

## Toxoplasmosis

### Disease Vectors

Toxoplasmosis is caused by the protozoan parasite *Toxoplasma gondii*. Although this parasite is very common in the environment, it rarely causes symptoms in healthy people. Most human exposure is through gardening, consuming undercooked meat of infected intermediate hosts (particularly pork or lamb), or unwashed fruit and vegetables. However, zoonotic spread can occur from accidentally ingesting contaminated cat feces while cleaning a litter box. Women who are infected with toxoplasmosis for the first time during pregnancy or shortly before becoming pregnant can transmit the parasite to their unborn child, which may lead to serious medical problems.

Cats are the definitive host for *T. gondii* (the parasite can complete its life cycle only in felines), but humans and several other animals can be infected with intermediate stages of the parasite. An infected cat will shed oocysts in its feces, starting 3 -10 days after it has been exposed, continuing to shed for up to two weeks. The oocysts become infective 1 - 5 days after shedding. In the environment, oocysts are ingested by rodents, birds, or other animals, which may become prey for cats, completing the parasite life cycle.

### Symptoms, Diagnosis & Treatment

Most infected people do not have symptoms. In some cases, flu-like symptoms develop (body aches, swollen lymph nodes, headache, fever, fatigue) that resolve without treatment. However, people with weakened immune systems are at risk for serious complications, and their symptoms can include headache, confusion, poor coordination, seizures, lung problems, and blurred vision. Pregnant women might not have symptoms but can still spread the parasite to their unborn child resulting in stillbirth or miscarriage. Babies that survive often encounter severe symptoms that do not develop until later in life. Closely supervised medical treatment is essential for severely affected patients.

Adult cats with toxoplasmosis often show no signs of illness and require no treatment. In young pets (kittens and puppies) with less developed immune systems, symptoms depend on which tissues are infected and include fever, diarrhea, cough, shortness of breath, itching, and seizures. Cats with feline immunodeficiency virus may develop acute generalized toxoplasmosis. Diagnosis is symptom-based, identification of antibodies to the infection, and microscopic tissue examination.

When a cat has an acute case of toxoplasmosis, veterinarians may prescribe anti-parasitic drugs and/or antibiotics to relieve symptoms and secondary

infections; however, this treatment is not a cure, i.e., all parasites are not eliminated. Cat owners should consult with their veterinarians about treatment.

### Prevention

#### Preventing exposure of zoonotic transmission:

- Keep cats indoors; don't allow them to hunt or roam.
- Keep outdoor sandboxes covered.
- Do not allow cats to use a garden or children's play area as their litter box.
- Feed cats only canned or dried commercial food or well-cooked table food, not raw or undercooked meats. Do not feed cats unpasteurized milk.
- Change the litter box daily; wash your hands with soap and warm water afterwards.
- Control rodent populations and other potential intermediate hosts.
- Wear gloves while gardening; wash your hands thoroughly afterwards.

#### Pregnant or immunocompromised individuals:

- Avoid changing cat litter if possible. If no one else can do it for you, then wear disposable gloves and wash your hands thoroughly with soap and water afterwards. Cat litter boxes should be changed daily.
- Do not adopt or handle stray cats, especially kittens.
- Do not get a new cat while you are pregnant.

### References

CDC.gov: <http://www.cdc.gov/parasites/toxoplasmosis/>

WebMD.com: <http://www.webmd.com/baby/toxoplasmosis#1>

Merck Veterinary Manual: <https://www.merckvetmanual.com/generalized-conditions/toxoplasmosis/toxoplasmosis-in-animals>

Toxoplasmosis in Cats: <https://www.vet.cornell.edu/departments-centers-and-institutes/cornell-feline-health-center/health-information/feline-health-topics/toxoplasmosis-cats>

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