

# Helping protect the bond between clients and pets through parasite control

By Susan E. Little, DVM, PhD, DACVM (Parasitology)

#### Love the pets...

Pets enrich our lives, making us happier, healthier and more engaged. Studies documenting specific positive health outcomes associated with pets include fewer physician visits in older pet owners; decreased blood pressure, cholesterol and triglycerides; and reduced mortality following acute myocardial infarction. 1-3 While many studies focus on the exercise, social interaction and overall health benefits of living with dogs, the companionship provided by cats also has been shown to reduce anxiety, promote a sense of social connectedness and belonging and improve mental health and wellbeing.4,5 The external focus of attention necessitated by living with cats can disrupt harmful patterns of rumination, one of the key behaviors thought to contribute to depression, particularly in women.<sup>6</sup> Pets accept us, unconditionally and usually with true, unwavering affection. Indeed, over 90% of pet owners consider their pet to be a valued family member.7

#### ...not the parasites.

Despite the many benefits pets confer, some disease risks exist and can be mitigated with regular veterinary care and careful attention to recommendations for preventing potential zoonotic

disease, including parasite control. Vaccination has all but eliminated feline and canine rabies in most of the developed world, but, as recent surveys in animal shelters or of free-ranging cat populations can readily attest, zoonotic parasites continue to abound.<sup>8,9</sup> Controlling parasites in cats serves a public health role by limiting environmental contamination with stages that can infect and cause disease in people and by removing arthropods that may feed on people, cause dermatitis and potentially transmit serious, at times fatal, infections. Parasites also create a formidable aesthetic barrier to a close cat-person relationship. A majority of cat owners co-sleep with their pet<sup>10</sup> but the intense disgust parasites evoke can fracture this warm relationship. Indeed, recent work suggests that the emotion of disgust evolved specifically to reduce risk of infection—a phenomenon fittingly referred to as "parasite avoidance theory" and a feeling familiar to all of us who have witnessed a cat heavily infested with fleas, shedding tapeworm proglottids or vomiting nematodes.

#### Feline parasites are common...

In the absence of veterinary intervention, parasites are common in cats. Indeed, infection with parasites is the natural state for most animals, and a great

## Tips to share with clients to promote **year-round** parasite control

- Year-round parasite control is a key part of responsible pet ownership but it doesn't have to be a struggle. There is an option that will work for every pet and every pet's temperament.
- Whenever possible, start cats on parasite control when young so they become accustomed to having transdermal products applied or wearing a collar.
- Topically applied, systemically absorbed transdermal products can make treating cats and dogs easier and less stressful for everyone. Let's fight the parasites, not the pet!
- Be sure that the cat is calm before beginning to administer the topical product. And combine the application with a treat, a feline pheromone or a fun catnip experience so that the cat receives positive reinforcement with the treatment.
- One treatment is not enough.
   Re-infection commonly occurs, and once shed, parasite stages may persist in the environment for years. Since you'll be retreating each month try to make it fun for the cat and for you.
- Parasites often establish silent infections—we can't always detect them, even with the best diagnostic tools.
- Fleas and ticks love cats almost as much as we do! These external parasites seek hosts whenever the temperature warms up—even in winter months. And ticks aren't just a dog problem. Cats are at risk for both tick infestation and tick-borne diseases, including Lyme disease. Even indoor cats can get fleas and ticks—people bring them in on their clothing or untreated dogs bring them in on their fur. But we have great options to keep cats protected throughout the year.

majority of dogs and cats in animal shelters harbor parasitic infections. In recent surveys, 77.3% of dogs and 67.2% of cats at municipal shelters in the midwestern United States were infected with helminths. P12 Dog park surveys showed approximately 33% of owned dogs in the general population were shedding parasites in their feces. Safe, effective parasite treatments are readily available for both dogs and cats, but diagnosis can be challenging. This problem is further compounded by difficulties encountered when attempting to obtain an adequate fecal sample from feline patients without fracturing the veterinary-cat bond.

#### ...but can be readily controlled.

The zoonotic risk associated with parasites of cats is well known and the basis for the CDC recommendation of regular veterinaryprescribed deworming of all pets to reduce environmental contamination with zoonotic hookworm eggs and larvae, roundworm eggs and tapeworm eggs. Zoonotic infection with Toxocara cati may lead to visceral or ocular larva migrans with serious adverse sequelae; toxocariasis is considered a top 5 neglected parasitic infection in public health.14 In addition to deworming cats, avoiding areas that may be contaminated with ascarid eggs or hookworm larvae such as uncovered sandboxes is recommended. Zoonotic parasite risk is further mitigated by consistent, prompt removal and safe disposal of cat feces as well as attention to hygiene through hand-washing.1

### Tapeworms and heartworms are also a feline concern...

Veterinary treatment for cestodes is recommended by CDC to limit risk of human infection with zoonotic tapeworms. Disease caused by zoonotic cestodes ranges from the

#### References

- Centers for Disease Control and Prevention. Healthy Pets, Healthy People. Available at: https://www.cdc.gov/healthybets/health-benefits/index.html.Accessed January 15, 2019.
- Siegel JM. Stressful life events and use of physician services among the elderly: the moderating role of pet ownership. J Pers Soc Psychol 1990;58(6):1081-1086.
   Friedmann E, Thomas SA. Pet ownership, social support, and one-year survival after acute myocardial
- Friedmann E, Thomas SA. Pet ownership, social support, and one-year survival after acute myocardia infarction in the Cardiac Arrhythmia Suppression Trial (CAST). Am J Cardiol 1995;76(17):1213-1217.
- 4. Thorpe RJ, Simonsick EM, Brach JS, et al. Dog ownership, walking behavior, and maintained mobility in later life. J Am Geriatr Soc 2006;54(9):1419-1424.
- McConnell AR, Brown CM, Shoda TM, et al. Friends with benefits: on the positive consequences of pet ownership. J Person Soc Psych 2011;101(6):1239-1252.
- Shors TJ, Millon EM, Chang HY, et al. Do sex differences in rumination explain sex differences in depression? J Neurosci Res 2017;95(1-2):711-718.
- McNicholas J, Gilbey A, Rennie A, et al. Pet ownership and human health: a brief review of evidence and issues. BMJ 2005;331(7527):1252-1254.
- Thomas JÉ, Staubus L, Goolsby JL, Reichard MV. Ectoparasites of free-roaming domestic cats in the central United States. Vet Parasitol 2016;228:17-22.
- 9. Little S, Adolph C, Downie K, et al. High prevalence of covert infection with gastrointestinal helminths in cats. J Am Anim Hosp Assoc 2015;51(6):359-364.

mildly annoying *Dipylidium caninum* to severe, life-threatening *Echinococcus* spp. Although impactions have been reported, <sup>15</sup> adult cestodes in the small intestine are not thought to cause significant pathology in most cats. Even without overt disease, the disgust elicited in owners upon seeing proglottids on pillows or upholstery recently occupied by a cat can be quite damaging to the human-animal bond. While not a zoonotic risk, feline heartworm can be devastating to both cat and owner, leading to respiratory disease and, in extreme cases, death. Careful attention to comprehensive, veterinary-led parasite control reduces the risk for zoonotic infections, protects feline health and

#### ... as are ectoparasites...

shields the cat-human relationship from harm.

Cats are also all-too-frequently infested with fleas, ticks and mites. Many owners have the misguided impression that indoor cats are not at risk for parasite infestations or that feline grooming removes all parasites. While cats may manage to dislodge some fleas and ticks, enough may persist to keep a population of fleas cycling or the ticks may be attached long enough to transmit severe, potentially fatal feline infections. 16,17 Ear mites are more difficult to remove, necessitating systemic treatment. Without flea and tick control, a cat can introduce these ectoparasites into the home to feed on human members of the family. Pet ownership has been identified as a risk factor for human tick exposure, 18 but the risk is readily mitigated. Because untreated cats create a zoonotic risk to people in the home, CDC recommends ectoparasite control for all pets.1 Consistent control of feline ectoparasites keeps everyone in the family healthier and happier and facilitates an indoor cat remaining indoors (as well as in laps and on sofas and beds).



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## ...but with consistent parasite control, we can help keep cats in the home and close to us.

Protecting cats from parasites achieves so much more than just protecting feline health. Cats and the people that love them treasure their time together relaxing on the couch, petting and being petted and even co-sleeping. The revulsion parasites elicit threatens this relationship, ultimately jeopardizing the safe, peaceful lifestyle indoor cats enjoy and deserve. Controlling parasites protects that bond, ensuring that fleas, ticks and internal parasites are not able to come between cats and their owners while also protecting feline and public health. Long-lasting flea and tick control and topical internal parasite control can make administering these products less stressful for cats, owners and veterinarians, removing one of the major barriers to treating cats—namely, cats. With consistent use of low-stress, feline-friendly treatments, we can keep our cats close while keeping their parasites at bay.

- 10. Chomel BB, Sun B. Zoonoses in the bedroom. Emerg Infect Dis 2011;17(2):167-172.
- Curtis V, de Barra M. The structure and function of pathogen disgust. Philos Trans R Soc Lond B Biol Sci 2018;373(1751).
- 12. Adolph C, Barnett S, Beall M, et al. Diagnostic strategies to reveal covert infections with intestinal helminths in dogs. Vet Parasitol 2017;247:108-112.
- 13. Ferreira A, Alho AM, Otero D, et al. Urban dog parks as sources of canine parasites: contamination rates and pet owner behaviours in Lisbon, Portugal. J Environ Public Health 2017;2017:5984086.
  14. Chen J, Liu Q, Liu GH, et al. Toxocariasis: a silent threat with a progressive public health impact. Infect Dis
- Chen J, Liu Q, Liu GH, et al. Ioxocariasis: a silent threat with a progressive public health impact. Infect Di Powerty 2018;7(1):59.
- 15. Wilcox RS, Bowman DD, Barr SC, Euclid JM. Intestinal obstruction caused by Taenia taeniaeformis infection in a cat. J Am Anim Hosp Assoc 2009;45(2):93-96.
- 16. Little SE, Barrett ÁW, Nagamori Y, et al. Ticks from cats in the United States: Patterns of infestation and infection with pathogens. Vet Parasitol 2018;257:15-20.
- 17. Nagamori Y, Reichard MV. Feline tick borne diseases. *Today Vet Pract* 2015; May-Jun:69-74.

  18. Jones EH, Hinckley AF, Hook SA, et al. Pet ownership increases human risk of encountering ticks.
- Jones EH, Hinckley AF, Hook SA, et al. Pet ownership increases human risk of encountering ticks. Zoonoses Public Health 2018;65(1):74-79.