

Toxoplasmosis is a disease caused by infection with an organism called *Toxoplasma gondii*, a microscopic single cell organism which is one of the most common parasites in animals. Although virtually all warm-blooded animals and humans can be infected with this organism, it is an extremely well adapted parasite and rarely causes significant disease to individuals which it infects.

Toxoplasmosis in Cats

How is Toxoplasmosis transmitted?

Cats are usually infected by eating the organism present in the tissues of another infected animal, normally a rodent. The organism replicates locally in the intestine of the cat and also replicates within the body. The replication in the intestine results in shedding of eggs (oocysts) in the faeces. However, an immune response rapidly develops which halts both shedding of eggs and replication of the organism in the body. Despite the immune response, infection still persists in the form of

microscopic cysts present in some tissues of the body, although this doesn't usually result in any disease. The oocysts shed in the faeces are very resistant and can contaminate the environment for several years. Other animals become infected by eating these eggs. Cats are the only animal in which the *Toxoplasma gondii* replicates in the intestine, resulting in the shedding of eggs in faeces so therefore cats are essential to the life-cycle of the organism.

Humans can be infected from ingesting oocysts from soil (through gardening) but a more common way of humans becoming infected is through the food chain. Sheep, cattle and pigs grazing on contaminated pastures, or fed oocyst-contaminated food can also develop the encysted form of the organism in body tissues. If infected meat is not cooked adequately enough, or if poor hygiene precautions are adopted during the handling of uncooked meat, humans can become infected.

What disease does Toxoplasma cause in cats?

Although *Toxoplasma* is a relatively common infection, it usually causes no disease in infected cats. Rarely cats fail to develop an adequate immune response to the organism which may allow it to continue to replicate and cause damage to tissues. When this happens, a variety of different clinical signs can develop including eye disease, respiratory disease, diarrhoea, liver problems and nervous signs. *Toxoplasma* is a rare cause of disease.

How common is Toxoplasmosis in cats?

The proportion of cats infected with Toxoplasmosis varies according to their lifestyle. Due to the way in which the organism is transmitted, infection is more common in stray, feral, farm cats and others which engage in a lot of hunting or are fed raw meat. As many as 60% of these cats are infected with *Toxoplasma*. In contrast, infection is uncommon in pet cats which do little or no hunting and which are fed exclusively on commercial cat foods.

How can you diagnose and treat Toxoplasmosis?

Toxoplasmosis is difficult to diagnose in cats. Blood tests are available to show whether a cat has been exposed to the organism, but these tests do not necessarily mean that *Toxoplasma* is the cause of any disease showing.

An appropriate antibiotic is used to treat any suspected toxoplasmosis.

How important is Toxoplasma in humans?

Around a third of the population in the UK have been exposed to *Toxoplasma*. As with infection in cats, the vast majority of people infected with this organism experience no clinical disease at all, or possibly just mild, and transient flu-like signs.

However, as with cats there are also some individuals where disease can occur and one situation is pregnancy. If a pregnant woman acquires Toxoplasmosis during her pregnancy, the infection may be transmitted to the foetus, sometimes causing severe damage. This is only a risk though, if the pregnant woman acquires the disease for the first time. A woman who has previously been exposed to the organism carries no risk of transmission to a foetus if she subsequently becomes pregnant.

How can human infection be avoided?

Although cats are essential to complete the life cycle of *Toxoplasma gondii*, numerous studies have shown that people who own cats are not themselves at a higher risk of acquiring infection. There are several reasons for this -

- Many pet cats will never be exposed to *Toxoplasma* and therefore cannot pass infection on to humans.
- Even if a cat does become infected, it only sheds the oocysts in their faeces for approximately 10 days after initial exposure. Following this there is no further significant oocyst shedding and therefore again no further risk to humans.
- Although humans can be infected through exposure to and ingestion of oocysts in the environment, a more common source of infection appears to be infected meat.

Following sensible environmental and meat hygiene measures can greatly reduce the risk of human infection:

- Cook all meat thoroughly to at least 70°C throughout.
- Wash hands, utensils and surfaces carefully after handling raw meat.
- Wash all vegetables carefully.
- Wear gloves when gardening in soil potentially contaminated by cat faeces.
- Empty litter trays daily, dispose of litter carefully and rinse trays with boiling water. Even if your cat is excreting oocysts, they will not have become infectious which takes more than 24 hours from when they are passed in the faeces.
- Discourage pet cats from hunting - use a cat collar with a bell as this can often give the prey an advance warning of danger.
- Avoid feeding raw or undercooked meat.
- Cover children's sandpits to prevent cats using them as litter trays.

