



State of Louisiana

Louisiana Department of Health
Office of Public Health

***Giardia* in Small Animal Practice, Kennels and Animal Shelters**

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Prevalence in Dogs and Cats

In recent Canadian studies, the prevalence of *Giardia* species in dogs and cats was found to be approximately 8% and 4% respectively. The authors state that *Giardia* is now considered the most common intestinal parasite in dogs and cats worldwide. Most parasitology experts in human medicine consider *Giardia* to be the most common intestinal parasite of people also, especially in the developed world.

***Giardia* and Disease**

Giardia organisms do not always cause illness, so it is unrealistic to think that the prevalence of the organism will ever decrease in the general population of pets. Therefore, the stream of positive *Giardia* dogs (and some cats) will likely never end. To confuse the issue even more, it has been estimated that many dogs ill with diarrhea and positive for *Giardia*, are actually exhibiting diarrhea from another cause. For shelters, all of this is further complicated by the fact that the presence and abundance of *Giardia* organisms in the gut is greatly influenced by immunity and stress. Since shelters are characteristically stress-laden for any animal, the prevalence and abundance of organisms is expected to be much greater than the same parameters measured in a home environment.

Testing for *Giardia* in Shelters and Kennels

Most shelters that test for *Giardia* utilize an antigen capture ELISA, a test that is very sensitive and even more specific, i.e. this is a GOOD test. Nevertheless, many experts see problems utilizing the test without performing microscopic fecal exams simultaneously. Of course, fecal exams for *Giardia* are not very sensitive. The parasite's cysts are often shed inconsistently.

Cornell University recommends the following:

Giardia ELISA Positive/Flotation Positive: The animal is infected with *Giardia*. Treatment is recommended.

Giardia ELISA Positive/Flotation Negative: The animal may be infected with *Giardia* but is shedding cysts below the limits of detection by flotation. Alternatively, the ELISA is a false positive that may be seen most frequently when the results are in the low positive range. To resolve the issue, collect a second sample for analysis.

Giardia ELISA Negative/Flotation Positive: The animal may be infected with *Giardia* but is producing antigen below the limits of detection by ELISA. Alternatively, the ELISA is a false negative. To resolve the issue, collect a second sample for analysis.

Giardia ELISA Negative/Flotation Negative: The animal is not infected with *Giardia*.

As is obvious in the above recommendations, diagnosis of *Giardia* can be confusing. The unfortunate reality is that as long as shelters and kennels test for the organism, these facilities will likely continue to detect high prevalence of the organism in transient and resident animals. Nevertheless, it is likely prudent to treat all positives, due to the institutional setting.

Treatment of *Giardia*

It appears most experts tailor treatment for giardiasis based on a pet's history, clinical signs, and test results. One expert claims that if all other causes of diarrhea are ruled out, and the practitioner is convinced that *Giardia*, and *Giardia* alone is causing the problem, fenbendazole should be utilized in treatment, since the medication is only given for three to five days and is extremely safe. If not convinced it is solely the *Giardia* organism, metronidazole is recommended, since this drug covers other bacterial causes and has anti-inflammatory effects. In most shelter situations, the veterinarian will be unable to give individual attention to each case, so such recommendations may not apply.

***Giardia*, a Zoonosis**

Evaluating the zoonotic potential of *Giardia* organisms is also confusing. *Giardia intestinalis* assemblages are usually species specific, and those species that affect animals are not usually infectious to humans. *Giardia lamblia* is much less species specific and features many genetic types, but not all, are infectious to humans. The prevalence of the organism in humans is estimated to be about 5% to 7%, so if testing of the general population would be carried out, one out of 15 to 20 people could be positive on an antigen capture ELISA. In human medicine, treatment of asymptomatic carriers IS NOT RECOMMENDED (likely due to recognition that the organism cannot be realistically eliminated from all people and the environment, and the risks of widespread use of effective pharmaceuticals would likely be more of a public health problem than the disease.); however, treatment is recommended for asymptomatic household contacts of immunosuppressed patients.

As for risk to people who adopt pets from shelters, zoonotic risk is likely not that great but cannot be discounted entirely. The zoonotic potential serves as an additional reason to recommend or insist that adoptive owners provide adequate veterinary care, and in the least have the animal thoroughly examined, vaccinated and tested for parasites after adoption.

*This document was prepared using the latest information available to the Infectious Disease Epidemiology Section and the State Public Health Veterinarian. Should any of this information be outdated or incorrect, please inform the State Public Health Veterinarian so updates and corrections can be made as soon as possible.