



College News

10gastrointestinal > WCC09 > 10AAAS > 10parasites

Research hopes to improve animal welfare

A research team at Cornell University is investigating opportunities to reduce animal use in drug development studies, refine study design and techniques used, and replace current modalities with newer methods.

“With increasing public awareness of parasites in pets, and the corresponding rise in demand for parasiticides, many new products have entered the market in recent years that can control parasites,” said Dr. Alice Lee, a postdoctoral associate at the College of Veterinary Medicine who collaborates with Dr. Dwight Bowman, professor of parasitology.



The Food and Drug Administration mandates that drugs used to control parasites (specifically anthelmintic medications) be tested for their power to produce the desired effect on the species for which they are intended. Further, these regulatory agencies require that animals infected with the parasites of interest during these tests be euthanized, followed by a postmortem count of worms within the alimentary tract.

“These requirements result in the death of hundreds of animals for the approval of even a single combination product,” said Lee. “Through the use of minimally invasive diagnostic imaging methods, we aim to develop an alternative that will permit a non-terminal counting approach. The ultimate goal would be to reduce the number of animals sacrificed during clinical trials for anthelmintic medications, an important step toward improving animal welfare in research. This is all about animal welfare.”

Currently, Lee has produced a series of video clips of gastrointestinal endoscopies that show worms *in situ*. The videos clearly show parasites – well enough to count – as well as parasitic damage in portions of the small bowel. Lee and her team are currently investigating the use of wireless camera capsules, which will allow them to view the entire length of the small bowel without anesthesia.

“We believe that we are on the way to finding an alternative method to post-mortem counting,” said Lee.