proactive paws
VETERINARY FORMULATED NUTRITION

Gut Reset for Dogs

Healing Your Pet From the Inside Out

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Introduction

As a functional medicine veterinarian, my focus has always been to identify the root cause of disease and help animals heal using common-sense, science-backed approaches. Medications have their place, but they should be used thoughtfully and sparingly when they truly support recovery. More often, real healing comes from addressing diet, environment, lifestyle, and the microbiome, the foundational pillars of health that are too often overlooked.

Thirty years of treating gut issues in small animals led me to develop a 5-step approach to help my clients lay the foundation for a healthy gut, or to restore it, for their beloved companions. I share it now with you.

Review. Rework. Repair. Rebuild. Restore.

These five steps form the foundation for restoring gut health in animals. Every stage matters, and together they create a clear roadmap to healing. My goal is to empower my clients (and you, reading this information) to gain enough knowledge to feel confident and make well-informed decisions. When we know more, we make better choices and have fewer regrets. Keep learning and asking questions, because becoming the primary advocate for your pet's health is the best gift you could ever give them.

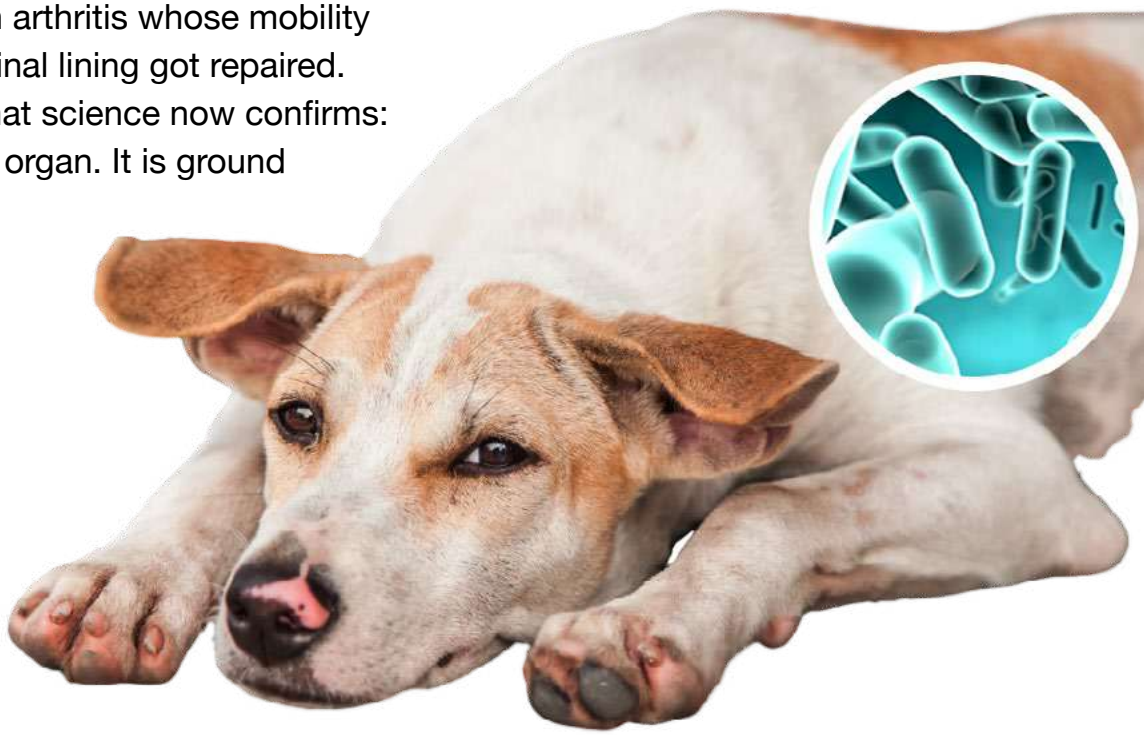
I will share the information, options, and strategies. You and your hands-on support team will decide what's right. If you're looking to add an integrative or functional medicine vet to your team but don't know how to find one, check out the directory at www.civtedu.org (telehealth consults are also available).

Step One: Review

We'll begin with **Review,** understanding what's happening inside your pet's body and why. What are the root causes of chronic symptoms? There is an epidemic of inflammatory conditions in pets nowadays. Most of the "-itis" disorders: gingivitis, otitis, dermatitis, are simply different faces of the same underlying problem, persistent inflammation. This is what veterinarians see in practice every single day. And while conventional drugs may manage the symptoms of inflammation and other pesky recurring problems, they don't prevent the body from further decline, nor do they address the root causes of why the disease occurred in the first place. That's our job to figure out. So let's get to work.

Most people believe that digestive problems are only linked with obvious symptoms: a dog with diarrhea, a cat vomiting on the rug, or a pet with bad gas and bad breath. These signs certainly can suggest a problem in the gastrointestinal tract, but they are only the tip of the iceberg. Many pets with significant gut dysfunction never show classic digestive symptoms at all. Instead, they may itch year-round, battle chronic ear infections, develop arthritis earlier than expected, or even struggle with behavioral problems like anxiety or aggression.

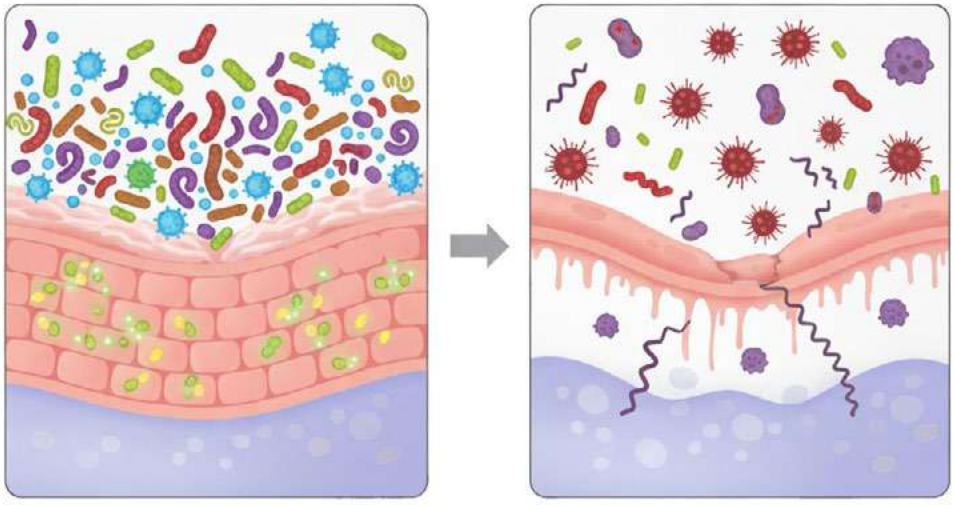
In my almost 30 years of small animal clinical practice, I have seen dogs whose seizures dramatically improved once their gut microbiome was addressed, and cats with arthritis whose mobility returned after their intestinal lining got repaired. These cases illustrate what science now confirms: the gut is not an isolated organ. It is ground zero for systemic health, and dysfunction within it can ripple out to nearly every organ system.



Sometimes the root cause of gut problems is apparent, such as repeated antibiotic use without gut repair, or severe infections that profoundly affect gut health, like parvovirus or Giardia. Other times, it can be complex: gluten-sensitive enteropathy with genetic roots, irritable bowel syndrome that science has linked to early spay or neuter, or chronic dysbiosis driven by hidden food sensitivities and environmental stressors.

The good news is that this tangled web can be unraveled. By carefully reviewing root causes, reworking your pet's diet, repairing the intestinal lining, rebuilding microbial diversity, and restoring balance, we can give our pets the strong foundation they need for lifelong vitality.

Let's examine two closely related concepts: *dysbiosis*, or microbial imbalance, and leaky gut syndrome, also known as increased intestinal permeability.



Healthy Gut Microbiome **Dysbotic Gut Microbiome**

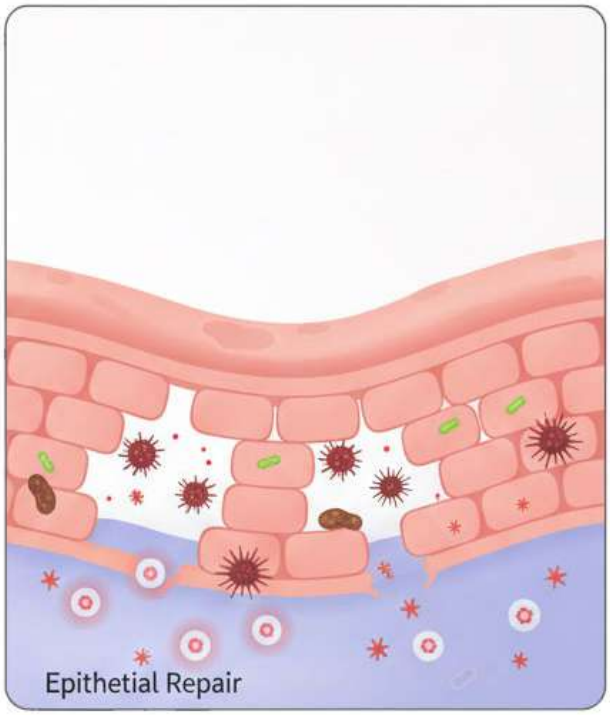
Dysbiosis

describes a microbial imbalance — too few beneficial bacteria and too many harmful or opportunistic ones. A healthy gut microbiome functions like a vibrant ecosystem: thousands of species coexist, competing for resources and keeping each other in check. Beneficial organisms ferment fibers into short-chain fatty acids (SCFAs), such as butyrate, which nourish the epithelial cells lining the gut. They help train the immune system to recognize friend from foe, and they even manufacture neurotransmitters like serotonin and gamma-aminobutyric acid (GABA).[1]

When dysbiosis develops, this harmony collapses. Opportunistic bacteria and yeast proliferate, producing toxic byproducts like lipopolysaccharides (LPS) that inflame the gut lining. Protective SCFA production declines, the mucus layer thins, and tight junctions between epithelial cells weaken[2].

Leaky gut

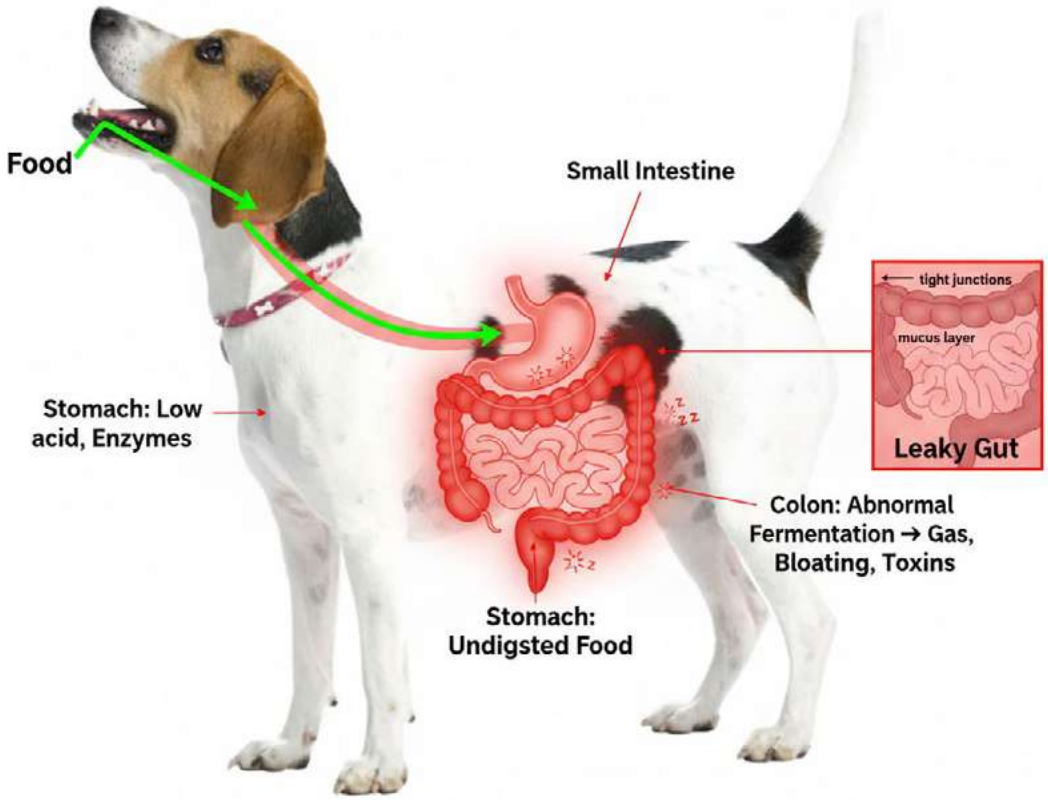
refers to the breakdown of the intestinal barrier. Under normal conditions, the intestinal wall functions as a smart filter: digested nutrients are absorbed into circulation, while toxins, microbes, and undigested food particles are kept out. But when inflammation, drugs, or toxins damage this barrier, microscopic gaps form between epithelial cells. Large food fragments, bacterial toxins, and microbes slip into the bloodstream, where the immune system detects them as foreign invaders[3,4].



The immune system responds by launching a defense: producing antibodies, releasing inflammatory cytokines, and staying in a state of constant hypervigilance. Over time, this low-grade, systemic inflammation sets the stage for chronic conditions such as skin allergies, behavioral changes, autoimmune disorders, and even neurological disease[5].

Digestion 101

First let's review how digestion works when it's healthy. Food enters the mouth, where chewing is sometimes optional for dogs. In the stomach, hydrochloric acid and pepsin denature proteins and kill pathogens. The chyme (a slurry of partially digested food and gastric juices) then enters the small intestine. Here, bile salts from the gallbladder emulsify fats, and pancreatic enzymes cleave proteins and carbohydrates into absorbable units.



The small intestine is lined with villi and microvilli, creating a surface area the size of a tennis court in a medium-sized dog. These structures are coated with mucus and colonized by microbes. Beneficial bacteria ferment dietary fibers into SCFAs such as acetate, propionate, and butyrate. These metabolites fuel epithelial cells, strengthen tight junctions, and suppress inflammation.

When digestion is impaired, perhaps due to low stomach acid, inadequate enzymes, or microbial imbalance, undigested food fragments reach the colon. There, they ferment abnormally, producing gas, bloating, and toxins. This chronic irritation erodes the mucus layer and loosens tight junctions, setting the stage for leaky gut[6].

Beyond Obvious Signs of Digestion Issues

Because the gut communicates with nearly every organ system, its dysfunction manifests in diverse ways. Aside from the obvious signs, non-digestive signs like those listed below are more deceptive:

1. Allergies that worsen over time, as more partially digested food proteins cross the leaky barrier, abnormally stimulating the immune system
2. Year-round itching, hot spots, and recurrent ear infections
3. Behavioral changes such as anxiety, aggression, or hyperactivity
4. Chronic bladder inflammation or sterile cystitis
5. Joint pain, chronic inflammation and autoimmune conditions
6. Seizures, thyroid imbalance, or even cancer (GI lymphoma) in advanced cases.

These examples highlight a critical truth: gut dysfunction often masquerades as other diseases. Unless the root is addressed, treatments only mask symptoms.

Why Pets Can Look Healthy and Still Be Inflamed

One of the most insidious aspects of dysbiosis and leaky gut is that pets may appear perfectly fine —shiny coat, healthy weight, playful energy — while chronic inflammation simmers unseen. This “silent inflammation” can last years before disease becomes obvious.

By the time a dog “suddenly” develops food or environmental allergies in middle age, the groundwork was laid long before. Each antibiotic, each steroid taper, chemical exposure, and bowl of kibble slowly chipped away at gut resilience.

Recognizing this hidden process empowers us to act preventively. Supporting gut health early in seemingly healthy pets reduces the risk of future disease. And for those already suffering, repairing the gut can dramatically shift outcomes, often transforming both quality and length of life.

Dysbiosis and leaky gut are not fringe theories; they are central to understanding chronic disease in pets. By defining them, examining how they develop, and mapping their clinical signs, we can finally grasp why so many seemingly unrelated conditions trace back to the gut.

The gut is truly “ground zero”.

Common Root Causes of Gut Damage

Gut problems develop slowly, over time, as little injuries stack up until the intestinal lining and the microbes living there can no longer keep up.

The gut behaves like a strong, protective castle wall designed to keep invaders out, while letting in the good stuff. But antibiotics, ultra-processed kibble, environmental toxins and chemical exposures create micro-cracks in that wall. One crack may not cause much trouble, but after years of repeated hits, the wall begins to crumble. That's when dysbiosis and leaky gut set the stage countless other chronic issues.

Let's walk through the most common culprits, one by one.

Antibiotics: Both Lifesaving and Microbiome-Wrecking

Antibiotics are miracles when we need them and no one should feel guilty for using them when they're truly necessary. They can save lives. But they don't discriminate. Just like a wildfire burns through a forest without sparing the helpful plants, antibiotics wipe out beneficial microbes along with the bad ones.

Most animals treated with antibiotics appear fine after early use, but some go on to develop food allergies, itchy skin, or chronic ear infections months later.

Metronidazole (commonly known as Flagyl) is one of the most frequently prescribed drugs for dogs with diarrhea, but its widespread use

comes at a cost. While it may temporarily reduce symptoms, research shows that metronidazole significantly alters the gut microbiome, reducing both the richness and diversity of beneficial bacterial populations[7]. These changes can persist long after treatment ends, leading to long-term disruption of microbial balance.

Here are my rules for antibiotic use:

- Use only when truly necessary (such as for bladder infections, dental infections, or other confirmed bacterial problems that are not responding to multimodal integrative support), not for minor issues that can be effectively managed without them (like a hotspot).

- Give the full course of antibiotics exactly as prescribed, don't stop early, even if symptoms improve.

- Support the gut during and after antibiotic use with high-quality probiotics to help reseed beneficial bacteria.

- Include fermented foods (such as kefir, fermented veggies, or pet-safe yogurt) and prebiotic foods (fiber-rich veggies, mushrooms, or dandelion greens) to nourish the microbiome.

- Monitor your pet for side effects (like diarrhea, lethargy, or loss of appetite) and report concerns to your veterinarian.

- Keep a record of which antibiotics your pet has taken and how they responded, to guide future medical decisions.

Ideally, ask your veterinarian to run culture and sensitivity testing prior to administering antibiotics to ensure the one prescribed is the most effective choice.

Steroids, NSAIDs, and Acid Blockers: The Hidden Gut Costs

Next are the “everyday drugs”; medications many pets end up on at some point in their lives. Steroids like prednisone, NSAIDs (non-steroidal anti-inflammatory drugs) like carprofen, and acid blockers that are prescribed for vomiting or reflux.

Steroids can be lifesaving for severe allergic reactions, but they also thin the intestinal lining and suppress protective immune factors. NSAIDs interfere with prostaglandin production, reducing blood flow to the gut lining and weakening the protective mucus barrier. Over time, microscopic erosions and increased intestinal permeability can occur.

Acid blockers, while often helpful for short-term vomiting, reduce stomach acid so much that dietary proteins are not broken down properly. Large fragments end up in the intestines, where they may act as allergens. In people, proton pump inhibitors (PPIs) are well-documented to shift the microbiome toward dysbiosis, reducing beneficial taxa and increasing pathogenic ones and the same mechanisms apply to pets.

Ultra-Processed Pet Food: the Price we Pay for Convenience

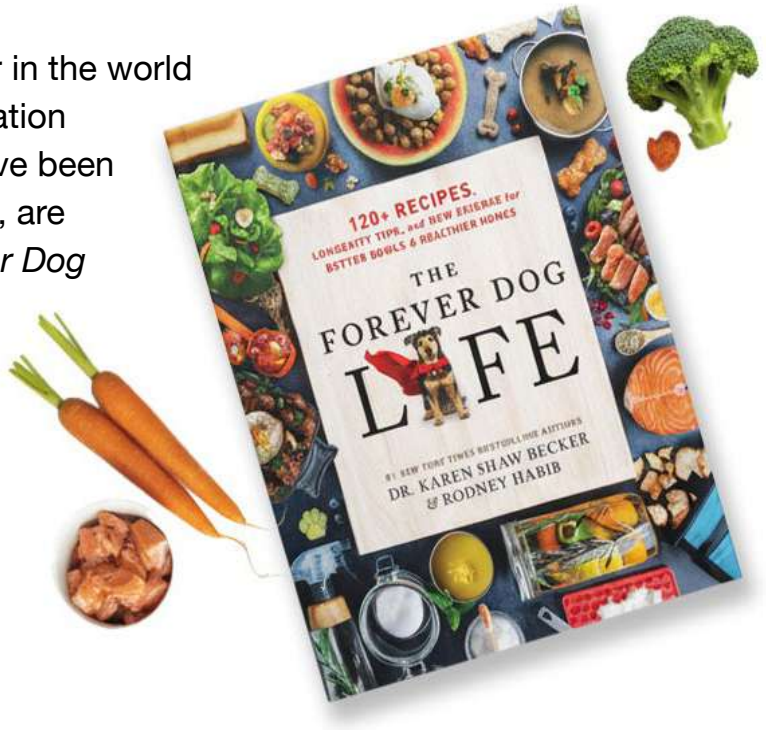
Every scoop of ultra-processed pet food comes with a hidden cost—and it’s not just on your wallet. When we trade real, living nutrition for heat-extruded pellets and long shelf life, our pets pay the price with inflammation, metabolic stress, and chronic disease. Over time, these convenience diets quietly chip away at vitality, gut health, and immune resilience. What looks like “complete and balanced” on the label often means stripped, synthetic, and biologically foreign to the body. The good news? Once you understand the price of processed, you can start investing in real nourishment that gives life back—bite by bite.

The obesity-“pet food”-connection: How commercial pet foods are formulated is also a problem for most pets. AAFCO (the organization that sets nutrient requirements for pet food in the US) requires manufacturers to formulate for active pets, meaning there’s a higher number of calories per gram of food. More than 60% of pets are overweight, so if you feed the amount on the bag your animal will get the appropriate amount of required vitamins and minerals the body needs to maintain health, as well as an excessive number of calories. If you reduce the amount you feed (and feed less than the amount recommended by the company) your pet will be protein and/or nutrient deficient.

This is a horrible decision pet parents must make: maintain their pet’s ideal body weight (and likely be nutrient deficient) or feed the amount of food recommended and have their pet slowly gain weight. The only solution to this formulation problem is to feed pet foods or recipes that have been formulated on a metabolic basis, meaning the entire recipe is built around providing sufficient amounts of vitamins, minerals and protein with fewer calories.

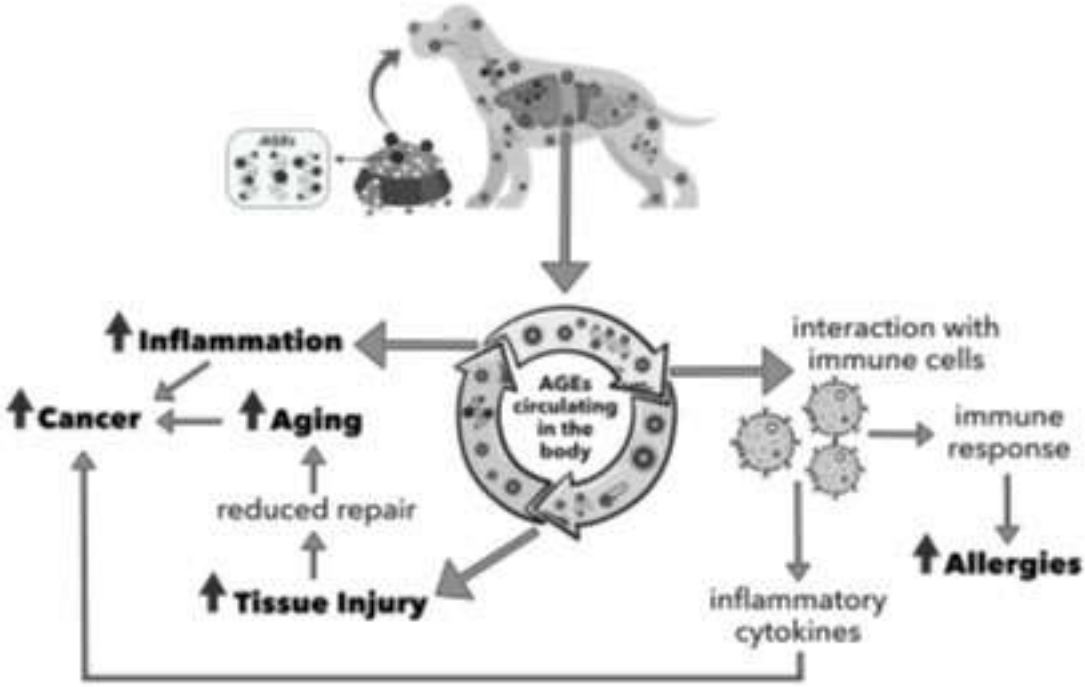
Steve Brown has analyzed hundreds of commercial pet foods across all pet food categories. He has found that no commercial brands are currently implementing this required approach for accurate pet food formulation, and one of the many reasons our group of nutritionists and veterinarians has developed new formulation parameters called Optimal Nutrient Recommendations (ONR™). By formulating to meet the needs of all activity levels we can be assured our animals are well nourished, regardless if they are less active or highly active. This also eliminates the risks of diet-induced nutritional deficiencies (like nutritional Dilated Cardiomyopathy) or excesses (copper hepatopathy, or copper excesses).

Our goal is for every pet food manufacturer in the world to adopt this updated and accurate formulation method. Currently, the only recipes that have been formulated metabolically, to my knowledge, are those found in our recipe book, *The Forever Dog Life*.



High heat processing also negatively alters the structure of food, denaturing proteins, oxidizing fats, inactivating vital enzymes, decreasing vitamin and mineral content (enough that synthetics have to be added back in after processing), and it also causes one of the biggest hidden disease-causing culprits the pet food industry doesn't want you to know about, AGEs.

How AGEs Stress the Body



Extrusion, the manufacturing method used to make most kibble, generates advanced glycation end products (AGEs) and advanced lipoxidation end products (ALEs), compounds formed when sugars and proteins or fats are exposed to extreme heat. Every cell of your pet's body has a receptor for these heat-created toxins, alerting the cells that there's noxious molecules circulating in their system.

AGEs/ALEs cause massive inflammation, creating more pro-inflammatory compounds, damaging gut barrier integrity, and accelerating oxidative stress[8]. Thousands of research papers in both human and animal models link the consumption of AGEs to chronic diseases, metabolic dysfunction, and inflammatory gut disorders, raising serious concerns about their long-term effects in pets (and the last thing the pet food industry wants you to know about).

Additional concerns that come with feeding mostly engineered food particles:

- **Low moisture** content (around 10% in kibble versus 70–80% in fresh food) leads to chronic, low-grade dehydration that compromises the mucus barrier protecting the intestines^.

- **Additives, preservatives, dyes** challenge the microbiome and immune system daily.

- **Monotonous diets narrow microbial diversity.** Historically, animals consume a variety of different foods, and each one nourishes the microbiome in a variety of different ways. Eating the same food every day doesn't achieve optimal gut diversity.

- **Ingredient quality is a problem:** Most pet foods are "feed grade," meaning they're made with terrible quality ingredients that failed human food inspection. Look for pet foods made with human-grade ingredients to help reduce exposures to common contaminants in pet foods including heavy metals, mycotoxins and pesticide residues.

In practice, I've seen countless cases where a simple switch from ultra-processed food to fresh, minimally processed meals resulted in dramatic turnarounds. Dogs and cats with chronic loose stools (or lifelong constipation) developed perfect bowel movements. Cats with itchy skin finally stopped over-grooming. Your pet's gut was designed to thrive on real food; it's our job to make it healthy enough to be able to assimilate and absorb the foods their bodies were meant to consume (and break the addiction to their current junk foods, it's just as hard for pets as it is for us).

I recommend feeding the best food you can afford to feed; the less processed, the better. If you can only afford to feed kibble, then you can focus on adding as many fresh food toppers and real food treats as possible to help diversify your pet's gut.

We wrote a New York Times best-selling recipe book, *The Forever Dog LIFE*, to give you direction and inspiration if you want to make raw, gently cooked, baked, or crock pot nutritionally complete recipes for your dog or cat, and don't know where to start.

The Effects of Spay/Neuter on the Gut and Immune System

Most people don't realize that early spay/neuter can also influence gut health. Hormones guide the development of mucosal immunity, and when they are removed too early, the gut's immune defenses may not mature fully.

Secretory IgA — the antibody that protects mucosal surfaces — plays a vital role in neutralizing pathogens before they cross the intestinal barrier. Some dogs, particularly German Shepherds, already suffer from IgA deficiency, which predisposes them to chronic enteropathies. Early spay/neuter appears to compound this weakness, leaving some pets especially vulnerable.

Desexed dogs had a *significantly* greater risk of atopic dermatitis (allergic skin reactions), autoimmune hemolytic anemia, hypothyroidism, Addison's disease, immune-mediated thrombocytopenia, immune-mediated polyarthritis, lupus, and inflammatory bowel disease than intact dogs[9].

These dogs often benefit from targeted support, including colostrum, omega-3 fatty acids (DHA/EPA), IgA supplements[10], as well as glandular support. Hormone replacement therapy is also something I have provided for my own rescue dog, and is being researched by the Parsemus Foundation (www.parsemus.org also has a directory of vets that provide hormone-sparing sterilizations). If you're looking to see what your pup's hormone status looks like, post-neuter, ask your vet to run a baseline endocrine panel from the University of Tennessee's endocrinology lab. Cats have an entirely different reproductive system and do suffer from the long list of degenerative conditions now linked to lifelong hormone deficiencies in dogs.

Environmental Gut Stressors in the Home and Yard

Our modern environments subject pets to countless chemical exposures every day. Many of these compounds act as endocrine-disrupting chemicals (EDCs), interfering with the microbiome and damaging the gut lining.

Glyphosate

is the most widely used herbicide in the world. Research shows it can alter the gut microbiome, reduce beneficial commensals, and damage intestinal tight junctions[11].

Tap water pollutants

such as chlorine, fluoride, heavy metals, pharmaceutical residues, and microplastics are frequently present in municipal supplies. Chlorination byproducts have been linked to microbiome disruption and endocrine interference.

PFAS ("forever chemicals")

found in stain-resistant fabrics, non-stick cookware, and protective sprays persist in the body and are associated with thyroid dysfunction, reproductive harm, and immune suppression[12].

Household chemical off-gassing

from air fresheners, cleaning products, and fabric protectants release volatile organic compounds (VOCs) such as phthalates and synthetic musks, many of which act as hormone disruptors.

Microplastics

and their additives, such as bisphenols and phthalates, leach endocrine-active substances. Microplastics also act as carriers for other pollutants, adding to the toxic burden.

Flea and tick pesticides

can be neuroactive and endocrine-interfering. Chronic exposure has been shown to affect the gut–brain axis and detox pathways in animals.

Mold and mycotoxins

from contaminated homes impair gut epithelial cells, drive inflammation, and suppress immune function.

Although each of these exposures may seem small, they are **daily and cumulative**. Over time, constant contact with these contaminants degrades gut barrier integrity, shifts microbial communities, and disrupts hormonal balance. Filtering water and air, avoiding PFAS-containing sprays and cookware, replacing synthetic cleaning and fragrance products, rotating safer pest-control strategies, and mitigating mold are simple but profound steps to protect both gut health and overall resilience.

Step Two: Rework

Rework means stepping back, gathering the right information, ensuring we're not guessing at what's wrong, and making a game plan for your pet's GI RESET. Too many changes, whether dietary, medications, or supplements, without first clarifying what's truly driving the problem – can create more problems. This trial-and-error approach can end up wasting time and money, potentially make things even worse and delay the correct treatment. Getting clarity about what has already been done and what still needs to be explored is the foundation of moving forward with purpose.

Many problems brewing beneath the surface don't produce symptoms until disease is full-blown and, heaven forbid, potentially fatal. Waiting for symptoms to appear is a reactive approach. For example: it's not ideal to wait until a dog is coughing to ask for a heartworm test, or until a cat is drinking tons of water and urinating constantly before asking for a kidney function test. The paradigm shift toward being proactive focuses on identifying lifestyle obstacles before disease occurs.

Proactive Pet Care Saves Lives

If we're capable of identifying diseases early and stopping them from occurring, why wouldn't we? Taking a proactive approach gives us the opportunity to address minor biochemical changes early on and prevent them from becoming major health issues.

We can prevent organ failure if we know the body is leaning in that direction. We can prevent irreversible degeneration that robs pets of good health and long lives. But we must know it's occurring to address it, and we won't know if we don't check.

I've heard countless times from clients that, "My dog was fine until he suddenly got congestive heart failure," or "My cat was fine until I took her to the vet yesterday and she was diagnosed with kidney failure." The truth is those conditions didn't develop overnight. They occurred slowly, over time.

The dog with congestive heart failure and the kitty with kidney failure have been brewing those conditions for quite a while. But because the pet parents and veterinarian weren't regularly monitoring the health of those pets, serious organ degeneration occurred right under their noses. Even if your vet isn't proactive, you can be. Ask him or her to measure your pet's vital organ function with the appropriate diagnostic tests. You're entitled to a copy of the results, which you can review and keep track of from one year to the next, taking note of any changes that occur. You are your pet's advocate. Don't ever be afraid to speak up on behalf of your animal companion.

Keep in mind that most abnormal test results were once normal. It's how quickly we catch the change from normal to abnormal that can mean the difference between fixing a problem early or potentially losing a pet to a disease tht could have been identified early on.

"I wish I would have known," is something no proactive vet ever wants to say or hear. Put another way, "I wish I would have known," means, "I wish I would have checked. "The good news is, you can check and that's what I'm encouraging you to do. This is especially true for senior pets and pets with chronic health challenges.

Knowing your pet's medical history from the very beginning is quite helpful. If you've had your canine companion since puppyhood, I recommend gathering all medical records and lab results that you have: bloodwork, fecal tests, imaging, medication and supplement histories, laying them out in chronological order. If you've rescued your dog, and his puppyhood is somewhat of a mystery, no worries. Create a timeline that notes when symptoms first began, which treatments were tried, and how your pet responded. This gives you and your veterinarian a clearer picture of patterns and helps prevent unnecessary repetition of tests or medications.

Whenever illness presents itself, note this in the journal, tracking your pet's daily symptoms, diet and supplement changes, and responses to treatments. Healing is rarely linear; there will be ups and downs, and some interventions will work better than others. Keeping good notes gives you a roadmap of where you've been, what helped, and what should come next. Understanding what diagnostics are available is equally important. Common and highly useful tools include:

- Bloodwork to assess organ function and rule out systemic disease,
- Fecal panels that check for parasites or bacterial overgrowth, and nutrient absorption like folate and cobalamin levels.
- More advanced diagnostics such as pancreatic function tests, food sensitivity panels, and microbiome sequencing can provide even deeper insights when initial workups don't give answers.

When chosen wisely and interpreted in context, these diagnostics streamline healing by focusing efforts where they're most needed. Instead of chasing symptoms with guesswork, you and your veterinarian can make targeted, informed decisions. The result is a plan that not only addresses your pet's current discomfort but also works to resolve the root causes.

The most effective plan will always be crafted in partnership with your veterinarian, but this section will introduce you to the range of diagnostic tools that can uncover the true drivers of illness and provide clear direction for your pet's care team. And if you don't have a primary veterinarian familiar with creating a gut health or recovery protocol, you can partner with a functional medicine or integrative vet that does. Telehealth consults are also available, you can find providers at civtedu.org/directory.

Valuable Diagnostics You Should Know About:

A **Complete Blood Count (CBC)** and serum biochemistry profile provide a snapshot of your pet's internal health. These panels can reveal anemia, infections, and how well the liver, kidneys, and pancreas are functioning. CBC is the most common blood test performed on pets and people. A CBC gives information on hydration status, anemia, infection, the blood's clotting ability and the ability of your pet's immune system to respond.

A serum chemistry panel evaluates a pet's overall health and internal organ function by measuring a variety of substances in the blood. It helps veterinarians assess how well organs such as the liver and kidneys are working and can detect early signs of disease before symptoms appear.

Key kidney values include blood urea nitrogen (BUN) and creatinine, which indicate how efficiently the kidneys are filtering waste, and symmetric dimethylarginine (SDMA), a highly sensitive marker that can reveal early kidney dysfunction before traditional values change.

Liver health is assessed through enzymes such as alanine aminotransferase (ALT) and alkaline phosphatase (ALP), which rise in response to liver cell injury or bile duct obstruction, and total bilirubin, which measures how effectively the liver processes and excretes bile pigments; elevations can signal liver disease, hemolysis, or bile flow impairment.

Other parameters, including glucose, cholesterol, total protein, albumin, calcium, phosphorus, and electrolytes (sodium, potassium, chloride), help evaluate metabolic balance, hydration, and nutritional status.

The PLI test is a sensitive blood test used to detect pancreatitis in dogs and cats by measuring pancreas-specific lipase levels.

Adding a thyroid panel can also be important, since thyroid disease can masquerade as gut or skin problems and is easy to overlook.[13]

A **urinalysis** adds another layer of insight, showing how well the kidneys are filtering, whether crystals or infections are present, and offering early clues to endocrine or metabolic disease. It can help assess the overall health of your pet's urinary tract, including the kidneys and bladder, and to check for other health indicators, such as glucose regulation and liver function. The test is also used to evaluate substances in the urine that might indicate an underlying disease process.

Combined with a **basic fecal test** for intestinal parasites (like roundworms and hookworms), these provide the foundation of any diagnostic evaluation. When gastrointestinal signs persist, a **fecal diarrhea panel** goes further than a routine fecal float. Traditional fecal tests completed at your vet only detect certain worms, while diarrhea panels can uncover hidden bacterial or protozoal infections such as *Clostridium* overgrowth or Giardia infection in dogs. Identifying specific pathogens often means the difference between ongoing frustration and rapid resolution with targeted treatment. If parasites and potentially pathogenic bacterial overgrowth are ruled out but GI symptoms continue, a **GI absorption assay (maldigestion profile)** can be helpful.

Texas A&M GI Lab panel (GI absorption assay or maldigestion profile) is a widely used blood test that helps evaluate chronic gastrointestinal problems in dogs and cats by measuring several key markers of digestive function, including:

- **Folate (vitamin B9)** levels reflect absorption in the upper small intestine; low folate may indicate small intestinal disease, while high folate can suggest small intestine bacterial overgrowth (SIBO).

- **Cobalamin (vitamin B12)** is absorbed in the lower small intestine (ileum) and requires a healthy pancreas for uptake; low levels are common in pets with malabsorption, inflammatory bowel disease, or exocrine pancreatic insufficiency.

- **TLI (trypsin-like immunoreactivity)** measures digestive enzyme activity and is the gold standard for diagnosing exocrine pancreatic insufficiency, a condition where the pancreas cannot produce enough enzymes to digest food.

- **PLI (pancreatic lipase immunoreactivity)** specifically detects pancreatic lipase released during inflammation and is the most sensitive blood test for diagnosing pancreatitis. Together, these markers provide a functional picture of how well the intestine and pancreas are working, and they often guide veterinarians toward the root cause of chronic diarrhea, weight loss, or poor nutrient absorption.

The **Advanced GI Panel** from **VDI labs** is a multiplex blood test for dogs and cats that helps distinguish among multiple gastrointestinal disorders in a single draw. It measures over a dozen biomarkers—such as pancreatic lipase (cPL or fPL), B12, folate, albumin, protein levels, and inflammation markers—and integrates them with a proprietary algorithm (the Neoplasia Index®) to suggest whether the animal's symptoms are more likely due to IBD, GI lymphoma, protein-losing enteropathy, pancreatitis, or malabsorption issues. Because it combines many commonly run labs—and uses an AI-guided interpretation that considers age, signalment, and clinical context— it can save time, reduce redundant testing, and offer more precise direction for your veterinarian in the diagnostic journey. VDI labs also offers vitamin D testing.

Innovative Pet Lab's "Comprehensive Gut Check for Dogs" test is an at-home stool test kit designed to give a broad view of your dog's gut health by measuring six key biomarkers tied to digestion, immune response, inflammation, and intestinal barrier function. The biomarkers include calprotectin (for gut inflammation), secretory IgA (a mucosal immune marker), zonulin (a regulator of intestinal permeability or "leaky gut"), anti-gliadin IgA (indicating sensitivity to a component of gluten), pancreatic elastase (to assess digestive enzyme output), and beta-glucuronidase (an enzyme produced by gut bacteria associated with microbial balance and detox pathways).

NutriScan from **Hemopet.org** is an at-home saliva-based diagnostic test for dogs (and cats) that screens for up to 24 common foods (and many derivative ingredients) to detect food sensitivities or intolerances. It measures anti-IgA and anti-IgM antibodies in saliva directed against food antigens, reflecting delayed or chronic reactions occurring on the gut's mucosal surface—not the immediate allergic (IgE) reactions typical of food allergies. Because it's non-invasive (just a salivary sample collected at home or at the vet) and the results are returned in approximately two weeks, many pet owners use it to guide the elimination or rotation of diets more precisely.

OmegaQuant's Omega-3 Index for Pets is a blood test that measures the levels of the omega-3 fatty acids EPA and DHA in a dog's blood, expressed as a percentage of total fatty acids. It works much like the human version of the test and helps determine whether a pet's diet is supplying enough of these essential fats. Adequate omega-3 levels are associated with benefits for heart, skin, joints, immune health, and cognition. In dogs, the target "optimal" range is around 3%, with additional health benefits sometimes seen at higher levels. Because dietary changes and supplementation take several months to influence blood values, the test is often repeated after 3–4 months and then annually or biannually. It is performed by a veterinarian via a simple blood draw, and results help guide precise adjustments in diet or supplementation.

The DoggyBiome Gut Health Test from AnimalBiome is an at-home stool test that uses DNA sequencing to map the types and proportions of bacteria in your dog's gut, comparing them to a healthy reference population. It identifies both beneficial and pathogenic bacteria, revealing imbalances or overgrowths that may underlie chronic digestive or skin issues. The test results come in about two weeks, and the report offers personalized diet, supplement, or lifestyle recommendations, plus a consultation to discuss the findings.

Where to Start Digging

Diagnostics aren't just about identifying what's "wrong"—they're windows into how your pet's body is functioning at every level. Each thoughtfully chosen test offers valuable insight, helping us understand not only symptoms, but the deeper story of what's happening inside. The more we know, the more accurately we can create personalized, functional healing plans that truly move your pet toward better health.

Every abnormal finding is a clue—an opportunity to uncover a root imbalance you didn't know existed. When we piece these findings together, we begin to see the intricate puzzle of your pet's physiology—how cells, tissues, and organs communicate and adapt in response to mental, emotional, and environmental influences.

Working closely with your veterinarian allows you to prioritize which tests are essential now, and which can wait. There are countless types of diagnostics available, each offering different kinds of insight, but starting with the most practical and revealing ones helps you make informed, strategic choices.

Some people don't have a vet that is invested in their animal's long-term healing journey, in which case it's up to you to educate yourself. Understanding the details of each test listed above will empower you to collect the most impactful data, which can serve as the basis for forming an effective, natural protocol for healing. Emailing or calling the labs can be of great help through your learning process.

Ultimately, diagnostics serve as educational tools—powerful guides that help you and your veterinary team connect the dots and design care that targets true causes rather than masking symptoms with pharmaceuticals that don't offer long term solutions. Using drugs to improve quality of life is sometimes very necessary, so do it when it's needed, but always concurrently be digging for more sustainable, long term paths and solutions. With this approach, you can move forward with clarity, confidence, and a far greater likelihood of lasting success—because every recommendation is based on your animal's unique biology and needs.

Why Diagnostics Matter

Each test tells a story
Diagnostics aren't just about finding what's wrong, they reveal your pet's body is functioning at every level.

Knowledge guides healing
Every result provides valuable insights that helps uncover root causes and guides smarter, more targeted healing plans.

Work smarter, not broader
Partening with your veterinarian ensures you choose the most meaningful tests for your animal's current needs, history, and symptoms.

Create clarity and solutions
When diagnostics are used as educational tools, not just problem finders, they empower you and your veterinary team to connect the dots, design lasting, functional solutions that support whole-body wellness.

Step Three: Repair

Eliminating unnecessary dietary, environmental, and medical stressors clears the path for repair. Food matters more than anything else when it comes to healing the gut and a successful GI RESET. Every bite your pet eats is either helping the body recover or adding to the burden. Unfortunately, most commercial pet foods contain additives, preservatives, chemical residues, and altered proteins that the body eventually reacts to. Processing itself changes how food is digested and absorbed, often creating compounds that irritate the gut instead of nourishing it.

If diet isn't addressed, no amount of supplements or medications will create lasting improvement. I've seen it time and again: families spending hundreds of dollars a month on gut-supportive products, only to continue feeding the same bag of food that triggered the problem in the first place. Changing what goes into the bowl is the single most important and cost-effective step you can take.

If your pet has allergy symptoms or a delicate GI tract:

If your pet is sensitive, it's best to begin diversifying the diet with patience and small, intentional steps. Instead of introducing multiple new foods at once, offer just a single bite of something novel and gentle, allowing the gut time to adjust. Use the free Gut Healing Journal to keep track of changes. This could be a tiny cube of apple one day, a single blueberry the next, or a small morsel of steak shared from your dinner.

By gradually exposing your pet's microbiome to a wider variety of wholesome foods in this bite-sized way, you can encourage microbial diversity without overwhelming the digestive system; slowly building resilience, tolerance, and overall gut health.

Weaning onto a clean, non-reactive diet lays the foundation for all other healing. I call this a GI RESET diet and it's usually necessary for allergic animals and those with chronic GI problems.

As you approach this next step of improving their food quality and decreasing the allergenicity/reactivity of their diet, remember to go slow. You can blend tiny amounts of new foods into what they're eating each day to begin the process.

How to change foods

Take out 1-5% of their current food and replace it with 1-5% new food, mixing well. Watch poop for 24 hours. If stools change, add the same amount of new food (1-5%) for meals until stools normalize. When stools look good, take out 1-5% more of their current food and replace it with 1-5% more new food, mixing well. Watch poop for another 24 hours. If stools change, add the same amount of new food (1-5% above what you were doing before) to meals until stools normalize. When stools look good, continue replacing old food with 1-5% more new food, always letting stools be the guide of when to increase the amount of new food.

Healing Foods That Nourish the Sensitive Gut

Slippery Elm and Mucilaginous Herbs

Slippery elm[14] and marshmallow root[15] form a soothing gel that coats and protects the gut lining. I think of them as Nature's bandages for the intestines. They give inflamed tissue time to heal while providing polysaccharides that beneficial microbes ferment into short-chain fatty acids (7). If at any point your animal has excessive mucusy poo or loose stools, add in this bowel helper ASAP: 1 capsule (or ¼ tsp) for every 10 pounds of body weight 1-2 times daily at the start of your GI healing journey. You can use one or the other, or both, depending on what products you can find.

If at any time your pet is having acute symptoms of gut issues, or you know you're all in for stress just thinking about changing your pet's diet you can use these foods as a temporary detox diet to quickly reduce GI inflammation and begin the healing process.

Steamed 100% Pure Pumpkin Puree

Pumpkin is one of my favorite gut healing starting points. It provides soluble fiber that helps modulate gut microbiota , regulates stool formation and acts as a prebiotic, gently feeding beneficial bacteria. Unlike concentrated inulin or FOS, pumpkin fiber is complex and much less likely to cause gas or bloating. Pumpkin is also rich in beta-carotene and polyphenols, antioxidants that help reduce oxidative stress in the gut. You can find cans of 100% pumpkin in grocery stores or buy fresh squash and steam it.

Enrichment for Delicate Dogs: Pumpkin as a Healing Topper
If your animal is doing great on their current diet, you can still get great benefits from adding a dollop pumpkin to your pet's food, smearing it on a lick mat, stuffing a KONG toy, or freezing it in a silicone ice cube tray for a cool treat.

Bone Broth

When made by slowly simmering organic bones, connective tissue, and cartilage, broth delivers gelatin, collagen, and amino acids such as glutamine. These compounds support repair of the gut lining and strengthen tight junctions, reducing permeability. Bone broth also provides minerals in highly absorbable forms, replenishing nutrients that are often depleted in pets with chronic gut disease. When you buy or make bone broth, make sure it's onion-free.

Rehydrate dry food with bone broth. Freeze for a cool, summertime treat, or pour over any meal, ¼ cup per 10 pounds of body weight daily.

Safe Treats for Sensitive Bellies
Berries are rich in polyphenols, which function as both antioxidants and prebiotics. Because they aren't fully digested in the small intestine, these compounds travel to the colon, where microbes convert them into metabolites that regulate inflammation and support barrier integrity. Blueberries support a healthy gut by strengthening the intestinal lining, reducing "leaky gut" permeability, calming inflammation, and protecting cells from oxidative stress, all while nourishing and balancing beneficial gut microbes for optimal digestive function[17]. These are my favorite training treats, replacing starchy, carby "cookies" with little nutrient value.

Aloe Vera (Properly Prepared)

Once stools are firm, adding inner leaf aloe vera juice (processed to remove anthraquinones), is another soothing and healing food for the gut. Its mucilaginous polysaccharides coat the lining, while its antimicrobial properties help rebalance dysbiosis without harming beneficial bacteria. It's easiest to buy Inner leaf aloe juice from your local health food store or online, 1 teaspoon for every 20 pounds of body weight twice daily.

DIY BLAND RECOVERY MEAL

If your dog has loose stools right now or you know it will happen if you change their food by even a tiny amount, try prepping the gut for the next healthy food upgrade (a nutritionally complete homemade or commercial gently cooked diet) by stopping your current food and using this bland diet until stools firm up:

Blend 50% steamed pumpkin or squash, with 50% cooked new protein they've never eaten before (like ground goat, bison, fat-free turkey, or rabbit meat) to create a bland meal that most dogs love. This is obviously not a nutritionally complete diet, so once stools are firm, begin slowly transitioning to a nutritionally complete, homemade diet. Cats usually accept this meal if the meat portion is at least 80%, and the pumpkin is less than 20% (mix a tiny amount into current food, replacing ½ teaspoon of current food with ½ teaspoon of new food and slowly increase the amount of new food and decrease old food, making sure your animals are eating daily and still feeling great—or work with your vet or health coach to assure yourself your animal is transitioning safely).

While your animal is enjoying this easily digestible, gut-soothing temporary diet, dive into your homework: finding the least reactive, healthiest food you can afford to feed. By very slowly mixing their current diet with the upcoming new food (letting stools be your guide), you can transition even the most finicky or delicate of animals onto better food over time. Adding the healing foods, above, can kickstart the gut recovery journey. You can begin slowly weaning your beloved onto a fresher, less processed novel (new) protein right now, but what foods do you choose?

Eliminating common food triggers is an important step in stopping inflammatory culprits that irritate the gut. A compromised microbiome cannot recover if daily food insults are ongoing. Dietary triggers are the most obvious source of chronic itching and GI problems. If you suspect foods could be a problem but you don't know, do a Nutriscan saliva test to find out. Make sure to review all supplements at this time, as well.

Why guess at what protein is least reactive to your animal when you can know?

Hopping from protein to protein, rotating through brand after brand, may offer temporary relief (I call it the "honeymoon period"): the 60-90 days of temporary improvement you see after giving the body a break from a food irritant or diversifying foods to nourish a different set of gut microbes. These brief moments of relief can be temporarily **MAGICAL** for both of you, only to have your pet start up with the same familiar patterns of reactions a couple of months after things were beginning to improve. In these cases, don't keep chasing the next rare protein, find out what your pet can tolerate best with a Nutriscan test. starchy, carby "cookies" with little nutrient value.

How to Choose the Best Fresher Food

I have observed these “honeymoon periods” in thousands of pets (no exaggeration) after adding a new supplement, stopping a supplement, stopping veggies, adding veggies, or switching proteins, and the worst-case results are massive sensitivities to lots of foods and supplements.

This makes your GI RESET program harder to do (often times there are no commercial diets that have the hypoallergenic ingredients your animal needs) and expensive (if your dog can only eat camel meat without having massive reactions foods can expensive quickly).

I recommend you don’t guess at what foods could be triggering your animal, when a simple diagnostic test can tell you. I don’t like to guess, if at all possible.

STEP 1:

Do an at-home saliva test to determine the best foods/ingredients/proteins to feed and avoid (www.nutriscan.org).

If you are unwilling or unable to find out what the best choice is for your pup’s upcoming GI RESET diet change, stop all refined starches (rice, corn, wheat, tapioca, oatmeal, quinoa, etc), and choose a novel protein your animal has never consumed before:

- **Rabbit**
- **Goat**
- **Camel**
- **Alligator**
- **Emu**
- **Elk**

During this phase, simplicity is your friend. Less is more. Store-bought biscuits and colorful "cookie" treats add reactive fillers and more high-heat chemicals that contribute to gut irritation—replace them with single-ingredient meat treats or fresh foods inspirations from the list below.

Homemade, nutritionally balanced diets are the most effective way to control ingredient quality, since you can choose organic proteins and vegetables and know exactly what's in your pet's bowl. Research shows many homemade recipes available online are deficient in essential nutrients, so it's important to follow a complete recipe with full nutrient analysis[1], www.foreverdoglife.com should inspire you (and all of the recipes are correctly formulated to all feeding preferences: raw, stove top, crock pot, gently cooked (poached) and baked.

If your pet has been eating the same brand and flavor of food for years, their immune system can become sensitized to those ingredients, creating systemic inflammation, and your animal's "itis" condition. Transitioning to a clean, human-grade, minimally processed, nutritionally complete food is foundational.

STEP 2:

Find your first GUT RESET recipe!

This step requires you to categorize your pet into 1 of 2 camps before you choose:

CHOICE 1: My pet has a GUT OF STEEL (my animal has lots of issues, but chronic diarrhea ain't one of 'em)

CHOICE 2: My pet is a delicate GI butterfly

For my butterfly gutted animals (pets in GI crisis or prone to gut issues when anything in their diet changes): a temporary novel protein (ie cooked rabbit, goat, or fat-free turkey) paired with one soothing vegetable (such as steamed squash, zucchini, or sweet potato) can quickly calm the gut and firm up stools. Beginning with the DIY BLAND RECOVERY MEAL, above, is my recommendation on the first new food.

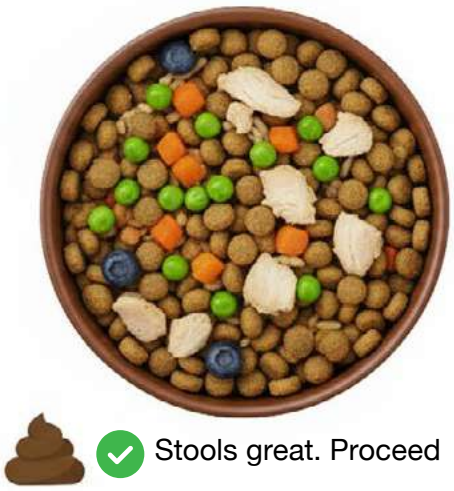
I love raw foods (and if it's your goal to get there, we can once the gut is healthier), but cooked foods are the best choice for super-sensitive animals, and the first diet you'll wean them onto should be gently cooked.

Once your animal has firm stools, check out your local shops for novel protein, human grade, nutritionally complete commercial cooked pet foods (FreshPet and similar feed-grade cooked pet foods have a lot of synthetic nutrients and don't come in any flavors that work with sensitive animals; indy pet boutiques will have much healthier options).

Our Forever Dog Life cookbook has lots of recipe choices, if you want to make your GI RESET diet, or you can also custom formulate a homemade recipe through www.animaldietformulator.com if your pet has other health issues or concerns.

Buy the brand or make a batch of the recipe you'll be using as your GI RESET diet, and once your animal is having great stools, it's time to slowly wean them onto a more nutritionally sustainable, complete and balanced fresh food diet, slowwwwwwwwly.

90% current diet + 10% new



30% old food + 70% new

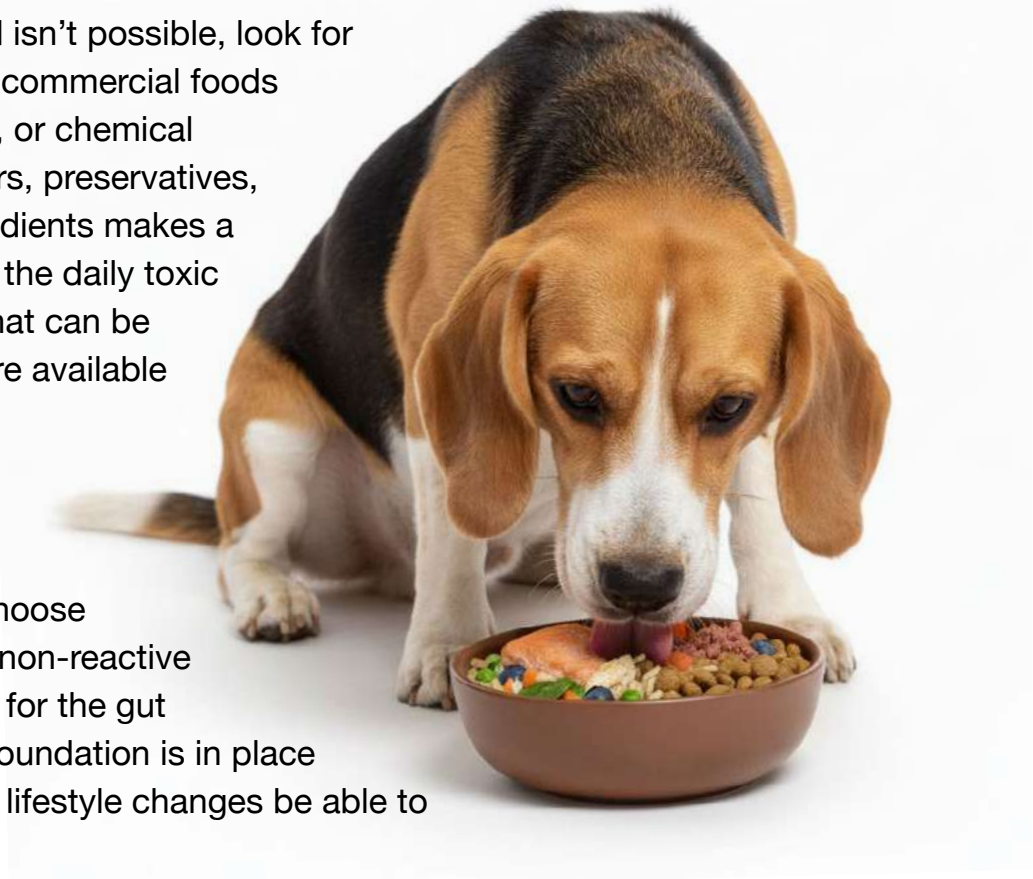
Blend 90% current diet + 10% new, fresher food for several days. Watch the poop. When stools are great, decrease to 80% old food +20% new food for several days. Watch the poop. When stools are great, decrease to 70% old food +30% new food for several days. Watch the poop. Continue slowly weaning onto your healthier, fresher novel protein GI RESET diet slowly, always letting poo quality be your guide. If stools loosen or you see mucus, don't continue increasing the amount of new food. Go back a step and wait for stools to firm. It's not a race. Continue using the healing food add-in's (slippery elm, etc), above, if needed, to keep stools perfect.

If your dog has a gut of steel and you can change foods on a dime (which is normal, by the way: just like us, animals are supposed to able to eat a variety of foods and not have GI crisis'), still change proteins when choosing your GI RESET diet for a healthy immunologic break, focusing on choosing low carb, human grade recipes.

For dogs that don't have a lot of GI issues, a homemade, polyphenol-rich, low carb diet is the best option for healing the gut because you eliminate so many variables that are known contributors to dysbiosis and impossible to avoid in mass-produced, feed grade brands. Or hit up your local pet boutique for fresh, human-grade choices. If you're a part of my private online community, InsideScoop.pet, you can check out my annual pet food reviews to see what brands I love (or hate); my opinions on brands change often (depending on companies' selling, changing ingredient quality, etc).

Rotating protein sources (unless allergies are a current concern) as you move down the scale of food processing to healthier, less processed, fresher diets is a great way to continue nourishing different sets of gut microbes and diversifying the microbiome. If food allergies are present, stick with the same protein for 6 months after starting your GI RESET protocols, then gradually introduce new proteins.

If home prepping your pet's food isn't possible, look for gently processed, human-grade commercial foods made without fillers, byproducts, or chemical additives. Avoiding artificial colors, preservatives, and rendered "feed-grade" ingredients makes a significant difference in lowering the daily toxic load[4]. There are many choices that can be delivered right to your door, or are available from small, indie pet stores.



Remember, the food you feed your beloved companion can either heal or harm. When you choose clean, species-appropriate, and non-reactive foods, you create the conditions for the gut to restore itself. Only when this foundation is in place will supplements, therapies, and lifestyle changes be able to work to their full potential.

Fast n' Fresh Training Treats:

Chop 'em all into pea-sized pieces before treating.

Look for Organic or spray free

ANTIOXIDANT RICH	
Vitamin C filled	Bell peppers
Capsanthin filled	Red bell peppers
Anthocyanin rich	Blueberries, blackberries, and raspberries
Beta-carotene rich	Cantaloupe
Naringenin filled	Cherry tomatoes
Punicalagin loaded	Pomegranate seeds
Polyacetylene loaded	Carrots
Apigenin loaded	Peas
Sulforaphane rich	Broccoli

ANTI-INFLAMMATORY	
Bromelain filled	Pineapple
Omega-3 dense	Sardines (except for dogs requiring a low-purine diet)
Quercetin rich	Cranberries (not for finicky dogs)
Cucurbitacin rich	Cucumbers

SUPERFOOD CALIBER	
Fisetin filled	Strawberries
Indole-3-carbinol rich	Kale (or homemade kale chips)
Isothiocyanate loaded	Cauliflower
Choline filled	Hard-boiled eggs
Glutathione filled	Button mushrooms
Manganese rich	Coconut meat (or dried, unsweetened coconut chips)
Vitamin E rich	Raw sunflower seeds (sprout them and other micro-greens for a chlorophyll-rich upgrade from grass!)
Magnesium filled	Raw pumpkin seeds (feed all seeds one at a time for perfectly sized training treats, up to 1/4 teaspoon for every ten pounds of body weight, spread throughout the day)
Selenium rich	Brazil nuts (chop up one a day for you and your big dog, or share one with smaller dogs)
Folate filled	Green beans

DETOX DELIGHTS	
Apigenin loaded	Celery
Anethole filled	Fennel
Fucoidin rich	Nori (and other seaweeds)
Betaine filled	Beetroot (except for dogs with oxalate issues)

FOR GUTS AND GLORY	
Prebiotic rich	Jicama, green bananas, sunchokes, asparagus, pumpkin (great filling for food-enrichment toys and food puzzles)
Actinidin rich	Kiwi
Pectin rich	Apples
Pectin rich	Papaya

Building a Resilient Gut With the Right Fresh Foods

As the gut heals, you can begin learning about new recipes or brands and flavors/proteins that will continue to diversify your pet's microbiota and strengthen their recovering microbiome. The opposite of ultra-processed "fast food" is fresh, minimally processed nutrition. If you moved from kibble to gently cooked and things are going great, you may decide to move to my favorite category of minimally processed food, raw food.

Traditional Kibble
Ultra-Processed Food

Gentle Cooked
Minimaly Processed

Raw Food
Optimal Nutrition

If your pet is doing great and all symptoms have resolved and not returned, you may decide to try introducing some freeze-dried or dehydrated foods as an occasional meal or a tried and true back up plan for busy weekends or camping trips.

Fresh food provides species-appropriate macronutrients: high-quality animal proteins and healthy fats as the anchors, with moderate amounts of low-glycemic vegetables, a few high-antioxidant fruits (for those healing flavonoids), and sprinkles of pet-friendly herbs and spices that add incredible amounts of gut-healing polyphenols. All of these healing components also feed specific microbes, nourishing a symphony of happy microbes.

Quality sources of lean protein supply amino acids for immune signaling, neurotransmitter production, and tissue repair. Healthy fats deliver essential fatty acids that regulate inflammation. Avoid re-introducing conventional kibble, which can be composed of up to 60% starch that can ferment in the gut, fueling dysbiosis and a cascade of other unwanted pro-inflammatory events.

Low-Grade Dehydration

Healthy Digestion & Hydration

Another overlooked benefit of fresh food is natural moisture. Kibble contains very little water, around 10%. Digesting it forces the body to pull moisture from circulation, perpetuating low-grade dehydration. Fresh food naturally contains 60–80% water, easing digestion and supporting healthy digestion, urinary tract, and kidney health.

Nutrients in whole food form are also “packaged” with cofactors that enhance absorption (the “entourage effect”). Zinc from red meat is bound to amino acids that improve uptake. Vitamin C from produce arrives with flavonoids that act as antioxidants themselves. These synergies cannot be replicated by synthetic premixes that automatically come in feed-grade kibble and canned pet food.

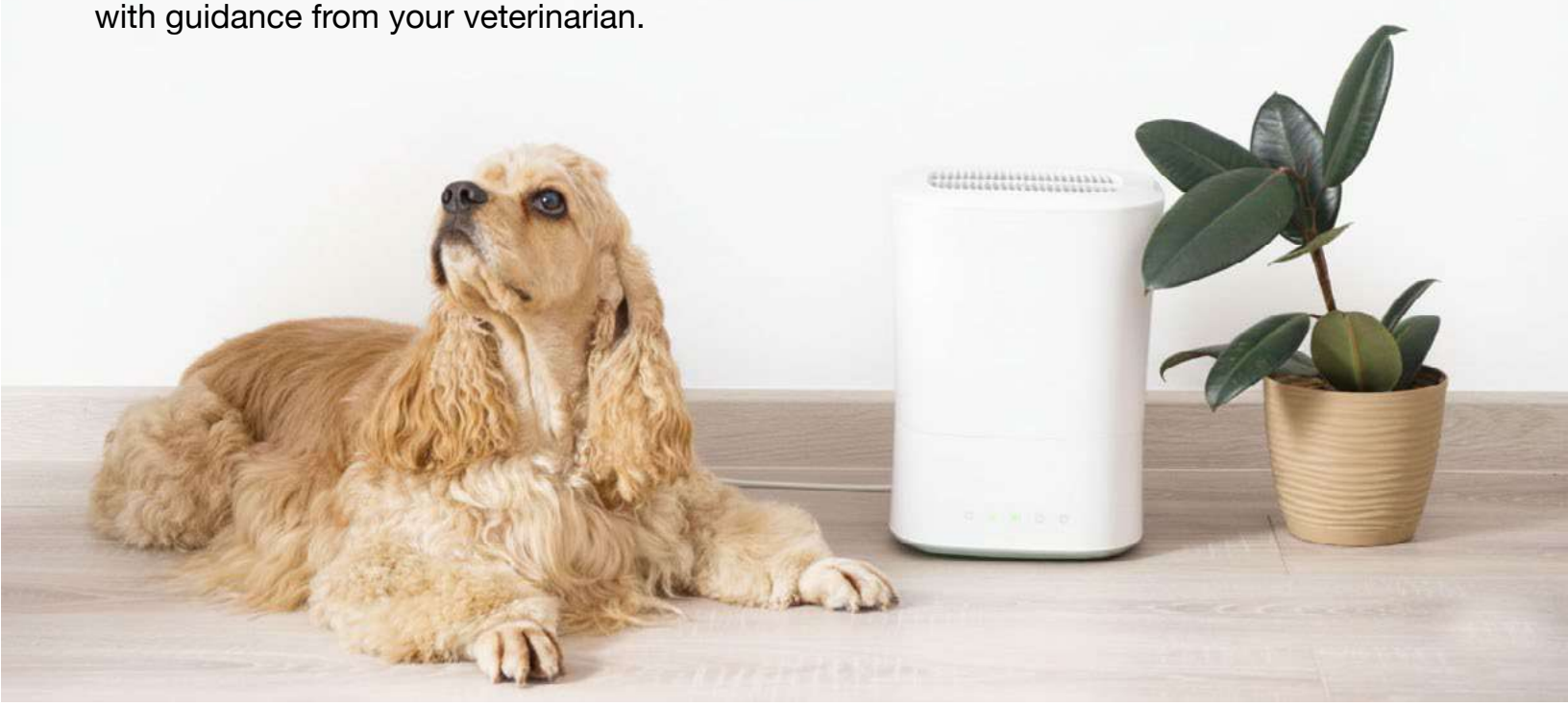
Finally, whole foods deliver prebiotics in their most gentle, natural form. Pumpkin, leafy greens, berries, and root vegetables contain a spectrum of naturally occurring prebiotic fibers that beneficial bacteria thrive on, without the intensity or side effects of prebiotic supplements.

Food is the foundation of health, but it’s only part of the bigger picture. You can feed the most pristine, organic, ethically sourced raw diet, yet if your pet’s environment is saturated with toxins, their microbiome will still struggle to thrive. Healing the gut and restoring resilience means looking beyond the bowl—because pesticides, cleaning chemicals, lawn treatments, air fresheners, and contaminated water can silently undo dietary progress.
To truly nurture balance from the inside out, begin by assessing your animal’s immediate surroundings. A clean, low-toxin home and yard sets the stage for every cell, organ, and microbe to flourish.

Environment

Environmental triggers are equally important to think about. Go green at home by eliminating plug-ins, scented sprays, candles, and chemical cleaners, replacing them with fragrance-free or simple plant-based alternatives like vinegar, baking soda, or castile soap. Improve indoor air quality with HEPA filtration where your pet spends the most time, and filter drinking water to reduce chlorine, fluoride, and contaminants known to affect microbiota balance.

Outside, use natural lawn care and avoid herbicides or insecticides so toxins don't end up on your pet's paws. For fleas and ticks, start with mechanical and environmental strategies; —clean bedding, frequent vacuuming, yard upkeep, flea combs, and tick checks, —reserving chemical preventives for times of genuine need and tailoring choices to your region and risk, with guidance from your veterinarian.



Vaccines

Finally, reconsider cookie-cutter vaccine protocols. Science now supports the use of antibody titers to confirm immunity rather than giving boosters on a fixed schedule, from birth to death. A simple blood test can measure protection against distemper, parvo, and adenovirus in dogs[18], and panleukopenia in cats. This approach reduces unnecessary immune stimulation while ensuring pets remain protected. Rabies vaccine is the only exception—titers are not legally accepted in most places (there are no laws requiring parvo and distemper unless traveling out of country)—so follow local regulations, but ask for the 3-year rabies vaccine, which is the same product as the 1-year, to minimize overstimulation, and titer for the rest.

The principle here is simple: before we can build, we must stop breaking. Removing dietary irritants, environmental toxins, and unnecessary medications or vaccines is the foundation of gut healing. Only when daily triggers are eliminated can true recovery begin.

Address Mental and Emotional Stress

Animals are sensitive, by nature, as a part of their internal wiring, and are deeply affected by their environment and handling. Spending too much time confined in a crate, kennel, or small living space without adequate daily exercise and mental enrichment leads to boredom, anxiety, and even depression. Training methods based on fear, intimidation, or harsh punishment undermine trust and can create long-lasting emotional scars. Physical abuse or lack of positive interaction compounds this stress. Even less obvious factors—such as lack of predictability in routines, loneliness, or insufficient outlets for natural behaviors—can create ongoing mental strain. Fear-free handling, positive reinforcement training, and enrichment activities are essential buffers against this type of stress.

Bringing It All Together

Animals are sensitive, by nature, as a part of their internal wiring, and are deeply affected by their environment and handling. Spending too much time confined in a crate, kennel, or small living space without adequate daily exercise and mental enrichment leads to boredom, anxiety, and even depression. Training methods based on fear, intimidation, or harsh punishment undermine trust and can create long-lasting emotional scars. Physical abuse or lack of positive interaction compounds this stress. Even less obvious factors—such as lack of predictability in routines, loneliness, or insufficient outlets for natural behaviors—can create ongoing mental strain. Fear-free handling, positive reinforcement training, and enrichment activities are essential buffers against this type of stress.

Step Four: Rebuild

Assembling a Reparative Treatment Protocol

Some supplements provide such foundational support that they benefit nearly every case of dysbiosis no matter what the underlying cause is. These “universal helpers” assist the body’s natural processes, reducing the workload of an already stressed gut. When combined with a comprehensive microbiome restoration program, they help create the internal environment needed for full repair and lasting resilience.

Because every gut story is unique, there’s no one-size-fits-all formula. Still, most veterinarians agree on this universal framework for rebuilding gut health, and most integrative and functional medicine practitioners recognize a handful of core supplements that consistently deliver exceptional results when restoring microbiome balance.

Foundational Supplements to Consider

Digestive Enzymes:

Digestive enzymes break down macronutrients into their usable components: proteases split proteins into amino acids, lipases cleave fats, and amylases convert starches into simple sugars. This ensures complete digestion before food reaches the colon, reducing the substrate available for harmful bacterial fermentation[19].

A high-quality enzyme blend should target proteins, fats, carbohydrates, and plant fibers while providing cofactors that enhance digestive efficiency. Look for formulas containing proteases (such as fungal protease, bromelain, and papain), lipase for fats, and amylase for starches. Additional enzymes—cellulase, hemicellulase, xylanase, beta-glucanase, and lactase—help break down plant fibers and sugars that often cause bloating or gas.

Some blends also include microbial pancreatin (to mimic pancreatic secretions), along with ox bile and taurine to support fat breakdown and absorption. Together, these ingredients create a more complete digestive profile that mirrors the capacity of a healthy gut. The only time digestive enzymes should be avoided is when an animal has active erosions or ulcers in the GI tract.

Stomach Acid and Bile Support

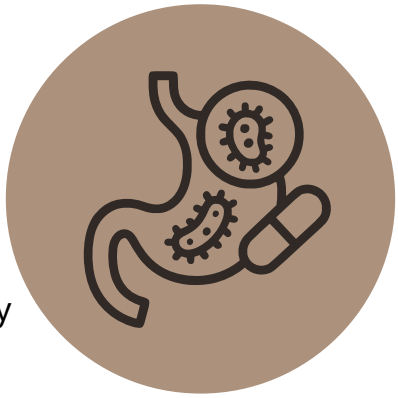
Adequate stomach acid and bile salts are essential for proper digestion, especially important for animals that have been on acid-blockers or antacids. Pets with inadequate levels of stomach acid often experience belching or burping. Gastric juices help break down proteins and kill pathogens, while bile emulsifies fats for absorption. When stomach acid or bile are insufficient, large, undigested food particles reach the lower intestines, overloading the microbiome and immune system[20].

Functional medicine veterinarians sometimes use betaine HCL and pepsin from to restore healthy stomach pH—though never in animals with ulcers. Ox bile (often paired with taurine and choline) can be helpful for pets with sluggish gallbladders or gastroesophageal reflux (GERD), improving the emulsification and absorption of dietary fats.

Colostrum

Colostrum contains immunoglobulins, lactoferrin, and growth factors that protect and repair mucosal tissues while supporting secretory IgA levels[21]—an essential part of the gut's immune defense. Beneficial for spayed and neutered an imals, those suffering from chronic or antibiotic resistant infections[22].

When Testing Shows Imbalances, These Two Protocols Are Go-To Choices



When a microbiome analysis shows an imbalanced microbiome or a GI blood test shows nutritional deficiencies that compromise mucosal repair, two evidence-based interventions can help restore equilibrium: **fecal microbiota transplantation** (FMT) and micronutrient repletion. These protocols complement each other by rebuilding microbial diversity while supplying the nutrients required for epithelial renewal and immune balance.

Fecal Microbiota Transplantation (FMT)

FMT, sometimes called "poo pills," transfers beneficial microbes from a healthy donor into the gut of an animal with dysbiosis. Unlike probiotics, which typically contain a handful of strains, FMTs provide a full microbial ecosystem that more closely resembles the diversity of a natural gut. This reseeding process is a science-backed way to help restore microbial balance, suppress harmful overgrowths, and improve digestion, immunity, and resilience[23]. FMT can be administered as enteric-coated oral capsules or rectal infusions—both designed to deliver living microbes directly where they're needed.

- FMT isn't a magic bullet: one large retrospective study of 41 dogs with chronic enteropathy found that 31 of 41 responded (statistically significant reduction in clinical index) but response correlated with the baseline dysbiosis severity: dogs with more severe dysbiosis responded less well[24].

- Emerging research shows behavioral links: a 2025 study found that gut microbiota composition in pet dogs could predict anxiety or aggression groupings; the genus Blautia was strongly implicated in anxiety[25].

- A 2025 study on microbial diversity in dogs emphasizes that dysbiosis is linked not only to GI disease but metabolic disorders and behavioral issues[26].

When FMTs Are Most Useful

FMT is particularly beneficial for chronic or severe dysbiosis, especially when conventional therapies fail:

- **Chronic enteropathy or IBD:** Dogs with persistent diarrhea or inflammatory bowel disease that do not respond to diet changes or medication often stabilize after FMT.

- **Antibiotic-resistant infections:** In human medicine, FMT is a proven therapy for recurrent *Clostridium difficile* infections, and emerging veterinary research suggests similar potential for pets facing resistant gut pathogens.

- **Severe microbiome depletion:** Repeated antibiotic use, chemotherapy, or prolonged illness can strip the microbiome of diversity. FMT helps reseed the gut with a balanced community.

Legacy Biome Healthy Gut Restore FMT is a capsule-based transplant sourced from rigorously screened donor dogs raised in low-chemical environments. It's formulated to rebuild gut ecology and support immune balance while reducing antibiotic reliance.

AnimalBiome DoggyBiome Gut Restore Supplement offers a similar capsule-based approach, delivering thousands of dog-specific microbes to help rebalance chronic digestive and skin issues more comprehensively than traditional probiotics.

Micronutrient Repletion

Chronic gastrointestinal disease often leads to nutrient deficiencies due to malabsorption, maldigestion, or microbial imbalance. The most common deficiencies include cobalamin (B12) and folate (B9), but vitamin D and omega-3 fatty acid deficiencies are also frequent. Except for omega 3's, always test before supplementing, as unnecessary excess can create its own imbalances.

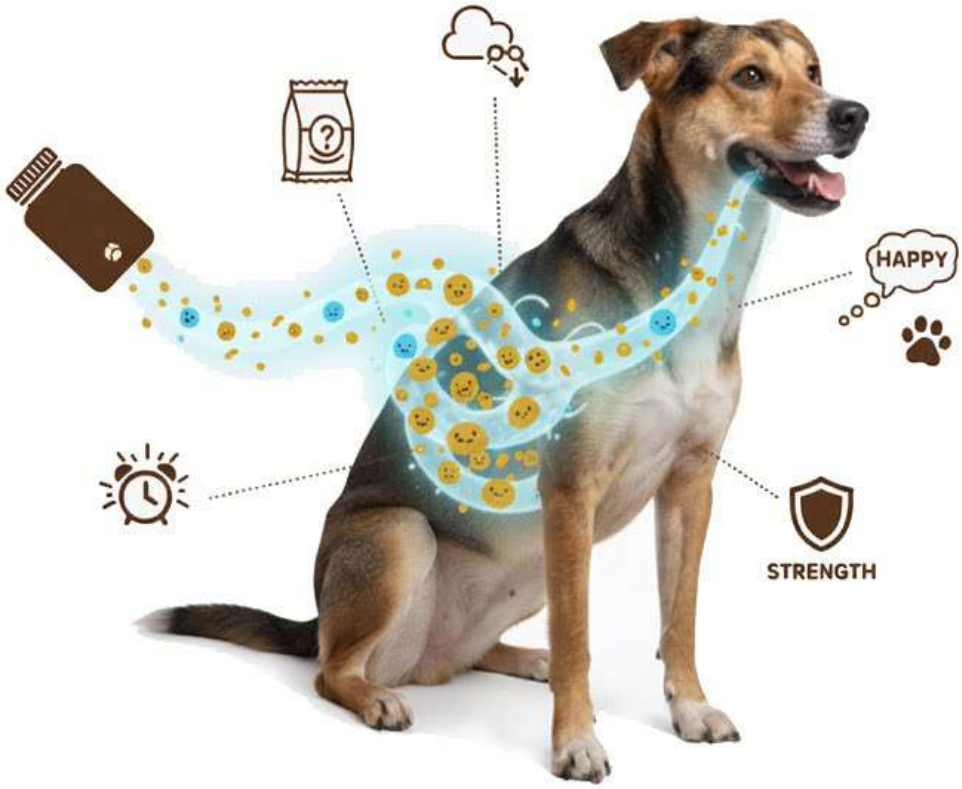
Correcting micronutrient deficiencies enhances the effectiveness of microbiome therapies like FMT, as epithelial repair, mucus production, and immune signaling all depend on adequate nutrient status. Vitamin D, in particular, influences antimicrobial peptide production and barrier integrity, while B12 and folate are essential for mucosal cell turnover. Omega-3 fatty acids further regulate inflammation, aiding tissue regeneration and microbial symbiosis.

Omega-3 Fatty Acids

Omega-3 fatty acids help regulate inflammation and promote resolution, shifting immune responses away from gut-damaging cytokines[27]. Once stools are formed and stable, begin supplementation with EPA and DHA at 50 mg/kg/day, gradually increasing to 100 mg/kg/day as tolerance improves. For fish-sensitive pets, algal oil is an excellent plant-based option.

Combining omega-3s with digestive enzymes can enhance their absorption. Phospholipid-rich sources such as squid, herring roe, and krill oil tend to be better tolerated than refined ethyl ester forms of fish oil. This is the only nutrient I recommend giving without first testing to see if pets are low. I've done so many tests on sick gutted pets that I quit recommending testing before treating because they were all universally deficient. Now I recommend testing after 3 months of supplementation.

Supporting the body with the digestive tools it needs allows food to be broken down more efficiently, easing irritation and helping restore balance. While countless supplements and therapeutic approaches exist that veterinarians may use to aid recovery from chronic disease, the options shared here are meant to spark curiosity and guide you toward further exploration. Most importantly, remember this: there is every reason to be hopeful. With the right changes, your pet's body has a remarkable ability to heal.



Step Five: Restore

Restoring the microbiome

Your pet's microbiome is the foundation of lifelong wellness. Learn how targeted probiotics, soil-based organisms, and gentle prebiotic foods can help restore balance, resilience, and vitality; one microbe at a time.

Our pets face challenges nowadays that their wild ancestors never did due to lifestyle and environmental stressors discussed in steps one through four on canine gut health: Review, Rework, Repair, Rebuild, Restore. This is where probiotics come in. Probiotics are not a luxury or an optional "add-on" for today's dogs (and cats), they are foundational. By reseeding the gut with targeted, beneficial organisms, probiotics help restore what has been lost, strengthen intestinal barriers, and support whole-body resilience.

Probiotics are not just "digestive aids." They are living organisms that dynamically interact with the gut, the immune system, and even the nervous system. Each strain has unique properties, almost like a unique "job description." Some strengthen the gut lining, others fight pathogens, while others communicate directly with the brain. And here is a critical distinction: not all probiotics are interchangeable.

Sensitive Pets: Starting in the Right Place

For pets with very fragile or sensitive digestive tracts that react to almost every new food or supplement, the way we approach gut healing matters. These animals often cannot tolerate large microbial loads from fermented foods, or even any new foods without major problems. The histamine and acids naturally present in ferments, while health-promoting for many, can actually inflame an already irritated intestinal lining. Concentrated prebiotic supplements can cause similar problems. They feed bacteria indiscriminately, and in conditions like small intestinal bacterial overgrowth (SIBO), that fuel can worsen gas, bloating, and abdominal pain.

For these delicate pets, probiotic supplements are the safest and most effective first step. They provide specific organisms at measured doses. We can start with very small amounts, carefully observing tolerance, and increasing gradually. Low and slow wins the race when it comes to beginning protocols for super sensitive animals. This controlled, predictable approach gently nudges the gut toward balance without overwhelming an already stressed system. Once stability is achieved, other microbial foods can be layered in.

Soil-Based Organisms (SBOs): Environmental Allies for Gut Resilience

Soil-based organisms (SBOs) are spore-forming probiotics that originate in the earth, nature's original probiotic reservoir, and bring vital ecological benefits to the gut. As dogs have become increasingly disconnected from natural environments, their exposure to these environmental microbes has drastically diminished.

SBOs are exceptionally hardy, capable of surviving extreme conditions—including the acidity of the stomach. Once inside the gut, they play a vital role in restoring microbial diversity, supporting immune resilience, and resisting pathogenic overgrowth.

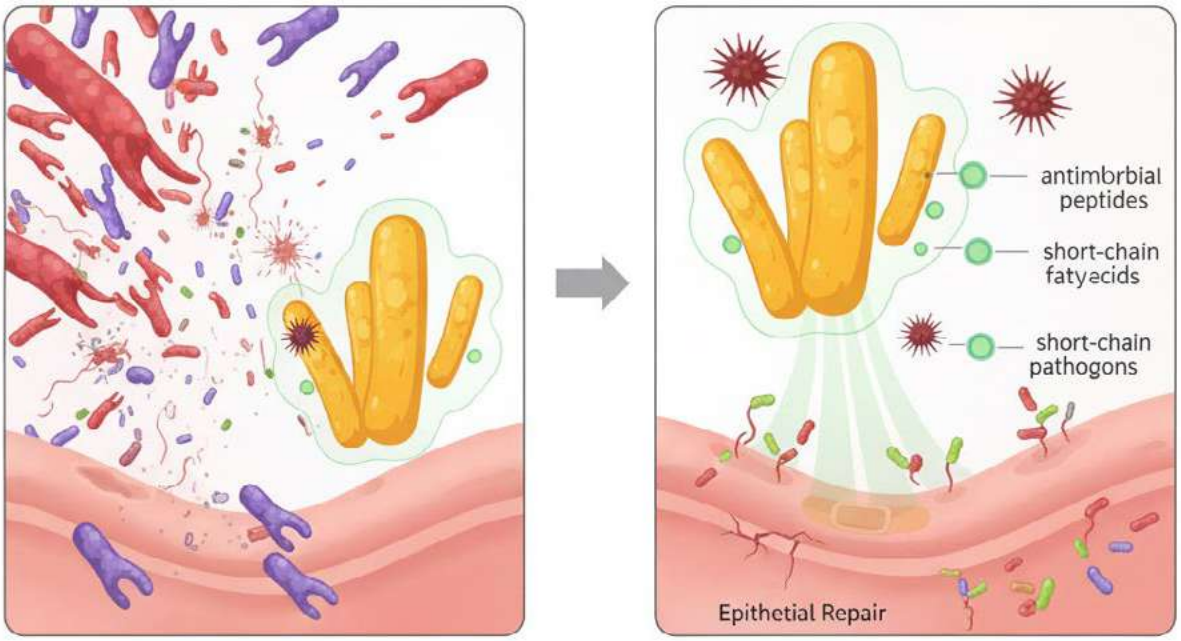
Core Benefits of SBOs include pathogen control: they naturally produce antimicrobial compounds that inhibit harmful bacteria, including *Clostridium* and *E. coli.*

Immunomodulation: SBOs help balance the immune system, reducing inappropriate inflammatory responses and supporting mucosal immunity. They enhance microbial diversity by reintroducing diversity and competitive exclusion, which is especially important after exposure to antibiotics or heat-processed diets. They maintain gut integrity, supporting epithelial tight junctions and reinforcing the gut barrier against leaky gut and inflammatory damage.

SBOs act as environmental "educators," reintroducing important microbial interactions that today's dogs—often deprived of natural soil exposure—no longer receive.

The two most celebrated soil strains that build resilience and microbiome diversity are Bacillus subtilis[28] and Bacillus clausii[29]. B. subtilis is known for its ability to support gut mucosal immunity by stimulating beneficial immune signaling and promote microbiome balance in animals under stress, including post-drug use that disrupts gut balance (heartworm meds, flea/tick meds, etc). B. clausii is most famous for modulating immune responses, especially in dogs with allergy-like or inflammatory tendencies, enhancing epithelial resilience and tight junction function for better gut integrity, promoting resistance to colonization by opportunistic pathogens like *Clostridium* and *Escherichia coli.*

SBOs After Antibiotic Therapy



During Antibiotics | After Antibiotics

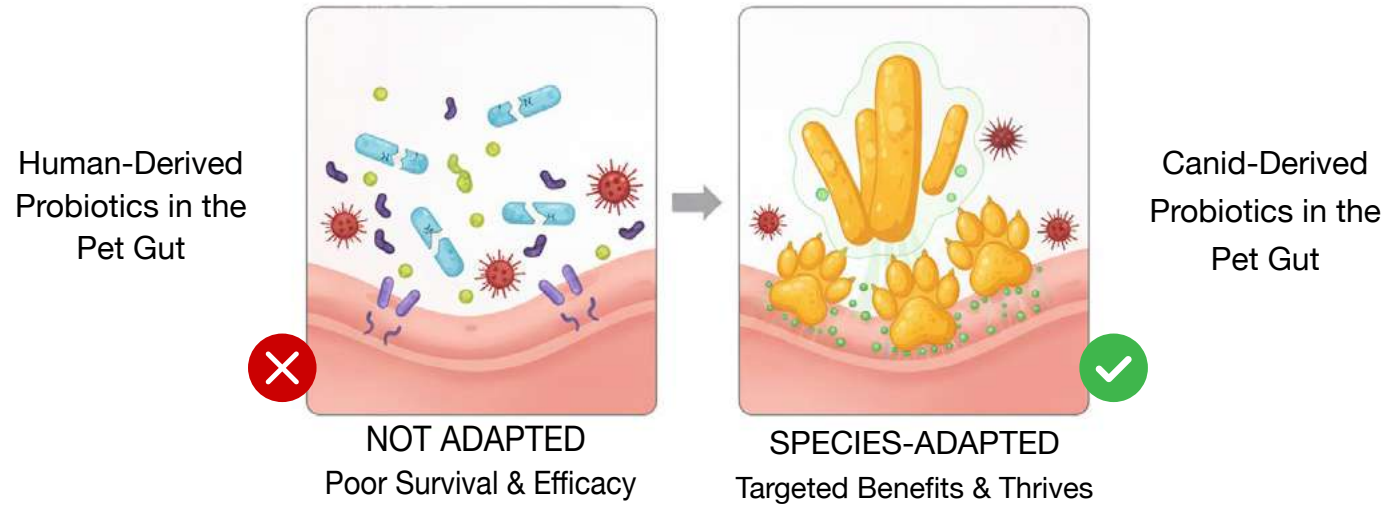
When a course of antibiotics ends, the gut ecosystem is often unstable. Beneficial microbes have been depleted, leaving gaps in the community that opportunistic organisms are quick to exploit. SBOs are ideally suited for this recovery phase. Because they are robust colonizers, they rapidly occupy these vacant niches. They produce metabolites such as antimicrobial peptides and short-chain fatty acids that suppress pathogens while nourishing beneficial bacteria). They also reduce oxidative stress and stimulate epithelial repair, helping the intestinal barrier rebuild itself after antibiotic injury.

For these reasons, SBOs are one of the few probiotics that can be given both during and after antibiotic therapy with great benefit. They do not just survive the treatment; they help stabilize and restore the ecosystem in its aftermath.

Keeping Restored Microbiomes Resilient and Healthy

Choosing species-specific probiotic strains, when administered in adequate amounts, confer unique health benefits. They help maintain microbial diversity, compete with pathogens for nutrients and attachment sites, and produce metabolites such as short-chain fatty acids that nourish the gut lining.

Using canid-derived probiotics can offer tremendous benefits over human strains. Most pet probiotics on the market are borrowed from human probiotic manufacturers, and aren't adapted to the metabolic, immune, or thermal environment of dogs or cats. They're not designed to survive the journey through a carnivore's GI tract, and many lack evidence of efficacy in the species they're sold for. Emerging research now confirms that species-specific probiotics, isolated from healthy members of the same species, offer more targeted benefits. These strains are naturally adapted to the host animal's microbiome, pH, bile levels, temperature, and immune landscape.



Avoid "All-in-One" Gut Health Products

Many pet parents come to me after trying every "gut health" supplement they can find and most of these formulas contain a little bit of everything. While that might sound comprehensive, these blends can complicate rather than clarify the healing process.

Combination products that mix probiotics, prebiotics, enzymes, nutraceuticals, herbs, vitamins, and minerals may contain some helpful ingredients, but also others that aren't appropriate for your pet's current condition. When reactions occur, it becomes nearly impossible to identify which ingredient caused the problem.

One common example is products that combine probiotics and prebiotics. While both can be valuable tools, they serve different purposes and should be used strategically, not simultaneously by default. Most commercial probiotic formulas include added prebiotics, often labeled as inulin, FOS (fructooligosaccharides), or chicory root. These compounds are fermentable fibers that feed gut bacteria, which can be beneficial in some cases, but problematic in others.

For example, in pets with the incredibly common problem of small intestinal bacterial overgrowth (SIBO) or dysbiosis affecting the upper GI tract (most cases I see), prebiotic supplements can worsen symptoms by fueling excessive bacterial fermentation. This leads to increased bloating, gas, and discomfort. For this reason, I don't recommend prebiotic supplementation unless diagnostic testing confirms that it's needed.

Whole-Food Sources of Prebiotic Fiber

For most pets, a safe, simple, and affordable approach to nourish the beneficial bacteria already present in your pet's gut is to provide fresh, whole prebiotic-rich foods. These foods naturally contain the fermentable fibers that "good bugs" thrive on, without the concentrated doses or side effects that sometimes come with commercial prebiotic powders.

Here are some prebiotic-rich foods you can chop into small, bite-sized microbiome building pieces:

Green bananas (slightly underripe): A gentle source of resistant starch that supports butyrate-producing microbes[30].

Cooked and cooled sweet potatoes: When cooled, these form resistant starch that fuels beneficial bacteria. Smear on a lick mat or stuff an interactive toy!

Buried greens (turnip, beet, or mustard greens): Contain complex carbohydrates that encourage microbial diversity. Steam and cool before feeding.

Chicory root (fresh or lightly cooked): One of the highest natural sources of inulin.

Dandelion greens: Provide prebiotic fibers along with liver-supporting phytonutrients.

Asparagus tips: Contain inulin and other fibers that promote *Bifidobacteria* growth.

Jerusalem artichokes (sunchokes):
Very rich in inulin — start with tiny amounts to avoid gas.

Apples (with peel, finely chopped):
Contain pectin, a gentle fermentable fiber for colonic health.

Blueberries:
Supply polyphenols that modulate the microbiome and support beneficial species.

Pumpkin (cooked):
Offers soluble fiber that helps normalize stool consistency and support gut flora.

Carrots (lightly cooked or grated):
Rich in soluble fiber and phytonutrients beneficial for gut motility.

Start slowly, just a tiny bite a day, and rotate different foods throughout the week. Variety, rather than volume of prebiotic fibers, is what helps build a resilient, balanced microbiome over time.

It's important to remember that rebuilding the gut microbiome doesn't require perfection, it requires consistency. Over time, with the right foods and targeted support, beneficial microbes gradually recolonize and restore balance. Simpler is often better, especially when you're working with a sensitive gut.

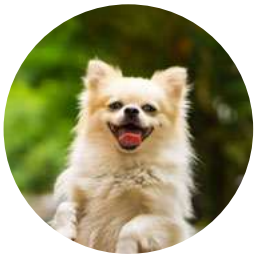
New Frontiers in Probiotic Research

Psychobiotics: Calming the Gut–Brain Axis

The newest frontier in probiotic research involves psychobiotics — strains that influence mental and emotional health through the gut–brain axis. Certain strains, such as Lactobacillus plantarum LP815, produce gamma-aminobutyric acid (GABA), a naturally produced neurotransmitter that calms the nervous system[31]. By lowering cortisol and supporting vagal nerve signaling, these strains help reduce stress-induced diarrhea, anxiety-related GI symptoms, and even chronic bladder inflammation in cats. While still an emerging field, the potential of psychobiotics is profound — offering a way to soothe both the gut and the mind simultaneously.

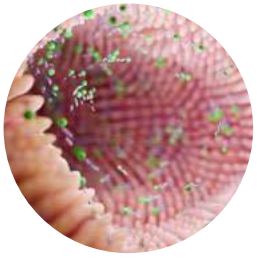
Reduce Stress

By influencing the vagus nerve and the hypothalamic–pituitary–adrenal axis, GABA-producing strains help lower cortisol.



Improve Resilience

Pets under chronic stress (such as rescues, anxious dogs, or cats prone to cystitis) may benefit greatly from these probiotics.



Support the gut lining

Stress reduction indirectly strengthens the gut barrier, since cortisol otherwise erodes tight junctions.

According to exciting new research, these strains hold promise for anxious pets or those with stress-related gut issues, not to mention pets with mood disorders, or miserably itchy animals with aggravated mental states. In one study, after just 4 weeks on a GABA producing probiotics dogs had reduced fear and noise-based aggression, more restful and consistent sleep, improved mood and reduced reactivity, better energy and emotional balance, and faster settling after owner departure.[32]

Bacteriophages: Targeting E. Coli Overgrowth in the Gut

Bacteriophages, often called phages, are naturally occurring viruses that specifically infect and destroy bacteria without harming human or animal cells. They work by attaching to a bacterial cell, injecting their genetic material, and hijacking the cell's machinery to replicate themselves—ultimately causing the bacteria to burst and die. This highly targeted approach makes them powerful allies in balancing the gut microbiome. Deerland's PreforPro is a unique fiber-free prebiotic that harnesses the precision of phages to target problematic bacteria such as E. coli, helping reduce overgrowth while leaving beneficial microbes intact. By selectively reducing excessive E. coli proliferation, PreforPro supports a healthier, more resilient gut environment if microbiome testing reveals an overgrowth of E. coli.

When to Seek Advanced Care

Some pets require deeper investigation. If your animal continues to struggle despite careful diet, supplements, and environmental changes, or if conditions such as severe IBD, chronic pancreatitis, or unexplained weight loss persist, it may be time for advanced diagnostics. Tests like ultrasound and endoscopy can uncover hidden causes that even the most advanced blood panels miss.

If your pet is declining, seek care now. If your animal fails to improve after multiple interventions, ask your veterinarian for a referral to an internal medicine specialist. Acting sooner gives your pet the best chance at recovery through tailored treatment.

You as Your Animal's Best Partner

Through this process, one truth becomes clear: you are your pet's most valuable advocate. Veterinarians bring knowledge and tools, but you bring the daily insight, the ability to notice small improvements or early warning signs that no lab test can capture.

Gut healing isn't about chasing symptoms; it's about restoring balance and resilience. A healthy gut steadies the immune system, calms inflammation, improves skin, and supports vitality throughout the body. By following a structured plan, tracking changes, and collaborating closely with your veterinary team, you become the anchor of your pet's recovery.

With you on your journey,

Dr. Karen Shaw Becker

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