

**Gastrointestinal Disorders**

FIBER-RESPONSIVE COLITIS AND LARGE BOWEL DIARRHEA IN DOGS

Fiber-responsive diarrhea in dogs can be an inflammatory (e.g., colitis) or non-inflammatory (e.g., chronic idiopathic large bowel diarrhea) condition that primarily affects the colon and clinically improves after fiber is added to the diet.¹⁻³



Both colitis and idiopathic large bowel diarrhea are characterized by soft-to-liquid stools often combined with excess mucus and/or fresh red blood, tenesmus, and increased defecation frequency and urgency.¹⁻⁵ Colitis may be acute or chronic with intermittent or persistent diarrhea.

The goals of dietary intervention are to reduce or eliminate clinical signs while meeting a dog's nutritional needs.

Key Messages

- A key nutritional consideration for these cases is to increase dietary fiber, while still feeding a diet made with highly digestible protein, fat, and carbohydrate ingredients.
 - Increased dietary fiber influences stool consistency, normalizes colon motility, and improves SCFA production.
 - Highly digestible macronutrients help reduce colon irritation and prevent maldigestion.
- Most dogs with fiber-responsive colitis or large bowel diarrhea can benefit from a combination of soluble (fermentable) and insoluble (poorly fermentable) fibers.^{1-5,8}
 - Dietary fiber can be categorized by solubility and fermentability.^{7,9}
 - Soluble, gel-forming fiber adsorbs large amounts of water, which improves stool consistency and supports normal colon motility.
 - Soluble fiber is metabolized by the microbiota, producing SCFAs that colonocytes use for energy while also reducing the pH of colon contents, decreasing toxin absorption, and potentially inhibiting the growth of pathogenic bacteria.

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DID YOU KNOW?

Approximately 95% to 99% of the short-chain fatty acids (SCFAs) produced by bacterial fermentation are rapidly absorbed in the large intestine, where colonocytes use them as an energy source.⁶ SCFAs also aid water and electrolyte absorption.⁷

Key Messages (continued)

- Insoluble dietary fiber increases stool bulk, improving intestinal motility and normalizing transit time, while also binding water to form a firmer stool.
- Insoluble fiber binds unabsorbed bile acids and microbial toxins, which helps protect the colonic mucosa from injury.
- Another nutritional strategy that may benefit dogs with fiber-responsive diarrhea is the administration of prebiotics, probiotics or synbiotics.
 - Prebiotics, specific soluble fibers that are fermented by bacteria in the colon, can help recover beneficial bacterial populations, restore short-chain fatty acid production and lower intestinal lumen pH.
 - A probiotic supplement, particularly one with immune-modulating and anti-inflammatory effects, can positively influence the gut microbiome and intestinal health.
 - Synbiotics, which blend probiotics and prebiotics, may provide complementary or synergistic benefits for gut health. In complementary combinations, the prebiotic and probiotic have independent mechanisms and benefits.¹⁰
- For dogs that do not respond to increased dietary fiber and/or probiotics, a hydrolyzed or novel protein diet should be considered.¹¹

References

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