Diagnosing intestinal parasites

Clinical reference guide for Fecal Dx™ antigen testing
Screen every dog at least twice a year

The Companion Animal Parasite Council (CAPC) guidelines recommend including fecal antigen testing to diagnose hookworm, roundworm, and whipworm infections.1-3 Fecal antigen testing can identify infections that can be missed by using other methods.4

Gain client compliance with CAPC recommendations
CAPC recommends fecal screening at least twice a year for adult dogs but at least four times during the first year of a dog’s life. A dog’s health and lifestyle may warrant more frequent testing. Let clients know that simply being outside puts a dog at risk. Some parasites can burrow into a dog’s skin or feet. Dogs can also swallow parasites while grooming, nursing, or eating contaminated soil or feces. Clients should also know that some infections can spread from pets to people.5

Recommend year-round, broad-spectrum parasite control
A parasite-control program that is effective against intestinal parasites, heartworms, ticks, and fleas provides maximum value for your clients and the best protection for your patients. Make sure your clients understand that they need to keep their pets protected all year long.6

Diagnose and treat infections earlier with Fecal Dx™ antigen testing
CAPC recommends including fecal antigen testing to diagnose infections, treat patients earlier, and reinforce the proper use of parasite-control products. Fecal antigen testing identifies prepatent and single-sex infections, providing critical insights for patient management.7-11
Fecal screening for healthy adult dogs

Diagnose hookworm, roundworm, and whipworm infections using Fecal Dx™ antigen testing. Because the testing detects antigens, positive results confirm the presence of worms in the intestinal tract. This allows you to diagnose infection when worms are not shedding eggs or are caused by worms of a single sex. Use the following algorithm to guide next steps based on your patient’s Fecal Dx antigen testing results.¹

**What to do with your Fecal Dx antigen testing results**

<table>
<thead>
<tr>
<th>Antigen-positive results</th>
<th>Antigen-negative results</th>
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<td><strong>What to do next?</strong></td>
<td><strong>Convey</strong></td>
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| Treat with appropriate dewormer or use monthly parasite control product effective for this parasite | Communicate the success of current preventive measures
| Review risk factors and proper disposal of feces | Review possible risks and reinforce year-round protection |

**Retest**

- Administer year-round, broad-spectrum parasite control with efficacy against heartworm, intestinal parasites, fleas, and ticks

**CAPC recommendations: Fecal examinations** of at least 2 times per year

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**Did you know?**

Treatment should be considered for patients that test positive by either antigen testing or egg detection.

**Reasons for specimens that are antigen positive and egg negative:**
- Absence of eggs during the prepatent period
- Infections caused by single-sex worms
- Intermittent egg shedding

**Reasons eggs may be identified in specimens that are antigen negative:**
- Ingestion of infected feces (coprophagy)
- Antigen quantity is below the level of detection
**Hookworms**

**From infection to presentation**

*Ancylostoma caninum* **life cycle**

Prepatent period for adult dogs: 14–21 days

- Larvae ingested by dog
- Larvae penetrate skin
- Eggs passed in feces
- Eggs hatch and develop into infective larvae
- Eggs embryonate: 2–9 days depending on temperature and moisture
- Adult worms lay eggs in small intestine after 7–10 days
- Larvae either arrest in somatic tissue or move to intestines within 7 days
- Clinical presentation
  - Pale mucous membranes and anemia; ill thrift, failure to gain weight; poor hair coat, dehydration; dark, tarry diarrhea; respiratory disease; foot lesions (dermatitis with erythema, pruritus, and papules)

**Did you know?**

- Because hookworms have short prepatent periods and the potential for arrested larvae, even pets receiving monthly deworming may have adult worms in their intestinal tract between monthly doses. This stresses the importance of year-round monthly administration in all patients.

- Puppies as young as 10–12 days of age may start shedding eggs if they’ve been infected through nursing.

- Due to the zoonotic risk and reinfection potential in this parasite, it is important to detect infections before they start shedding eggs into the environment.
Roundworms
From infection to presentation

**Toxocara canis life cycle**
Prepatent period for adult dogs: 21–35 days

- Infective larvae migrate through the liver and lung before maturing into adult worms in the small intestine.
- Transmission *in utero* to offspring.
- Eggs passed in feces.
- In 2–4 weeks, egg larvae become infective.

**Clinical presentation**
Diarrhea, vomiting, pot-bellied appearance, coughing. Dogs may cough up or vomit worms.
Infections caused by *Toxocara canis* are more common and most severe in dogs less than one year of age.

**Did you know?**
- One female roundworm can produce 85,000 eggs per day, and these hard-shelled eggs can survive in the environment for years. With Fecal Dx™ antigen testing, you can detect infections before worms start laying eggs.
- Due to the zoonotic risk and reinfection potential in this parasite, it is important to detect infections before they start shedding eggs into the environment.
- In puppies under 6 months of age, studies have shown more than 30% are infected and shedding *Toxocara canis* eggs.
Whipworms
From infection to presentation

Trichuris vulpis life cycle
Prepatent period for adult dogs: 74–90 days

Clinical presentation
Many infections are asymptomatic or subclinical. When present, symptoms include diarrhea streaked with mucus and fresh blood, weight loss, dehydration, anemia. Extreme cases can result in death.

Did you know?
• A female whipworm can produce as many as 2,000 eggs per day, and these infective whipworm eggs can survive in the environment for several years. With Fecal Dx™ antigen testing, you can detect infections before worms start laying eggs.
• Due to their extended prepatent period, it’s unlikely to find eggs being shed in very young puppies, but Fecal Dx antigen testing can identify these positive patients during the prepatent period for earlier diagnosis and treatment.
Fecal screening for sick dogs

Rule out infectious diseases by differentiating between simple and complicated diarrhea and testing accordingly. Testing recommendations vary based on the duration and severity of diarrhea and the health and dietary habits of the dog or dogs affected. In simple diarrhea cases of short duration, a Giardia antigen by ELISA or the SNAP® Giardia Test is recommended in addition to Fecal Dx™ antigen testing and fecal flotation by centrifugation. A more comprehensive diarrhea RealPCR™ panel is recommended in complicated diarrhea cases. Use the following algorithm to guide next steps when assessing sick dogs that present with diarrhea.

**Did you know?**

RealPCR™ testing expands the scope of detection beyond nematode parasites, coccidia, and Giardia, allowing you to detect other important gastrointestinal pathogens, including viruses, bacteria, enterotoxins, and difficult-to-detect protozoa (e.g., Cryptosporidium).

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**Non-bloody diarrhea**

- Positive on antigen ELISA testing or fecal O&P testing
- Treat with targeted therapy
- If diarrhea persists >24 hours

**Bloody diarrhea**

- Negative on both
- Trial treatment with broad-spectrum dewormer
- If poor response to therapy, evaluate for confections

**Hemorrhagic Gastroenteritis (HGE)/Bloody Diarrhea**

- RealPCR™ Panel with Fecal Dx™ Antigen Profile (test code FDXPHD)
- SNAP® Parvo Test

**Diarrhea RealPCR™ Panel (Comprehensive)—Canine**

- Positive on antigen ELISA testing or fecal O&P testing
- Test with targeted therapy
- Test treatment with broad-spectrum dewormer
- If diarrhea persists >24 hours

**Fecal Dx™ Antigen Profile (Flotation) with Giardia (test code FDXGP)**

**Diarrhea RealPCR™ Panel (Comprehensive)—Canine**

- Non-bloody diarrhea
- Bloody diarrhea

**History, clinical signs, physical examination**

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**Simple diarrhea**

- Otherwise clinically healthy and bright, alert, and responsive (BAR)
- Mild diarrhea <24 hours in duration
- Only one dog affected
- +/− History of dietary indiscretion or recent diet change

Did you know?

RealPCR™ testing expands the scope of detection beyond nematode parasites, coccidia, and Giardia, allowing you to detect other important gastrointestinal pathogens, including viruses, bacteria, enterotoxins, and difficult-to-detect protozoa (e.g., Cryptosporidium).
How to minimize the threat of infection

In addition to regular veterinary examinations and diagnostic screening, encourage your clients to follow CAPC guidelines.

Food and water
- Pets should be fed commercial or cooked food.
- Raw diets are not recommended.
- Make sure pets have access to fresh water.

Outdoor activity
- Limit access to wildlife and contaminated feces.
- Keep dogs on a leash or behind a fence.
- Keep cats indoors.
- Cover sandboxes after use.

Hygiene
- Do not handle animal feces or urine with bare hands.
- Wash hands immediately after incidental contact with feces.
- Promptly pick up and dispose of feces from public areas.
- Promptly remove feces from the yard.
- Dispose of animal waste according to local municipal regulations.
References

4. Data on file at IDEXX Laboratories, Inc. Westbrook, Maine USA.