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**Regular deworming of family dogs and cats – why does it matter?**

Cats and dogs are beloved family members and live closely with their humans. They have a positive influence on our mental health and often on our physical health by providing us with more exercise. However, they can be infected by parasites that are potentially transmissible to us, i.e. by so-called zoonotic parasites. These parasites can not only affect the health of our pets, but also cause problems in humans. The most vulnerable persons are young children, elderly persons, and those with an impaired immune system.

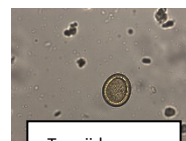
Several worm species have a zoonotic potential: There are the quite common nematodes (“roundworms”) *Toxocara canis* in dogs and *T. cati* in cats



Toxocara embryonated eggs

that can cause migrating larvae in humans leading to eosinophilia and unspecific symptoms like itches or bellyaches, but also to ocular or central nervous problems. Furthermore, larvae of *Strongyloides stercoralis* and of blood-sucking hookworms (*Ancylostoma* spp.), other parasitic nematodes mainly of dogs, can enter the human body via skin and then travel through the lungs and cause damage on their way. In case of *S. stercoralis*, they can even reach adulthood in the human intestines and cause enteritis, and in immunocompromised patients also life-threatening hyperinfections and extraintestinal dissemination.

Not only roundworms, also cestodes (“tapeworms”) are notorious causes of zoonoses. Especially the family of Taeniidae, with the large *Taenia* spp. and the very small *Echinococcus* spp. tapeworms pose a danger to human health. Cats and dogs harbor the adult worms in their intestines and shed eggs that are directly infectious in their feces. When ingested by humans, cestode larvae may develop in the liver and other organs, causing problems that can be comparable to the growth of malignant tumors. Namely, cystic echinococcosis caused by the larval form of *E. granulosus* s.l. and alveolar echinococcosis caused by *E. multilocularis* are diseases that can have a detrimental effect on the affected humans.



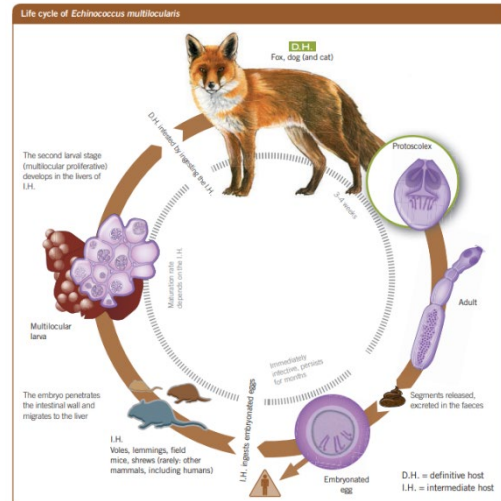
Taeniidae egg



Echinococcus multilocularis

Keeping cats and dogs free of worms thus is not only important for their health but also for the health of their owners. Especially if young children, elders, or persons with an impaired immune system live in the same household as the pets, regular deworming or testing for parasites and deworming in positive cases is very important.

What does "regular deworming" mean? This actually depends on the infection risk of the cats and dogs, which is directly related to their age, eating habits, and life circumstances. The European Scientific Counsel for Companion Animal Parasites (ESCCAP) provides guidelines to determine the most appropriate frequency of treatment for individual dogs and cats. Recommended deworming or testing frequency thus varies between once or twice a year for animals that have a very low risk of infection up to once a month for animals that e.g., roam freely or that feed on raw meat/organs or prey. The rationale behind this tight schedule is that one of the most dangerous food-borne parasites for humans, *E. multilocularis* (van der Giessen et al., 2021), requires about 28 days before it will shed eggs in the intestine of dogs or, less often, cats. Treating the pets once a month with an anthelmintic active against cestodes (i.e. containing praziquantel or epsiprantel) will break the life cycle of the cestode, thus the environment will not be contaminated by the highly resistant and directly infectious eggs.



Extracted from the Textbook of Clinical Parasitology in dogs and cats, Beugnot F., Halos L., Guille J., Ed Servet, 2018. Life cycles adapted from Pet Owner Educational Atlas. Parasites, Carithers D. and Miro G., Ed Servet, 2012.

If also roundworms or even ectoparasites should be targeted at the same time, a broad-spectrum anthelmintic containing two or more active ingredients is recommended. There are many different products available, either for oral treatment or as spot-on formulations and containing various active ingredients – so most pet owners will find a product that makes them and their pet happy.

If your pet has an elevated risk of infection but you are reluctant to treat once a month, the alternative is monthly testing of a fecal sample for parasite stages shed by your pet. This means accepting a period of several weeks in the worst case in which parasite eggs or larvae are shed, however.

The transmission of zoonotic parasites to humans can be mitigated to a certain extent by strict hand hygiene, the correct disposal of feces in the household waste, by not feeding your pet raw meat/organs and not letting them roam freely. However, if a parasitic infection is detected in your pet or if you want to keep them parasite-free for their sake and the one of your family, regular deworming will be your safest bet.

#### References:

1. van der Giessen J, Deksne G, Gómez-Morales MA, Troell K, Gomes J, Sotiraki S, Rozycki M, Kucsera I, Djurković-Djaković O, Robertson LJ. Surveillance of foodborne parasitic diseases in Europe in a One Health approach. *Parasite Epidemiol Control*. 2021