

## Current Knowledge on the Epidemiology of Infections with *Toxoplasma*

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*Toxoplasma gondii* is one of the polyxenous protozoa. Its life cycle is facultatively heteroxenous: definitive hosts are members of the Felidae, intermediate hosts are probably all warm-blooded animals and humans. Toxoplasmosis is one of the more common parasitic zoonoses, and also causes significant economic losses in the livestock industry. Humans and animals may contract the infection via three life cycle stages: (1) orally by ingestion of oocysts which are passed in the faeces of felids and usually become infectious by sporulation within 1-5 days, (2) by ingestion of cysts contained in tissues of intermediate hosts, and (3) in utero by transplacental transmission of endozoites. *T. gondii* infection may also be transmitted via endozoites contained in blood products, tissue transplants, or by ingestion of endozoites contained in non-pasteurised goat milk.

Postnatally, humans appear to contract the infection mainly by ingesting sporulated oocysts contained in the environment or by ingesting infectious cysts contained in raw or under-cooked meat from intermediate hosts. However, it is currently not known which of

these ways is more important epidemiologically. It is probable that the major sources of *T. gondii* infections are different in human populations with differences in culture and eating habits. Cysts are more frequently observed in tissues of pigs, sheep, goats and rabbits than in tissues of cattle, horses or commercially raised poultry. Venison and other meat from wild animals, such as hares or kangaroos, can also be sources of *T. gondii* infections.

A thorough understanding of the epidemiology of infections with *T. gondii* is a prerequisite for the assessment of the relative importance of the different sources of infection in humans and livestock and for the evaluation of vaccination strategies and their potential impact on the frequency of disease caused by this parasite. Recently, several surveillance programs have been initiated to monitor *T. gondii* infections in different populations of pigs, sheep and cats. This talk will review the results of these studies and present hypotheses on the major routes of transmission of *T. gondii* in different human and animal populations.