Accurately Diagnosing Giardia using Vetscan IMAGYST™

One of the most commonly underdiagnosed and overdiagnosed gastrointestinal parasites is Giardia duodenalis (syn G. lamblia, G. intestinalis)¹

Fecal exams are a routine part of wellness testing for dogs and cats and a standard test when they are symptomatic, but in practice, G. duodenalis is difficult to properly diagnose. In order to overcome this challenge, the VETSCAN IMAGYST provides a simple and easy method to accurately diagnose Giardia.¹²

**Giardia Prevalence**

The prevalence of G. duodenalis infection varies depending on the age, clinical status, housing and geographic region of the animal and is influenced by the detection method employed.²³

**What Type of Fecal Testing is Needed for My Patient?¹⁶**

**Giardia Suspected; Symptomatic Patients**

- Saline direct smear
- Sugar + ZnSO₄ flotations
- Giardia antigen test

Follow-up test

- 33% ZnSO₄ flotation
- +/- Giardia antigen test

**Asymptomatic Patients**

Clients who want a broader range of parasitic detection performed on their dog or cat; patients with high-risk factors:

- Younger (<2 years old)
- Mostly outdoor
- Active (eg, swimming, hunting, visiting dog parks)
- Live with other animals
- Never tested for intestinal parasites

Patients with fewer risk factors:

- Older
- Mostly indoor
- Less active
- Only animal in household
- Have regular fecal examinations

**Testing for Giardia Using Vetscan IMAGYST**

The VETSCAN IMAGYST was developed to provide a simple, easy and structured fecal examination, which is less influenced by different fecal preparation methods or level of experience of an examiner².

The VETSCAN IMAGYST system consists of 3 components:

**Sample Preparation²**

The sample preparation device is used for a centrifugal flotation technique with a transfer loop for easy transfer of the sample to a microscope slide.

**Scanning of the Sample by Whole Slide Imaging (WSI)²⁴**

Utilizes VETSCAN FUSE, a bi-directional communication system between Practice Information Management Software (PIMS) and IMAGYST, allowing easy access to patient results, updates to medical records and charge capturing.

**Analysis by a Cloud-Based, Deep-Learning Algorithm⁷**

Locates, classifies and identifies parasite eggs found on fecal microscope slides.

*IMAGYST is compatible with select PIMS systems. Contact your Zoetis representative for the full list.
**Testing for Giardia with the VETSCAN IMAGYST with Different Solutions**

<table>
<thead>
<tr>
<th>Floatation Solution</th>
<th>Specific Gravity</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>33% Zinc Sulfate (ZnSO₄)</td>
<td>1.18</td>
<td>Floats common helminth and protozoa eggs and cysts; preferred for Giardia</td>
<td>Less effective for flotation of common tapeworm eggs than others; does not float some fluke and some unusual tapeworm and nematode eggs</td>
</tr>
<tr>
<td>Sheather’s sugar solution</td>
<td>1.25</td>
<td>Floats common helminth and protozoa eggs and cysts; causes less damage to parasite eggs and cysts than salt solutions</td>
<td>Less sensitive than 33% ZnSO₄ for Giardia; creates sticky surfaces</td>
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</tbody>
</table>

Using the VETSCAN IMAGYST, the availability of both sugar and 33% ZnSO₄ solutions can provide a more complete fecal diagnostic evaluation.

**Centrifugation with the VETSCAN IMAGYST**

- **Sample Preparation (Done in parallel)**
  - Zinc Sulfate (ZnSO₄)
  - Sugar

- **Sample Processing and Analysis**
  - Collect and prepare fecal sample for processing
  - Centrifuge for 2 minutes

- **Add fecal sample to slide prior to scanning**
  - ZnSO₄
  - Sugar

- **Review Scan**

Help increase compliance and ROI by testing, diagnosing and treating, if necessary, all in the same visit. The VETSCAN IMAGYST’s innovative approach to detecting Giardia cysts is a simple, easy, fast and accurate solution, aiding in the diagnosis of giardiasis.

**References**

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