**BASICS**

*Toxoplasma gondii* is a coccidian PARASITE, with felids being the definitive host, serving as the primary reservoir species for this disease.

There are a number of INTERMEDIATE HOSTS for this disease including most warm-blooded animals such as humans, bear, cervids, pigs, moose, bison, marine mammals, marsupials, birds and small mammals.

**CLINICAL SIGNS** typically appear in the nervous system. Non-specific systemic tissue necrosis and infection, interstitial pneumonia, diarrhea, myocarditis, myositis are also seen. Animals may be dull, depressed, or have difficulty walking.

**TRANSMISSION** occurs via several routes. Infected felids shed in feces, tissue cysts can survive in undercooked meat, and via transplacental transfer from mother to fetus.

A rising antibody titer or detection of DNA or cysts in tissues can be used for **DIAGNOSIS**.

**TREATMENT** with sulfadiazine, and pyrimethamine has been widely used for toxoplasmosis.

Limiting the consumption of uncooked meat and using proper hygiene when interacting with cats or handling cat waste is the best way to **PREVENT CONTACT** with *T. gondii*. 
DETAILS

There are THREE INFECTIOUS STAGES of *T. gondii* including tachyzoites (rapidly multiplying form), bradyzoites (tissue cyst form), and sporozoites (in oocysts). Bradyzoites and sporozoites infect intestinal epithelium. Tachyzoites replicate inside cells and cause DAMAGE in internal organs, brain and muscle. Young and geriatric animals are most susceptible to clinical toxoplasmosis while in adults it’s often subclinical unless immunocompromised.

CLINICAL SIGNS The tachyzoite is the stage responsible for tissue damage and thus clinical signs depend on the number of tachyzoites released, the ability of the host immune system to limit their spread, and the organs damaged by the tachyzoites.

Since healthy adult animals control tachyzoite spread efficiently, toxoplasmosis is usually a SUBCLINICAL ILLNESS. However, in young animals, tachyzoites spread systemically. Often a cause of abortion and still birth in sheep and goats.

TRANSMISSION The cycle starts with an uninfected cat consuming raw meat that contains tissue cysts. The tissue cysts are released during digestion in the stomach and small intestine, and subsequently invade the intestinal lining. Oocytes (sporozoite stage) develop and are SHED IN FECES 3 days post-inoculation and can continue up to 20 days post-infection.

The oocytes require 48 hours to become infectious and can REMAIN VIABLE in the environment for months. The cats typically develop immunity after their first infection and will only shed pathogen once in their lifetime.

Once an intermediate host consumes the oocyst or tachyzoite, it undergoes replication and infects the intestine. Adult immunocompetent animals elicit a strong immune response, CONTROLLING THE INFECTION and encapsulating the pathogen into cysts (bradyzoites).

PRECAUTIONS AND PREVENTION In areas where risk factor for exposure is high, limiting contact with FERAL CATS or wild felid populations is important. Pregnant women should be extra cautious due to risk of transplacental transmission and birth defects.

The prevalence of toxoplasmosis is unknown but is found worldwide. Infection is common in FOOD ANIMALS such as pigs, sheep, and rabbits. Where feral cat populations are most out of control there is likely to be a higher risk of exposure.