

TOXOPLASMOSIS

Responsibilities:

Hospital: Not reportable

Lab: Not reportable

Physician: Not reportable

Local Public Health Agency (LPHA): No follow-up required, unless outbreak occurs

Iowa Department of Public Health

Disease Reporting Hotline: (800) 362-2736

Secure Fax: (515) 281-5698

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Agent

Toxoplasmosis is caused by *Toxoplasma gondii*, an intracellular protozoan parasite of cats.

B. Clinical Description

Symptoms: Most people infected with *Toxoplasma gondii* will have no symptoms, but some will have flu-like symptoms, swollen lymph nodes, or muscle aches that last a few days to several weeks. Symptoms can resemble mononucleosis, including fever, sore throat and muscle aches. Cysts containing the parasite persist in the muscles following active disease, and can reactivate if the person becomes immunosuppressed. In immunocompromised people, especially those with HIV/AIDS infection, new or reactivated infection with *Toxoplasma gondii* may cause a variety of severe symptoms, including cardiac and neurologic problems. Treatment is not routinely indicated in healthy, immunocompetent persons.

Congenital Toxoplasmosis: Infection early in pregnancy may cause fetal death or a variety of serious clinical problems at birth. These problems include eye infection (chorioretinitis), neurologic symptoms and other generalized disease. Infection later in pregnancy may result in less apparent problems, including eye problems which may only be recognized years after birth.

C. Reservoirs

Cats (and members of the feline family) are the definitive hosts. They acquire the parasite from eating infected rodents or other meat. Other animals (notably rodents, sheep, goats, pigs, cows and birds) may be intermediate hosts and carry the infective cysts for a long period of time.

D. Modes of Transmission

Transmission is usually by eating under-cooked meat from infected animals or by accidentally eating oocysts (mature eggs) from dirt, sandboxes, or other places where cat feces may be found. Outbreaks have been associated with unpasteurized milk or under-cooked meat.

Congenital transmission results from primary maternal infection during pregnancy.

E. Incubation period

The incubation period is usually from 5 - 20 days when associated with cats; one outbreak from eating under-cooked meat was associated with an incubation period of 10 - 23 days.

F. Period of Communicability or Infectious Period

Except for *in utero* transmission, *T. gondii* is not transmitted directly from person-to-person. Oocysts shed by cats become infective from 1 - 5 days later and can remain infective in moist soil or water for over a year. Additionally, oocysts can remain infective in the meat of an infected animal until it is thoroughly cooked.

G. Epidemiology

T. gondii is found throughout the world. In the United States it is estimated that 22.5% of the population 12 years and older have been infected with *Toxoplasma*. In various places throughout the world, it has been shown that up to 95% of some populations have been infected with *Toxoplasma*. Infection is often highest in areas of the world that have hot, humid climates and lower altitudes.

H. Bioterrorism Potential

None.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Laboratory and Healthcare Provider Reporting Requirements

Cases of toxoplasmosis are not reportable to the Iowa Department of Public Health (IDPH), except in the case of a suspected outbreak.

Laboratory Testing Services Available

After communicating with IDPH, contact the University of Iowa State Hygienic Laboratory for further instructions at (319) 335-4500.

C. Local Public Health Agency Follow-up Responsibilities

Case Investigation

- a. There is no usual investigation of toxoplasmosis cases.
- b. In the case of a suspected outbreak, investigation will be directed by IDPH.

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

None.

B. Protection of Contacts of a Case

In congenital cases, maternal blood for antibody titers should be drawn; in acquired cases, antibody titers may be drawn on household contacts to determine a common exposure source.

C. Managing Special Situations

Outbreak Suspected

If an outbreak of toxoplasmosis is suspected, consult with IDPH or the epidemiologist on-call at the Center for Acute Disease Epidemiology (CADE) at (800) 362-2736.

D. Preventive Measures

To prevent exposures, recommend the following:

Pregnant women and AIDS patients should:

- Always thoroughly cook meat before eating. Freezing reduces the infectivity level but does not eliminate it.
- Do not clean cat litter boxes or pans.

- Always wear gloves during gardening or other contact with soil, wash hands immediately after contact, and always wash hands thoroughly before eating.

All others should:

- Feed cat's dry or canned food, and prevent them from hunting.
- Clean cat litter boxes or cat feces daily. Handle and dispose of cat feces carefully.
- Always wash hands before eating, and after handling cat or other animal feces, handling uncooked meat, or touching soil that might have cat feces in it.
- Cover children's sandboxes/sand piles to keep animals from defecating in play areas.
- Consider being tested for *Toxoplasma* if planning pregnancy (pre-existing infection in mothers is rarely, if ever, associated with congenital toxoplasmosis).

4) ADDITIONAL INFORMATION

References

American Academy of Pediatrics. *2003 Red Book: Report of the Committee on Infectious Diseases, 26th Edition*. Illinois, American Academy of Pediatrics, 2003.

CDC Web site. www.cdc.gov/toxoplasmosis/factsheet.html

Heymann, D.L., ed. *Control of Communicable Diseases Manual, 20th Edition*. Washington, DC, American Public Health Association, 2015.

Additional Resources

www.cdc.gov/hiv/pubs/brochure/oi_toxo.htm

Brochure: You can prevent Toxo. A Guide for People with HIV Infection.