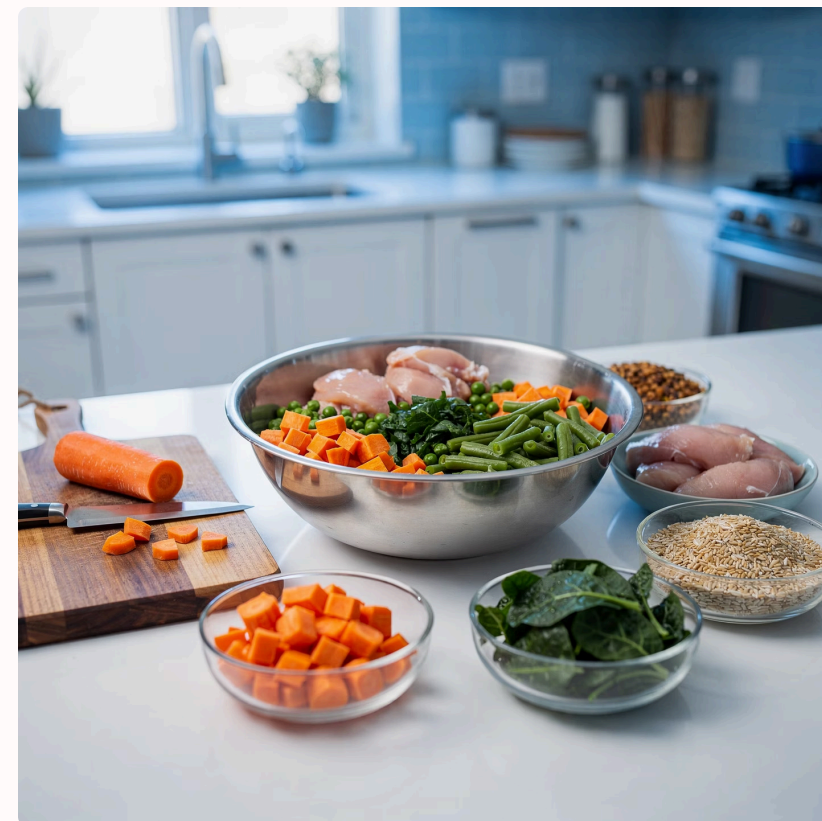
**Risks:** Bacterial contamination (Salmonella, E. coli), Toxoplasmosis (cats and immunocompromised humans)

Raw feeding is not inherently wrong—but must be carefully sourced, safely handled, and properly balanced with professional guidance.

### Home-Cooked Diets

Home-cooked diets are powerful longevity tools when done correctly. However, they are commonly deficient in essential nutrients when unbalanced.

**Mandatory rule:** Home-cooked diets must be professionally balanced using services like [Balancelt.com](https://www.balancelt.com), which adjust recipes for species, age, size, and disease state. Home-cooked + balanced = one of the most powerful nutrition strategies available.




# Diet & Urinary Health: Where Mistakes Become Emergencies

Diet directly affects urinary pH, mineral concentration, and hydration status. For male cats especially, these factors are not optional considerations—they are survival decisions.

<b>Why Male Cats Are Uniquely Vulnerable</b>  Crystals or stones can lodge in the narrow male urethra and cause life-threatening urethral blockage within 24–72 hours. This is a true medical emergency requiring immediate intervention.	<b>Longevity Nutrition for Male Cats</b>  Requires high moisture intake, careful mineral balance, avoidance of excessive dry food, and ongoing urinalysis monitoring to prevent crystal formation.	<b>Prevention Is Non-Negotiable</b>  Regular testing and dietary vigilance prevent emergencies. Once blockage occurs, survival depends on immediate veterinary care—often requiring hospitalization and catheterization.
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## Critical Urinary Health Factors

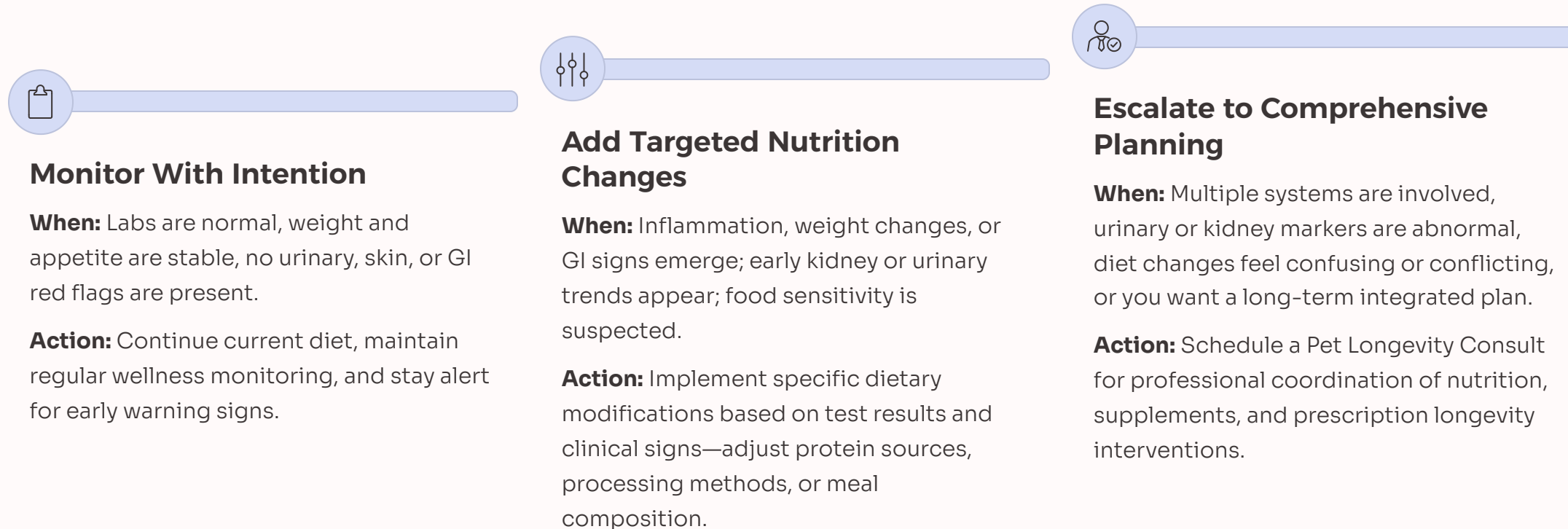
- **Urinary pH:** Affects crystal type and formation risk
- **Mineral concentration:** Calcium, phosphorus, magnesium balance
- **Hydration:** Dilution prevents crystal precipitation
- **Food moisture content:** Wet food dramatically reduces risk

 **Emergency Warning Signs:** Straining to urinate, frequent trips to litter box with little output, bloody urine, crying while urinating, or licking genital area excessively require immediate veterinary attention.



# Putting It Together: How to Use This Framework

Functional nutrition is about precision and adjustment over time. Use this tiered approach to determine when to monitor, when to intervene, and when to escalate to comprehensive longevity planning.



## When to Escalate Beyond the Worksheet

A [Pet Longevity Consult](#) is appropriate when nutrition must balance kidney, heart, urinary, or metabolic disease; when home-cooked or specialty diets are being considered; or when supplements and prescription longevity tools need professional coordination.

[Start a Pet Longevity Consult](#)[Explore Longevity Protocols](#)

# The Functional Nutrition Takeaway

Longevity nutrition is not about dietary extremes or marketing trends. It is about precision, balance, measurement, and continuous adjustment based on your pet's evolving biology.

Your pet's diet can quiet inflammation, reduce disease risk, and extend healthy years—but only when it is thoughtful, balanced, monitored, and individualized to their unique needs.

Most pet parents start with **Functional Health — Foundations** to establish baseline risk, then layer in nutrition decisions with data rather than guesswork. There is no perfect diet—only the right diet for your pet today, adjusted over time as their needs change.

Nutrition is not just what your pet eats. It is **how long—and how well—they live.**

Dr. Kevin Toman  
The Longevity Vet



## Precision

Match diet to individual biology through objective testing



## Balance

Ensure complete nutrition across all life stages



## Measurement

Track outcomes with laboratory data, not guesswork



## Adjustment

Adapt strategy as your pet's needs evolve over time

[Return to Functional Health Worksheets](#)