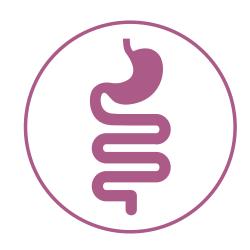


## Gastrointestinal Disorders

## FELINE CHRONIC ENTEROPATHY

Chronic enteropathy refers to gastrointestinal (GI) disease with clinical signs lasting longer than 3 weeks in the absence of identified enteropathogens, parasites, non-GI disorders (e.g., renal disease, hyperthyroidism), persistent foreign bodies and/or toxin exposure, or neoplasia.<sup>1-4</sup>



Feline chronic enteropathy encompasses food-responsive enteropathy, which includes both food allergy and food intolerance; antibiotic-responsive enteropathy; immunosuppressant-responsive enteropathy (i.e., steroid-responsive enteropathy or inflammatory bowel disease); and alimentary small cell lymphoma.<sup>3,5–7</sup>

Cats with chronic enteropathy – regardless of the final diagnosis – may present with any combination of GI clinical signs. $^{3.5,8,9}$  The most common clinical sign in cats with chronic enteropathy is weight loss, followed by vomiting, changes in appetite and diarrhea. $^{3.4,9-11}$  Cats with food-responsive enteropathy (which is covered in more detail separately) may present more frequently with diarrhea as the chief complaint. $^{5.9,12}$ 

Diet modification may be an important first step in the management of cats with chronic enteropathy. Nutritional intervention should provide adequate nutrients to meet cats' nutritional requirements, make up for any nutrient losses through the GI tract, and help manage clinical signs.

(continued on next page)



Diarrhea is the main clinical sign of chronic enteropathy in dogs<sup>13,14</sup> and people<sup>15</sup> but is less common in cats. Weight loss, decreased appetite and vomiting are the primary clinical signs of chronic enteropathy in cats.<sup>3,4</sup>



## **Key Messages**

- Common nutritional strategies for managing cats with chronic enteropathy include dietary modifications, vitamin B12 supplementation (when indicated), and administration of probiotics to help address dysbiosis and reduce mucosal inflammation.<sup>3-7</sup>
- Cats with chronic enteropathy should be fed a highly digestible, palatable, high-protein formula to minimize lean body mass loss, manage impaired digestion and/or absorption of macronutrients (e.g., protein, fat or carbohydrate), and/or address dysbiosis.
  - Unlike dogs, most cats with chronic enteropathy do not need a fat-restricted diet.¹6
  - Commercial therapeutic gastrointestinal diets have been proven effective for managing chronic GI signs in cats.¹6-18
  - Diets made with hydrolyzed or novel protein ingredients also may be recommended for cats with some types of chronic enteropathy because dietary antigens are suspected to play a role in GI inflammation.<sup>5</sup>
- Cobalamin (vitamin B12) deficiency has been well-documented in cats with chronic enteropathies, despite its abundance in feline diets.¹9-21 Vitamin B12 should be supplemented, either parenterally or enterally, if testing reveals a deficiency.³
- Probiotics, especially those shown to modulate the immune system or to have anti-inflammatory properties, may benefit some cats with chronic enteropathy as part of a multimodal therapeutic approach.<sup>7</sup>
  - Cats with chronic enteropathy experience patterns of dysbiosis similar to those found in people with IBD, although more research is needed.<sup>22,23</sup>
  - Probiotics can confer a positive effect on GI function. Since different probiotic strains have varying effects on the host, specific probiotics should be chosen based on the desired goals.
- Initially, cats with chronic enteropathy may benefit from small, frequent meals (e.g., 3 to 6 meals per day). Frequent small meals can help improve nutrient absorption and minimize adverse GI responses.



## References

- 1. Marsilio, S. (2021). Differentiating inflammatory bowel disease from alimentary lymphoma in cats: Does it matter? *Veterinary Clinics of North America: Small Animal Practice*, 51(1), 93–109. doi: 10.1016/j.cvsm.2020.09.009
- 2. Ganz, H., Kingsbury, D., & Dahlhausen, K. E. (2021, March 31). A new framework for chronic GI disease in dogs and cats. *IVC Journal*, 11. Available online at https://ivcjournal.com/chronic-enteropathy-chronic-gi-disease-dogs-cats
- 3. Jergens, A. E. (2012). Feline idiopathic inflammatory bowel disease: What we know and what remains to be unraveled. *Journal of Feline Medicine and Surgery*, 14(7), 445–458. doi: 10.1177/1098612X12451548
- 4. Jergens, A. E., Crandell, J. M., Evans, R., Ackermann, M., Miles, K. G., & Wang, C. (2010). A clinical index for disease activity in cats with chronic enteropathy. *Journal of Veterinary Internal Medicine*, 24(5), 1027–1033. doi: 10.1111/j.1939-1676.2010.0549.x
- 5. Guilford, W. G., Jones, B. R., Markwell, P. J., Arthur, D. G., Collett, M. G., & Harte, J. G. (2001). Food sensitivity in cats with chronic idiopathic gastrointestinal problems. *Journal of Veterinary Internal Medicine*, *15*(1), 7–13.
- 6. WSAVA International Gastrointestinal Standardization Group, Washabau, R. J., Day, M. J., Willard, M. D., Hall, E. J., Jergens, A. E., Mansell, J., Minami, T., & Bilzer, T. W. (2010). Endoscopic, biopsy, and histopathologic guidelines for the evaluation of gastrointestinal inflammation in companion animals. *Journal of Veterinary Internal Medicine*, 24(1), 10–26. doi: 10.1111/j.1939-1676.2009.0443.x
- 7. Marsilio, S. (2021). Feline chronic enteropathy. Journal of Small Animal Practice, 62(6), 409-419. doi: 10.1111/jsap.13332
- 8. Al-Ghazlat, S., Eriksson de Rezende, C., & Ferreri, J. (2013). Feline small cell lymphosarcoma versus inflammatory bowel disease: Diagnostic challenges. *Compendium: Continuing Education for Veterinarians*, 35(6), E1–E6.
- 9. Gianella, P., Pietra, M., Crisi, P. E., Famigli Bergamini, P., Fracassi, F., Morini, M., & Boari, A. (2017). Evaluation of clinicopathological features in cats with chronic gastrointestinal signs. *Polish Journal of Veterinary Sciences*, 20(2), 403–410. doi: 10.1515/pjvs-2017-0052
- 10. Burke, K. F., Broussard, J. D., Ruaux, C. G., Suchodolski, J. S., Williams, D. A., & Steiner, J. M. (2013). Evaluation for fecal α1-proteinase inhibitor concentrations in cats with idiopathic inflammatory bowel disease and cats with gastrointestinal neoplasia. *Veterinary Journal*, 196(2), 189–196. doi: 10.1016/j.tvjl.2012.09.019
- 11. Norsworthy, G. D., Estep, J. S., Hollinger, C., Steiner, J. M., Lavallee, J. O., Gassler, L. N., Restine, L. M., & Kiupel, M. (2015). Prevalence and underlying causes of histologic abnormalities in cats suspected to have chronic small bowel disease: 300 cases (2008–2013). *Journal of the American Veterinary Medical Association*, 247(6), 629–635. doi: 10.2460/javma.247.6.629
- 12. Mueller, R. S., & Olivry, T. (2018). Critically appraised topic on adverse food reactions of companion animals (6): Prevalence of noncutaneous manifestations of adverse food reactions in dogs and cats. *BMC Veterinary Research*, 14(1), Article 341. doi: 10.1186/s12917-018-1656-0
- 13. Allenspach, K., Wieland, B., Gröne, A., & Gaschen, F. (2007). Chronic enteropathies in dogs: Evaluation of risk factors for negative outcome. *Journal of Veterinary Internal Medicine*, 21(4), 700–708. doi: 10.1111/j.1939-1676.2007.tbo3011.x
- 14. Jergens, A. E., Schreiner, C. A., Frank, D. E., Niyo, Y., Ahrens, F. E., Eckersall, P. D., Benson, T. J., & Evans, R. (2003). A scoring index for disease activity in canine inflammatory bowel disease. *Journal of Veterinary Internal Medicine*, 17(3), 291–297. doi: 10.1111/j.1939-1676.2003.tbo2450.x
- 15. Nahon, S., Ramtohul, T., Paupard, T., Belhassan, M., Clair, E., & Abitbol, V. (2018). Evolution in clinical presentation of inflammatory bowel disease over time at diagnosis: A multicenter cohort study. *European Journal of Gastroenterology & Hepatology*, 30(10), 1125–1129. doi: 10.1097/MEG.00000000001201
- 16. Laflamme, D. P., Xu, H., & Long, G. M. (2011). Effect of diets differing in fat content on chronic diarrhea in cats. *Journal of Veterinary Internal Medicine*, 25(2), 230–235. doi: 10.1111/j.1939-1676.2010.0665.x
- 17. Laflamme, D. P., Xu, H., Cupp, C. J., Kerr, W. W., Ramadan, Z., & Long, G. M. (2012). Evaluation of canned therapeutic diets for the management of cats with naturally occurring chronic diarrhea. *Journal of Feline Medicine and Surgery*, 14(10), 669–677. doi: 10.1177/1098612X12446906
- 18. Perea, S. C., Marks, S. L., Daristotle, L., Koochaki, P. E., & Haycock, R. (2017). Evaluation of two dry commercial therapeutic diets for the management of feline chronic gastroenteropathy. *Frontiers in Veterinary Science*, 4, Article 69. doi: 10.3389/fvets.2017.00069
- 19. Simpson, K. W., Fyfe, J., Cornetta, A., Sachs, A., Strauss-Ayali, D., Lamb, S. V., & Reimers, T. J. (2001). Subnormal concentrations of serum cobalamin (vitamin B12) in cats with gastrointestinal disease. *Journal of Veterinary Internal Medicine*, 15(1), 26–32. doi: 10.1111/j.1939-1676.2001. tb02293.x
- 20. Ruaux, C. G., Steiner, J. M., & Williams, D. A. (2005). Early biochemical and clinical responses to cobalamin supplementation in cats with signs of gastrointestinal disease and severe hypocobalaminemia. *Journal of Veterinary Internal Medicine*, 19(2), 155–160. doi: 10.1111/j.1939-1676.2005. tb02676.x
- 21. Reed, N., Gunn-Moore, D., & Simpson, K. (2007). Cobalamin, folate and inorganic phosphate abnormalities in ill cats. *Journal of Feline Medicine and Surgery*, 9(4), 278–288. doi: 10.1016/j.jfms.2007.01.005
- 22. Marsilio, S., Pilla, R., Sarawichitr, B., Chow, B., Hill, S. L., Ackermann, M. R., Estep, J. S., Lidbury, J. A., Steiner, J. M., & Suchodolski, J. S. (2019). Characterization of the fecal microbiome in cats with inflammatory bowel disease or alimentary small cell lymphoma. *Scientific Reports*, 9, Article 19208. doi: 10.1038/s41598-019-55691-w
- 23. Ramadan, Z., Xu, H., Laflamme, D., Czarnecki-Maulden, G., Li, Q. J., Labuda, J., & Bourqui, B. (2014). Fecal microbiota of cats with naturally occurring chronic diarrhea assessed using 16S rRNA gene 454-pyrosequencing before and after dietary treatment. *Journal of Veterinary Internal Medicine*, 28(1), 59–65. doi: 10.1111/jvim.12261

The Purina Institute aims to help put nutrition at the forefront of pet health discussions by providing user-friendly, science-based information that helps pets live longer, healthier lives.

