

What you should know about toxoplasmosis

What is Toxoplasmosis?

Toxoplasmosis is a disease caused by a microscopic parasite called *Toxoplasma gondii*. It is not a new disease, having first been discovered in 1908. Since its discovery, Toxoplasmosis has been found in virtually all warm-blooded animals including most pets, livestock and people. Nearly one-third of all adults in the U.S. and in Europe have antibodies to Toxoplasma, which means they have been exposed to the parasite.

How do people become infected with Toxoplasmosis?

There are 3 principal ways Toxoplasmosis is transmitted:

1. Ingestion of infectious oocysts (pronounced o-o-cysts) from dirt in which cats have defecated or by ingestion of infective oocysts in food or water contaminated with feline feces.
2. Consumption of undercooked or raw meat from animals with tissue cysts.
3. Directly from pregnant mother to unborn child when the mother becomes infected with Toxoplasma during pregnancy.

Pigs, sheep, goats and poultry are sources of meat commonly infected with Toxoplasma. Toxoplasma in meat can be killed by cooking at 152°F (66°C) or higher or freezing for a day in a household freezer. Cats are the definitive host for the production of the infectious and resistant Toxoplasma oocysts. The oocyst, released from the intestine of cats in their feces, is very hardy and can survive freezing-even several months of extreme heat and dehydration. Moreover, oocysts can be carried long distances in wind and water.

Dangers of Toxoplasmosis in people...

There are two populations at high risk for disease with Toxoplasma-pregnant mothers and immunodeficient individuals. In the United States it is estimated that approximately 3,000 children are born infected with Toxoplasmosis every year. Although the majority of infected infants show no symptoms of Toxoplasmosis at birth, many are likely to develop signs of infection later in life.

Children congenitally infected with Toxoplasma may suffer from loss of vision, mental retardation, loss of hearing, and death in severe cases. Ideally, women who have frequent contact with cats should be serologically tested for *Toxoplasma gondii* before becoming pregnant, because if they are already seropositive, they are not at risk of acquiring a primary infection.

Usually, people suffering from both Acquired Immune Deficiency Syndrome (AIDS) and Toxoplasmosis have been exposed to the Toxoplasma parasite earlier in life, and the HIV infection simply allowed the Toxoplasma parasite to grow unchecked. These patients develop neurologic diseases and can experience convulsions, paralysis, coma or possibly die from Toxoplasmosis even after treatment is administered.

Follow these easy steps to prevent exposure to Toxoplasma:



- Change litter daily before *Toxoplasma* oocysts can "ripen" and become infectious (Stage F). Dispose of used litter safely, preferably in a sealed plastic bag. If pregnant or immune compromised, avoid changing the litter box or use rubber gloves when doing so.
- Wash vegetables thoroughly before eating, especially those grown in backyard gardens. Boil water from ponds and streams when camping/hiking.
- Cover sand boxes when not in use to discourage cats from defecating in them.
- Wash hands with soap and water after working with soil or after handling raw or undercooked meat.
- Cutting boards, knives, sinks and counters should be washed well and disinfected after cutting meats.
- When cooking, avoid tasting meat before it is fully cooked.
- Cook meat thoroughly until the internal temperature reaches 152°F (66°C) in a conventional oven. Also, be aware that microwaving is not a sure way to kill *Toxoplasma* in meat.

How do cats become infected with *Toxoplasma*?

Although cats can be infected by the same means as people, the most likely sources of *Toxoplasma* in cats are from eating infected mice, birds, and other small animals.

For indoor cats, the most likely source is uncooked meat scraps. When a cat is exposed to *Toxoplasma* through the consumption of infected meat or tissues, they can excrete millions of *Toxoplasma* oocysts in their feces each day. This release of oocysts can continue for up to two weeks.

Oocysts in feces become infectious (reach Stage F) after one or two days. Since most cats do not leave feces on their fur for two days, it is unlikely that humans become infected from direct contact with cats themselves. Because cats usually exhibit no signs of illness while passing oocysts, it is difficult to determine when a particular cat's feces may be infectious to people or other mammals. Most adult cats will not pass oocysts ever again after recovering from an initial exposure to *Toxoplasma*; but again, regardless of when *Toxoplasma* oocysts were initially passed through the cat's feces, the oocysts themselves can remain infectious and persist in the environment for months.

Can *Toxoplasmosis* make my cat sick?

Although cats infected with *Toxoplasma* rarely show symptoms of *Toxoplasmosis*, there have been cases in cats associating *Toxoplasmosis* with pneumonia, liver damage, and loss of vision. Why some cats show symptoms and other cats do not is not known. Concurrent infection with other diseases (feline leukemia, FIV) can aggravate *Toxoplasmosis* in cats. Treatment can be effective if the disease is diagnosed early. A blood test for *Toxoplasma* antibodies helps in diagnosis of *Toxoplasmosis* in sick cats.

To help prevent *Toxoplasma* infection in cats, follow these steps:

- Do not allow cats to hunt rodents and birds-keep pets indoors.
- Feed cats only cooked meat or processed food from commercial sources.
- At present there is no vaccine for *Toxoplasmosis* in cats. Efforts are, however, underway to market a vaccine to prevent *Toxoplasma* oocyst shedding by cats.

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