

# Probiotics offset effects of stress on GI tract

## You have a great deal of experience studying stress diarrhea in dogs because of your work with sled dogs in Alaska. What is it about stress that causes diarrhea?

Stress has a profound effect on gut microflora populations—an effect that has been measured by looking at gut bacterial species before, during and after stressful events. Because numbers of beneficial bacteria tend to decrease when stress occurs, the imbalance often results in diarrhea.

## How does feeding a probiotic address this imbalance?

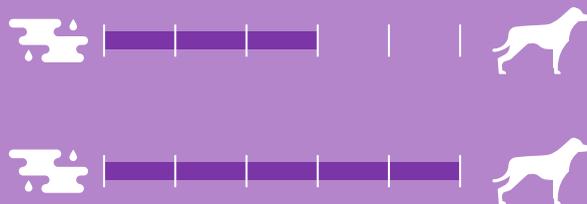
When fed to a stressed animal, probiotics deliver large numbers of beneficial bacteria to help keep the intestinal ecosystem in balance. If GI conditions remain stable during periods of stress, it's less likely diarrhea or other digestive upsets will occur.

And it's more than just balancing the gut microflora through probiotic administration that's beneficial. Studies have shown that probiotics can also enhance immune function. For example, supplementing the food of young dogs with a probiotic stimulated production of fecal and vaccine-specific immunoglobulins<sup>1</sup>

## Based on your work, what evidence have you seen that probiotics are beneficial for dogs with stress diarrhea?

In a study I led, *Enterococcus faecium* SF68 (the probiotic in Purina® Pro Plan® Veterinary Diets FortiFlora® Canine and Feline Probiotic Supplements) or a placebo was administered to Alaskan sled dogs with acute stress diarrhea.<sup>2</sup> The dogs given *Enterococcus faecium* SF68 had significantly fewer days with diarrhea than dogs given a placebo, improving, on average, 2 days sooner.

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## Once symptoms begin to improve, how long should probiotics continue to be fed?

I recommend feeding FortiFlora for a minimum of 3 to 4 days after GI signs have improved. If the probiotic is discontinued too soon, there may be a relapse. If there is enough stress present to cause diarrhea, you want things to be back to normal for a time before taking away the probiotic.

## Is it better to feed probiotics in advance of a stressful event or wait until the animal is showing signs of GI distress? Why?

Stressful events—everything from boarding to hunting to moving or adding a family member—often can be anticipated. When this is possible, a proactive approach is best.

I do a lot of racing with my dogs. It's stressful—they're traveling, working hard, and are exposed to lots of other dogs. I put them on probiotics a few days before we leave and keep them on it for up to a week after we get home. A similar approach can be taken with more common kinds of stressful events.



**Arleigh Reynolds, DVM, PhD, ACVN**  
Senior Research Scientist  
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<sup>1</sup> Benyacoub J, Czarnecki-Maulden GL, Cavadini C, et al. Supplementation of food with *Enterococcus faecium* (SF68) stimulates immune functions in young dogs. *J Nutr.* 2003;133:1158–62.

<sup>2</sup> Gore AM, Reynolds A. Effects of *Enterococcus faecium* SF68 on stress diarrhea. ACVIM Forum 2012 Proceedings; p 453.

# Exchanging viewpoints on probiotics

## Nutritional management of shelter pets with diarrhea



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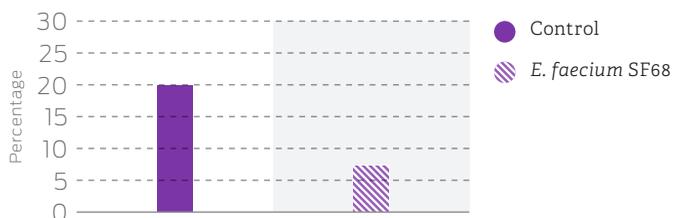
Common causes of diarrhea in shelter animals include nutritional deficiencies, stress (e.g., unfamiliar surroundings, confinement), the presence of parasites and other pathogens, sudden increase in food intake, and antibiotic administration.

**Addressing the problem.** Although shelters and rescue groups may have limited budgets, there are many affordable measures that can be implemented to attempt to minimize episodes of diarrhea in their animal populations. These include:

- Increase enrichment to lessen stress
- Feed standardized, high quality-foods
- Avoid overfeeding
- Avoid excessive use of treats by staff and volunteers
- Monitor stool character and body weight to identify those animals in need of further care

**Probiotics for shelter dogs and cats.** Use of probiotics has been promoted as potentially beneficial for the management of diarrhea. My colleagues and I evaluated the probiotic *Enterococcus faecium* SF68 (FortiFlora®, Nestlé Purina PetCare) for potentially beneficial effects in 2 shelter-based studies.

**Study 1.** A smaller percentage of cats housed in a shelter that were fed *E. faecium* SF68 daily had diarrhea lasting 2 or more days when compared to the control group (total cat number = 217).<sup>1</sup>



**Study 2.** Dogs housed in shelters with non-specific small bowel diarrhea that were fed *E. faecium* SF68 daily with a standardized diet and metronidazole (n=16) had a faster speed-to-improvement than dogs on the diet and metronidazole alone (n=17).<sup>2</sup>

**Use of shelter animals in clinical trials.** In my opinion, the use of clinically ill shelter animals in positive control (everyone is treated) clinical trials provides an excellent opportunity to evaluate the efficacy of treatment protocols. These studies provide data from a natural setting while benefiting animals in need.

## FortiFlora instrumental in 24/7 practice



**Emily Abraham, DVM**  
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In a seven-doctor practice that offers both routine and emergency critical care 24 hours a day, seven days a week, we see both acute and chronic GI cases. The most common GI clinical signs pets present with are acute vomiting and diarrhea.

**GI case benefits from probiotic therapy.** I recently saw an 11-year-old female intact Golden Retriever that came in with bloody diarrhea and vaginal discharge. She had a pyometra in addition to hookworms, clostridium and a poor bacterial flora seen on fecal analysis. I performed an emergency ovariohysterectomy. The following morning, I offered her a diet that is easily digestible, but she was uninterested. I subscribe to my grandmother's adage, "You have to eat to feel better,"

so I sprinkled a packet of FortiFlora on her food and offered it again. She sniffed it twice, then scarfed down the whole portion! FortiFlora not only enticed her to eat, but also helped improve her GI problems. In fact, I find that diarrhea generally resolves 2-3 days sooner with probiotics than it otherwise would.

We use FortiFlora in nearly all our GI cases. The only contraindication to probiotic usage is in pets that are severely immunocompromised, such as patients with parvovirus and bone marrow involvement as a sequela.

**Overcome skepticism with education.** Clients sometimes need some convincing to try a probiotic. They may ask if they can just feed yogurt or give their pet some of the probiotic they take themselves. I tell them I have seen firsthand the benefits of using probiotics with my own pets as well as with my patients, and that the probiotic in FortiFlora, *Enterococcus faecium* SF68, has been proven to be effective in pets.

“ I find that diarrhea generally resolves 2-3 days sooner with probiotics than it otherwise would. ”

## East meets West with probiotics



**Cynthia Benbow, DVM**  
*Benbow Veterinary Services*  
*Metairie, Louisiana*

I'm a certified acupuncturist, and I have an interesting mix of clients. Roughly half are traditional "Western" medicine clients, with no interest in Eastern medicine, while the other half seek me out because they are looking for a more holistic approach to pet health care. Nutrition, however, is an important component of care for both types of clients.

**Probiotic usage evolving.** I love probiotics and have expanded my use of them over the years. Initially, I recommended them primarily for gastrointestinal cases and gave them in conjunction with antidiarrheal medications, and sometimes with antibiotics. Because I had clients who wanted to use non-pharmaceutical therapies whenever possible, they pushed for using probiotics alone. I found that this approach worked.

I have several types of patients for which I frequently recommend probiotics. One common use is in puppies making the transition to new homes. These young patients tend to have a lot of anxiety, which can lead to diarrhea, and probiotics can help get their systems back in balance.

Another common practice is to administer probiotics in conjunction with antibiotics to help reduce the risk of antibiotic-associated diarrhea.

Because of my interest in holistic approaches, I've read a great deal about probiotics, and I'm always looking for new applications. Anecdotally, I have found probiotics to be beneficial in patients with inflammatory conditions—allergies, for example. My reasoning is that many dermatitis patients are chronically exposed to allergens and sometimes are on and off antibiotics for extended periods of time. As a result, microflora balance and gut immunity are disrupted.

**Probiotics need background checks.** All probiotics are not alike. I don't want to waste a client's money by selling him or her an ineffective product with dead cultures, so I research products carefully, and I offer a money-back guarantee if the product doesn't work. With FortiFlora, I have a product that has a high number of live, beneficial bacteria. In addition, it's been tested, it's from a reputable company, it's safe and—best of all—it works.

“Because I had clients who wanted to use non-pharmaceutical therapies whenever possible, they pushed for using probiotics alone. I found that this approach worked.”

### KEY TAKEAWAYS

- > Probiotics provide benefits in veterinary patients both by helping to balance the gut microflora and by enhancing immune function.
- > All probiotics are not alike. Practitioners need to ensure they are selecting a probiotic that delivers high numbers of live, beneficial bacteria.
- > Both dogs and cats fed Purina® Pro Plan® Veterinary Diets FortiFlora® Canine and Feline Probiotic Supplements in clinical studies experienced significant reductions in duration of diarrhea.
- > FortiFlora can also be beneficial in the management of antibiotic-associated diarrhea.

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1 Bybee SN, Scorza AV, Lappin MR. Effect of the probiotic *Enterococcus faecium* SF68 on presence of diarrhea in cats and dogs housed in an animal shelter. *J Vet Intern Med.* 2011;25 (4):856–60.

2 Fenimore A, Groshong L, Scorza V, Lappin MR. Evaluation of *Enterococcus faecium* SF68 supplementation with metronidazole for the treatment of nonspecific diarrhea in dogs housed in animal shelters. *J Vet Intern Med.* 2012;26:793.