

***Giardia* SNAP test**

Author : Gerardo Poli

Categories : [Opinion](#), [Tip of the Week](#)

Date : June 14, 2017

Following last week's discussion about pancreas-specific lipase tests, this week we look at *Giardia* SNAP tests.

Giardia is an important differential diagnosis in domestic species presenting with gastrointestinal disease, with a reported prevalence varying between 10% in household dogs and up to 100% in canine shelters and breeding colonies.



The *Giardia* SNAP test.

Younger animals – particularly younger than six months – and the presence of both acute and chronic diarrhoea have been found to have a higher likelihood to be tested positive for *Giardia*. However, the accurate identification of giardiasis continues to be problematic, particularly in chronic cases.

Several reasons exist for this:

- The shedding of cysts is often intermittent.

- Excretion of coproantigen may continue for several weeks, despite resolution of clinical infection. This is because it is a protein expressed by the organism during cyst formation, not the whole organism.
- Reinfection can occur after a period of clinical resolution.
- Chronically infected animals can often be asymptomatic.

In-house test

The *Giardia* SNAP test is an in-house test that detects faecal *Giardia* antigens. Although this test boasts to have both a high sensitivity and high specificity – 95% and 99.3%, respectively – be cautious in interpreting the results as they are based on a population with high disease prevalence (100%), which is not characteristic in most general populations.

In a prospective study with naturally acquired canine chronic subclinical giardiasis by Rishniw et al (2010), it was found this test has little value as a screening test because of its low positive predictive value (probability a positive result being a true positive), especially when the prevalence of disease is low (10% or less).

This means a positive result is substantially more likely to be a false positive, supporting the complicating factor of persistent coproantigen beyond clinical resolution of disease.

High negative predictive value

Despite this, the test has a high negative predictive value – a negative result being truly negative – meaning it is useful in helping rule out the disease.

In a nutshell, consider your patients' likely risk of infection. If the risk of giardiasis is low, a negative result helps you rule out the disease, but a positive result is non-conclusive due to the high risk of false positive. However, if the risk of disease is high – for example, puppies from shelters or breeding colonies – a positive test will help confirm the diagnosis.

With regards to tracking patients treated for *Giardia*, if clinical signs have resolved, due to the high chance of false positives, repeating the test does not provide valuable information.



Giardia intestinalis. Optical microscopy technique: Bright field. Magnification: 6000x (for picture width 26 cm ~ A4 format). [Image](#) by Josef Reischig / [CC BY-SA 3.0](#)

References

- DVM 360 (2004). [SNAP Giardia test gives results in eight minutes.](#)
- Epe C, Rehker G, Schnieder T, Lorentzen L and Kreienbrock L (2010). *Giardia* in symptomatic dogs and cats in Europe – results of a European study, *Veterinary Parasitology* **173**(1-2): 32-38.
- Rishniw M, Liotta J, Bellosa M, Bowman D and Simpson KW (2010). Comparison of 4 *Giardia* diagnostic tests in diagnosis of naturally acquired canine chronic subclinical giardiasis, *Journal of Veterinary Internal Medicine* **24**(2): 293-297.