



# Evaluating the fecal flora to see dynamics of antimicrobial resistance over time

**GOALS** Antibiotics have saved millions of lives since their discovery and have enabled major progress in human and veterinary medicine. These essential therapies face unprecedented challenges from the development of bacterial antimicrobial resistance, due in part to our extensive use of antibiotics helping cause resistant bacteria. Antimicrobial stewardship is now an essential focus for human and veterinary medicine, with the World Health Organization terming antimicrobial resistance a “serious threat to global public health”. Studies suggest that countries with decreased veterinary sales of antibiotics have lower amounts of resistant bacteria. Antibiotic resistance may develop in bacteria at the infection site and also within the fecal flora. To date most research on antibiotic resistance in veterinary medicine has focused on food-producing animals. However, during the same period, the status of companion animals in the household has evolved. A recent study reported that nearly 50% of dog owners now sleep alongside their dogs. These close relationships may enable exchange of organisms between humans and dogs and may enable passage of genes encoding antibiotic resistance between bacteria. Advances in sequencing and technology now enable us to study all of the bacteria in the gastrointestinal tract--the gastrointestinal microbiome.

**ELIGIBILITY** Any dog admitted to the Cornell University Hospital for Animals with septic peritonitis or pyometra.

**OWNER RESPONSIBILITIES** If you agree to let your dog participate it will be your responsibility to bring your dog back to the CUHA Critical Care service on days 7, 14, 28, and 60 following his/her admission to the CUHA for a fecal collection.



**Principal Investigator**  
Julie Menard  
DVM, DACVECC

**Contact Information**  
(607) 253-3060  
vet-research@cornell.edu

