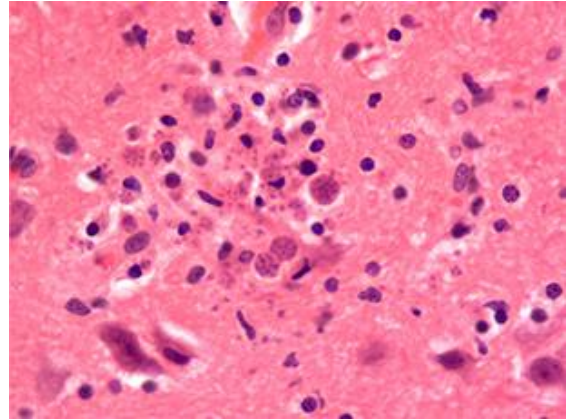


# Toxoplasma gondii

Toxoplasmosis is caused by the protozoa *Toxoplasma gondii*. It is a common zoonosis, with the majority of infected people showing no symptoms. However, infection in pregnant women can lead to abortion or fetal malformations, while infection in immunocompromised people can lead to encephalitis. The majority of human infections come from ingestion of undercooked meat. Less frequently infection follows exposure (i.e. poor hand hygiene and subsequent ingestion of) cat faeces that are at least 24 hours old – e.g. while gardening.



## Toxoplasmosis in companion animals

Most feline infections are sub-clinical (cats are the definitive host and can shed oocysts in their faeces for a few weeks following infection). Infection is really common – with 16-40% of cats being seropositive. Infection occurs by ingestion of organisms in water or food. Hunters are particularly at risk since mice are the preferred intermediate host. In most instances the host immune system limits the infection and causes the parasite to encyst in tissues (e.g. brain, skeletal muscle, cardiac muscle or liver).

Primary infection occasionally leads to dissemination of toxoplasma organisms in the body with associated clinical signs (severe systemic, neurological or respiratory disease), and reactivation of tissue cysts (e.g. following immunosuppression) can also result in clinical disease.

Dogs also occasionally develop clinical toxoplasmosis.

## FAQs

### When should I suspect toxoplasmosis?

Clinical toxoplasmosis in cats is often associated with multifocal neurological disease and multisystemic disease. Clinical signs include pyrexia, anorexia, uveitis, jaundice, pneumonia, hepatitis, pancreatitis, myositis, and myocarditis. Neurologically, cats may show seizures, ataxia, circling, anisocoria, and/or paralysis. Effusions (pleural or abdominal) occasionally occur. Immunocompromised cats (e.g. those on high doses of steroids and/or cyclosporin, or retrovirus [FeLV or FIV]-infected cats) may be at increased risk.

Dogs with clinical toxoplasmosis show similar signs although neurological signs and myositis can predominate.

As many a carrier stat is really common in cats: When considering treatment of cats with immunosuppressive medication (especially cyclosporin), their *Toxoplasma* status should also be evaluated.

## Reception Hours

Mon-Fri 9am - 5pm

## Contact Us

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# Toxoplasma gondii

## How is toxoplasmosis diagnosed?

A single positive (IgG) antibody titre is consistent with exposure. Where there is a high IgM titre or rising IgG titre (paired samples) this supports a diagnosis of active infection; however, difficulties exist in interpretation due to the variable serological response seen in cats and should be done in conjunction with clinical signs.

Direct visualisation of the organisms in cytological and histopathological samples is an alternative method of diagnosis; however, sensitivity is low so this should not be relied upon.

Detection of toxoplasma DNA by quantitative PCR e.g. in CSF, tissue aspirates (or biopsies), effusions, or bronchoalveolar lavage, along with supportive clinical signs, is also diagnostic.

## What samples can I submit for toxoplasma qPCR?

- A small volume of fluid in EDTA-anticoagulated or a plain tube – CSF ideally >0.2 ml; BAL ideally 1+ ml; or effusion ideally 1 ml
- A small amount of fresh or frozen tissue such as lung, liver, or brain. Likely collected at post-mortem examination. Ideally not formalin fixed. A cube of tissue measuring 0.5 cm by 0.5 cm by 0.5 cm is adequate.
- Aspirates of tissue – samples can be retrieved from slides, but sensitivity is lower

To ensure best possible results fresh samples (within three days of sampling) are required.

## How do I treat toxoplasmosis?

- Clindamycin 25 mg/kg per day in divided doses is the first line of treatment
  - Given orally with food or water (can start intravenously if anorexic)
  - Continue for at least 4 weeks or until 2 weeks after resolution of clinical signs (whichever is longer).
  - An improvement should be seen within a week of starting treatment.
  - Risk of oesophagitis / oesophageal ulceration (especially in cats)
- Alternative treatments include azithromycin, trimethoprim-sulfadiazine, and pyrimethamine.

## Further reading:

- ABCD Guidelines on Feline Toxoplasmosis [Toxoplasma gondii infection | \(abcdcatsvets.org\)](https://www.abcdcatsvets.org/toxoplasma-gondii-infection/)
- Clinical Toxoplasmosis in Dogs and Cats: An Update by R. Calero-Bernal & S. M. Gennari in *Frontiers in Veterinary Science*

*Updated January 2022 by Dr Emi Barker*

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