

## What IS Canine Inflammatory Bowel Disease (IBD)?

According to *Dysbiosis in the Pathogenesis of Pediatric Inflammatory Bowel Diseases*, (Comito and Romano, 2012),

A condition of “dysbiosis”, with alterations of the gut microbial composition, is regarded as the basis of IBD pathogenesis. The human gastrointestinal (GI) microbial population is a complex, dynamic ecosystem and consists of up to one thousand different bacterial species. In healthy individuals, intestinal microbiota have a symbiotic relationship with the host organism and carry out important metabolic, “barrier,” and immune functions. Microbial dysbiosis in IBD with lack of beneficial bacteria, together with genetic predisposition, is the most relevant conditions in the pathogenesis of the pediatric IBD.”

Since this was published in 2012, subsequent work has definitively linked alterations in the gut microflora (dysbiosis) to the development of IBD in people. (See information in “Supporting Links” at the end of this document). There is a growing base of research in the microbiota of dogs: not only has [a change in the microflora in the presence of GI disease been established](#), but researchers at UC San Diego found they are able to [diagnose IBD in dogs via fecal microbiota typing](#) accurately over 90% of the time.

In dogs, many things can contribute to the development of gut dysbiosis. But notably, a species-inappropriate diet that creates changes the environment in the intestines and thus alters the gut flora of the animal likely has an important role. Food sensitivities due to the subpar quality of ingredients and use of binders and thickeners in pet foods likely also has an important role. The evidence is only anecdotal at this point, but far too many dogs transitioned to a raw diet see their symptoms of IBD (whether vomiting or diarrhea) clear up almost overnight.

Basically, whether due to diet, pathogens, over-vaccination, exposure to toxins, overuse of antibiotics, or any of these coupled with a genetic predisposition, dogs with IBD undergo changes in the structure of the small intestine that set the stage for chronic diarrhea and/or vomiting, malabsorption, gut dysbiosis (the lack of beneficial bacteria) and leaky gut syndrome.

The gut dysbiosis leads to gut inflammation. The inflammation increases permeability of the intestine wall, allowing toxins (rather than just nutrients) to “leak” through the walls into the bloodstream. This triggers an immune response that can ultimately result in what appears as “allergies” and/or other more serious autoimmune disorders. **This is why we believe that (appropriate!) diet and (appropriate!) probiotics are the cornerstone of effective IBD management.**

Causes of IBD include

- diet
- gut bacterial imbalance (“microflora”)
- GI parasites
- Immune system function
- environment
- certain drugs

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“Inflammatory bowel disease” is as it sounds: a condition where there are high numbers of inflammatory cells present in the lining of the digestive tract. This inflammation causes structural changes in the mucosal lining: in IBD, so many inflammatory cells can accumulate that they cause thickening of the gut lining, interfering with gastrointestinal motility, absorption of nutrients, and sometimes causing significant weight loss.

Symptoms of IBD can include

- frequent vomiting or intermittent bouts of vomiting
- diarrhea or bouts of diarrhea
- constipation
- unexplained weight loss
- variation in appetite and/or nausea
- lethargy

Traditional vet protocol for treating the symptoms IBD include steroids, antibiotics, and/or broad spectrum dewormers – often with little success ***because these medicines treat the symptoms, they do not address the underlying causes.*** Many vets do attempt to address diet by recommending novel proteins, hypoallergenic or other prescription diets – but as most commercial diets are replete with potentially problematic ingredients (additives such as carrageenan, guar gum, xanthan gum that [have been linked to IBD in humans](#) etc.) and/or preservatives, many find it impossible to control IBD with that type of diet alone.

Canine IBD is **best** treated with a healing protocol that addresses all potential contributing factors to the inflammation, starting with a minimally processed, fresh food, species-appropriate diet. Treatment should also include supplement therapy that supports healthy gut flora and immune system regulation. As many vets are not familiar with this approach (or even antagonistic to it), IBD dog parents often must rely on each other and groups like this to see their dogs thrive again. For more information, please refer to the [Raw Feeding for IBD Dogs FB group Alternative Protocol for Treatment](#).

## More on IBD:

[The Wrong Way to Treat GI Inflammation](#) 9/24/2012

## Supporting Links:

*Human IBD / Inflammation Research Findings:*

Ghosh et al. 2004. *Probiotics in inflammatory bowel disease: is it all gut flora modulation?* Gut. 2004 May; 53(5): 620–622. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1774052/>

Peña et al. 2005. *Probiotic Lactobacillus spp. Diminish Helicobacter hepaticus-Induced Inflammatory Bowel Disease in Interleukin-10-Deficient Mice*, Infect Immun. 2005 Feb; 73(2): 912–920. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC547020/>

**Article:** Chow & Mazmanian 2010. *Caltech Biologists Link Gut Microbial Equilibrium to Inflammatory Bowel Disease* <http://www.caltech.edu/content/caltech-biologists-link-gut-microbial-equilibrium-inflammatory-bowel-disease#sthash.2URwr4FP.dpuf>

**Study:** Chow J and Mazmanian SK 2010. *A pathobiont of the microbiota balances host colonization and intestinal inflammation*. Cell Host Microbe. 2010 Apr 22;7(4):265-76. <http://www.ncbi.nlm.nih.gov/pubmed/20413095>

**Article:** Elinav et al, Yale News 2011. *Immune System Malfunction May Trigger Inflammatory Bowel Disease*. <http://news.yale.edu/2011/05/12/immune-system-malfunction-may-trigger-inflammatory-bowel-disease>

**Study:** Elinav et al. 2011. *NLRP6 inflammasome regulates colonic microbial ecology and risk for colitis*. Cell. 2011 May 27;145(5):745-57. <http://www.ncbi.nlm.nih.gov/pubmed/21565393>

Comito , D and Romano C. 2012. *Dysbiosis in the Pathogenesis of Pediatric Inflammatory Bowel Diseases*, Intl. Jour of Inflammation Vol 2012, Article ID 687143, 7 pages. <http://www.hindawi.com/journals/iji/2012/687143/>

Denizot et al 2012. *Importance of Bacteria as Trigger in Inflammatory Bowel Disease*. J Gastroint Dig Syst 2012, S8. <http://www.omicsonline.org/importance-of-bacteria-as-trigger-in-inflammatory-bowel-disease-2161-069X.S8-003.pdf>

**Article:** Khounlotham et al, Emory News 2013. *Immune system compensates for 'leaky gut' in IBD susceptibility*. [http://news.emory.edu/stories/2012/09/immune\\_system\\_compensates\\_for\\_leaky\\_gut/](http://news.emory.edu/stories/2012/09/immune_system_compensates_for_leaky_gut/)

**Study:** Khounlotham et al. 2013. *Compromised intestinal epithelial barrier induces adaptive immune compensation that protects from colitis*. Immunity. 2012 Sep 21; 37(3): 563–

# Raw Feeding for IBD Dogs

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573. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3564580/>

**Article:** Winter et al, UC Davis Health System News 2013. *Scientists find key to growth of "bad" bacteria in inflammatory bowel disease.* <http://www.ucdmc.ucdavis.edu/publish/news/newsroom/7462>

**Study:** Winter et al 2013. *Host-Derived Nitrate Boosts Growth of E. coli in the Inflamed Gut.* Science 8 February 2013:

Vol. 339 no. 6120 pp. 708-711. <http://www.sciencemag.org/content/339/6120/708>

**Article:** Silva et al 2013, University of Arizona News. *Putting the Brakes on Inflammation.*

<http://uanews.org/story/putting-the-brakes-on-inflammation>

**Study:** Silva et al. 2013. *T Cell-Derived Protein S Engages TAM Receptor Signaling in Dendritic Cells to Control the Magnitude of the Immune Response,* Immunity Volume 39, Issue 1, p160–170, 25 July 2013.

[http://www.cell.com/immunity/abstract/S1074-7613\(13\)00277-X](http://www.cell.com/immunity/abstract/S1074-7613(13)00277-X)