



TOXOPLASMOSIS

Toxoplasmosis is caused by a microscopic parasite called *Toxoplasma gondii* (called *T. gondii* hereafter, and say "Gon-Dee-Eye" for *gondii*), which lives in animal tissues. The cat is the primary host. *T. gondii* is widespread in nature and can infest birds and a variety of mammals (dogs, cats, cows, horses, pigs, etc.), including people. Infestation with *T. gondii* is fairly common, but actual clinical disease is relatively rare. In other words, most infestations are not severe and thus usually inapparent.

Cats contract toxoplasmosis by eating infected raw meat, *T. Gondii* eggs (oocysts (say Oh-Oh-Cyst)) found in other cat's feces (stools), or drinking water contaminated with cat feces. Infestations in cats can be very mild, and thus they may or may not show obvious signs of illness. Symptoms of serious illness include diarrhea, fever, labored breathing, enlarged lymph nodes, eye inflammation and occasionally death. Cats usually develop immunity to *T. gondii* after the initial infestation, and never pass oocysts again. The oocysts are shed in the cat's stools for 2 to 3 weeks, beginning a few days after the cat becomes acutely ill (whether or not the cat was seriously ill).

People and other animals besides cats are considered secondary hosts, and become infested by eating the incubated oocysts (infective oocysts from infected cat feces), or from eating raw, or uncooked meat containing cysts. *T. gondii* organisms can invade nearly every tissue in the body (from their initial entrance into the body through the digestive tract), and form cysts in such organs as the brain, heart, and skeletal muscle. The cysts are a dormant form of the infection that can spread to people when the cysts are present in meat and/or in dairy products. Transmission from mother to fetus does occur in humans, and is most dangerous during the first trimester of pregnancy. From 30% to 50% of all people worldwide have had toxoplasmosis infestations, and are now immune to the disease. They still may be harboring the cystic form of the disease, but this usually is of no consequence, unless their immune system becomes damaged from such things as chemotherapy for cancer, organ transplant surgery and treatment, or from AIDS infection.

A woman who plans to have a child can be tested for antibodies to *T. gondii* before becoming pregnant. If she has antibodies already, then she and her unborn child are in a low risk situation, and probably will not be infested again. If she has no antibodies, then she COULD transmit the organism to the unborn child, IF she became infested during pregnancy. A woman should discuss the blood test for *T. gondii* antibodies with her physician before becoming pregnant.

Cat Management in a Household with a Pregnant Woman

1. Several tests can be performed on your cat to determine its status. This can be time-consuming and expensive, and the accuracy is not always in the 100% range. The cat's stool can be examined for oocysts, but this is the least accurate test that is offered. Titers on your cat's blood can be run (this is fairly expensive, and requires a few days to get the results, but the accuracy is better), or direct examination of tissue samples can be performed by a trained expert. This last option is the most expensive and requires the most time, but is the most accurate.

2. Pregnant women should not clean the litter box, and the litter box should be emptied daily. (The oocysts become infective within 5 days after passage in a bowel movement, and can then remain infective for several months if environmental conditions are cool and damp.)
3. Children's sandboxes should be covered when not in use, so as to keep neighborhood cats out of them.
4. Cats should not be allowed to catch rodents or birds, or to eat raw meat.
5. Do not allow stray cats into the household.
6. Wash your hands after petting or handling any cat.

Pregnancy does not mean that you cannot own a cat, but common sense should prevail. Eating raw or undercooked meat is probably a much more common source of human *T. gondii* infestation than is handling cats. Cooking meat to an internal temperature of at least 158 degrees F. for at least 15 to 30 minutes kills *T. gondii* cysts and oocysts. Freezing, thawing, salting, smoking, or pickling does not reliably kill *T. gondii* cysts in meat. Again, do not eat raw or undercooked meat, unwashed vegetables, or unpasteurized dairy products.

Routine sanitation like frequent hand washing is one of the best preventive measures to follow after handling cats, and after performing any associated cat maintenance duties.