Wild Tiger Health Centre Information Sheet

Disease threat: Feline leukaemia virus – FeLV

Hazard description: FeLV is a felid retrovirus.

Host range: Felids. Domestic cats are the primary host species (O'Brien et al. 2012). Other free-ranging *Felis* species such as European wild cat (Fromont et al. 2000; Millán & Rodríguez 2009) and Pallas' cat (Naidenko et al. 2014) have been detected as being infected. In addition, other less related free-ranging felid species have been detected as being exposed and/or infected. These include seropositivity in mountain lions (Foley et al. 2013), and antigen detection in Iberian lynx (Meli et al. 2009; Meli et al. 2010), Florida panther (Brown et al. 2008; Cunningham et al. 2008) and guigna (Mora et al. 2015). Increasing habitat encroachment is only likely to increase the potential exposure of free-ranging wild felids to FeLV from domestic cats.

Pathogenesis: Transmission is by direct contact. Outcomes following infection in domestic and feral cats are highly variable and depend on age of infection, host immune responses, and viral type. Outcomes include clearance of infection, acute illness or persistent viraemia. Disease syndromes include immunosuppression, anaemia and neoplasia (O'Brien et al. 2012).
Clinical disease has been reported in free-ranging Iberian lynx (Meli et al. 2010), and Florida panther (Cunningham et al. 2008). In the Florida panther co-infection with FIV could be a contributory factor to FeLV induced disease (O'Brien et al. 2012). In addition, potential clinical effects of infection have been reported in European wild cat (Fromont et al. 2000).

Diagnosis: Antigen detection IFA (immunofluorescent assays) on blood smears, or antigen ELISA or PCR on whole blood or serum, possibly followed by virus isolation. Post-mortem PCR or immunohistochemistry on tissue samples.

Vaccination: Inactivated vaccines are available.

Free-ranging tiger occurrence: No reports found. Serosurvey of Amur tigers negative (n=44) (Goodrich, Quigley, et al. 2012). Transient viraemia has been reported in a captive Sumatran tiger (Greenwood, per comm).

Distribution: Likely worldwide. Assume present in all tiger range states.

Assumptions: Potentially highly pathogenic, based on Iberian lynx and Florida panther reports.

Limitations: Absence of pathogenicity information in *Panthera* species.