Survey of Clinic Practices and Testing for Diagnosis of *Giardia* Infections in Dogs and Cats

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A study was conducted to survey current U.S. clinic practices for diagnosis of *Giardia* infections in dogs and cats, to estimate prevalence of infection, and to compare results of different fecal tests for *Giardia* on canine and feline samples.

A set of 617 fecal samples from patients tested for *Giardia* in the normal course of clinic practice were collected from 10 clinics in Colorado, Georgia, Indiana and Illinois. Reported clinic test results were provided for each of these samples. Samples for this study were acquired by clinics during routine fecal examinations. Clinics were asked to conduct fecal testing according to their routine diagnostic approach. Clinics recorded diagnostic results on any animals where *Giardia* would be considered part of their potential rule-outs. Results of these evaluations were recorded and samples were then forwarded for further testing.

Testing:
- Reported in-clinic microscopy test results—n=617
  Microscopic evaluation via fecal flotation or fecal smear
- Direct immunofluorescence microscopy (DIFM)—n=218
  Detects *Giardia* cysts via a monoclonal antibody specific for *Giardia* cyst wall
- Microplate enzyme-linked immunosorbent assay (ELISA)—n=617
  Detects *Giardia* via antibody reagents specific for soluble *Giardia* antigen
- SNAP® *Giardia* Test Kit—n=617
  Detects *Giardia* via antibody reagents specific for soluble *Giardia* antigen

Sensitivity of reported in-clinic microscopy testing was 50% and specificity was 76% compared to microplate ELISA results. In-clinic microscopy sensitivity was 27% and specificity was 31% compared to DIFM results. Sensitivity of SNAP rapid assay results was 92% and specificity was 99% compared to microplate ELISA results. SNAP sensitivity was 90% and specificity was 96% compared to DIFM results. Overall prevalence of positive *Giardia* results for these clinic samples was 27% by in-clinic microscopy, 14% by microplate ELISA and 13% by SNAP rapid assay.

These results indicate poor performance of current in-clinic microscopy testing for *Giardia* compared to microplate ELISA and immunofluorescence microscopy methods. Performance of the SNAP rapid assay had significantly higher sensitivity and specificity than current in-clinic microscopy testing.