Wild Tiger Health Centre Information Sheet

Disease threat: Echinococcus multilocularis

Hazard description: A small (2-4mm) cestode, usually 3-5 segments, in the genus *Echinococcus,* Family Taeniidae (along with species in genus *Taenia*) and Order Cyclophyllide (Taylor et al. 2007).

Host species: Final host species are wild canid species (notably red fox), and domestic dog. Felids, domestic and wild are also potential final host species, but likely play a minor role epidemiologically due to low parasite reproductive potential in felid hosts (see (Otranto et al. 2015), although this hypothesis has been challenged (Knapp et al. 2016), and the full contribution of felid hosts to the epidemiological picture is likely incomplete. Intermediate hosts are mainly small mammals, but humans are also susceptible (Taylor et al. 2007).

Pathogenesis: Infection is usually asymptomatic in the final host. Larval cystic development is mainly in the liver of intermediate hosts, but cysts may metastasise to CNS, lungs or bone (Anon 2011). Disease in the intermediate host is termed alveolar echinococcosis, and is a serious zoonotic infection (Taylor et al. 2007). However, in two EEP Amur leopards, hepatic cysts, consistent with *Echinococcus* spp. were found at *post-mortem:* in one case possibly associated with cause of death (definitive cause unknown, but nephropathy also reported); in the other case, considered an incidental finding.

Diagnosis: Eggs in faeces, PCR, ELISA assay.

Free-ranging tiger occurrence: No reports found.

Distribution: Northern hemisphere. Likely present in most tiger range states.

Assumptions: Assume relatively non-pathogenic in wild felids.

Limitations: None.