

## **The Practicing Veterinarian's Role in Preventing Zoonotic Transmission of Intestinal Parasites from Pet dogs and Cats to People**

**Presenter:** Peter M. Schantz, Centers for Disease Control and Prevention

**Session:** Oral

**Date/Time:** Monday, April 23; 4-5PM

Dogs and cats are hosts to numerous intestinal parasites that create risks for zoonotic transmission to humans through direct contact and environmental contamination with infectious stages. As the popularity of dogs and cats as pets continues to increase, so do the potential zoonotic risks. Approximately 73 million owned dogs and 90 million owned cats are distributed in approximately 60% of all American families/households; highest rates of dog and cat ownership occur in households of families with young children. Most of these pets are seen by veterinarians at least once per year. Potentially zoonotic parasites of dogs and cats include the maternally transmitted intestinal roundworms and hookworms whose infective stages may contaminate and persist in the peri-domestic environment. Infection of humans by *Toxocara canis* and *T. cati*, the common roundworms of dogs and cats, respectively, cause larva migrans syndromes (visceral, ocular and "covert") in humans who accidentally ingest infective eggs from contaminated environments. Toxocariasis ranks among the most common of all zoonotic infections; the results of numerous published surveys document seroprevalences in humans ranging from 1%-15% depending upon the age, socioeconomic status and pet ownership status of the tested populations. *Dipylidium caninum* tapeworms are acquired through accidental ingestion of dog and cat fleas and *Echinococcus* spp. of dogs and cats may infect humans with larval stages that cause cystic or tumorous growths in liver and other visceral organs. Protozoal parasites, including *Cryptosporidium* and *Giardia* spp., may cause diarrhea. Very young or immuno-incompetent children are at greatest risk. *Toxoplasma gondii* may be transmitted by the fecal-oral route from infected cats and lead to serious damage to infected humans. Children are at greatest risk of exposure to zoonotic parasites of pets because of their play habits and affection for pets. Pet owners are poorly informed of potential zoonotic threats and, therefore, unlikely to take steps to fully protect themselves. Veterinarians in practice are on the "front lines" of prevention of transmission of pet-associated zoonotic parasite infections because of their knowledge of these potential risks and through their contact with pet owners. The services of practicing veterinarians should include preventive treatments to eliminate parasites as well as advice to the owners on minimizing the risk of zoonotic transmission. This presentation will summarize data on the prevalence of potentially zoonotic intestinal parasites in dogs and cats, the life cycles of transmission and the diseases that they cause in infected humans. The presentation will describe and emphasize the role of practicing veterinarians in preventing zoonotic transmission through diagnosis and timely preventive treatment of pets, as well as educating pet owners about the zoonotic risks and how to avoid them. We believe that veterinarians could be playing a more proactive and effective role in preventing transmission of *Toxocara* spp., and other zoonotic parasites to people, and that this service could be used to strengthen their practices and bolster their public images as well as to protect the public health.

### **Biography:**

Dr. Peter Schantz is a veterinarian and epidemiologist with the Division of Parasitic Diseases at CDC. He is Adjunct Assistant Professor of International Health at the Rollins School of Public Health, Emory University. He is a Consultant to the World Health Organization (WHO), the Pan American Health Organization (PAHO), and the Food and Agriculture Organization (FAO) on echinococcosis and cysticercosis control. He is a founding member of the Companion Animal Parasite Council (CAPC) and Past President of the American Association of Veterinary Parasitologists (1996-97) and a member of many professional societies. Dr. Schantz's research interests are diagnosis, treatment, epidemiology and control of zoonotic parasitic diseases. Among his research contributions are community-based studies of parasitic zoonoses, including echinococcosis, cysticercosis, trichinellosis, toxocariasis and leishmaniasis which have measured prevalence and associated morbidity and defined risk factors for transmission and evaluation of the comparative efficiency of serodiagnostic tests for these infections. He has performed collaborative research with colleagues and institutions in numerous countries including Mexico, Argentina, Uruguay, Peru, Ecuador, China, Nepal, Poland and Spain. He has published, as author or co-author, more than 350 peer-reviewed articles, editorials, and book chapters.

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