

# What You Should Know About Toxoplasmosis Retinochoroiditis and Uveitis

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*Toxoplasma gondii* is a parasite in the form of a small worm carried by cats. Cat feces spread the worms throughout nature and humans can become infected from improperly cooked food and from inadequate handwashing before eating. The cyst of the worm is eaten and the worm bores through the intestinal wall. The worm then travels through the bloodstream to the eye, where it can settle in the retina, the lining of the back wall of the eye that turns focused light into a nerve signal. In the retina, *Toxoplasma gondii* begins destroying tissue and causing an inflammatory response, called uveitis. Uveitis produces blurred vision and spots in the field of vision. The affected patient may develop a high pressure in the eye, a form of glaucoma, and may

go on to have scarring and cataract formation (a clouding of the lens of the eye). Toxoplasmosis is common, but often asymptomatic. Of the world's six billion people, it is estimated that 500 million (8–9%) have been infected by this parasite, but eye disease only develops in perhaps 2% of the 500 million infected human beings. You have been diagnosed with this eye disease. By reading what follows, you can improve your understanding of the disease and your chances of minimizing eye damage and reducing recurrences.



**Normal Retina**



**Retina with Toxoplasmosis**

Two Types of Toxoplasmosis Retinochoroiditis

Toxoplasmosis can infect a person in two ways. More commonly, the person ingests the cysts and develops an infection. Eye disease seems to occur in a minority of these infections. Such infections may seem like an episode of flu to the affected patient with fever and swollen lymph nodes.

Less commonly, a pregnant woman can become infected and pass the infection on to her unborn child. Depending on the time during pregnancy that this occurs, there may be terrible damage to the fetus, even causing miscarriage, or little damage. In either case, tissue cysts containing the organism are present in the newborn and can reactivate at any time later in life. When toxoplasmosis is acquired in this way, it is called congenital. The eye disease in the congenitally acquired form of the disease often produces large pigmented scars in the retina, 70% of the time in both eyes. With reactivated disease, the retina becomes white and inflamed adjacent to these scars and the overlying vitreous jelly becomes cloudy with attacking white blood cells.

There are two strains of toxoplasmosis. The type-1 strain, prevalent in South America, seems to be more virulent than the type-2 strain, prevalent in Europe and North America.(1)

## Toxoplasmosis Never Leaves You Once It Is Inside You

Unlike a bacterial infection, an infection with *Toxoplasma gondii* is never cured, only controlled and rendered dormant. Antibiotics can force the organism back into its dormant cyst state, but there is a continual process of cyst breakdown. If the affected patient's immune system is weak, such cyst breakdown can be the start of a reactivated infection. Therefore, patients with toxoplasmosis retinochoroiditis should always be seen promptly if they develop new floaters or blurred vision in a previously infected eye.

## If You Are Not a Pregnant Woman, You Cannot Give Toxoplasmosis to Anyone Else

Although a pregnant woman can pass toxoplasmosis to her unborn child, no other person can spread the disease to a different person. Toxoplasmosis is not contagious in the sense of influenza or the common cold.

## Recurrences

On average, over a ten-year period, approximately one recurrence of active toxoplasmosis retinitis can be expected, but some people have much more frequent recurrences. Patients should be aware of new floaters and see their ophthalmologist promptly, so that antibiotic therapy may be started if needed.

## Treatment of Attacks of Retinochoroiditis and Uveitis

Most ophthalmologists treat toxoplasmosis retinochoroiditis with antibiotics. A minority of doctors simply monitor the patient's course, expecting a spontaneous resolution of reactivations and primary infections through the patient's own immune system. Commonly used antibiotics include clindamycin, sulfadiazine, pyrimethamine, and azithromycin. Perhaps 20% of patients must have their antibiotics switched because of side effects of the drugs, varying from diarrhea to rash or fever. Occasionally cortisone or its cousin drugs are given to control excessive inflammation. Drops may be required to dilate the pupil to prevent scarring or to keep the eye

pressure down. Treatment can be prolonged, averaging 6 to 8 weeks in a typical case, and sometimes much longer in patients with weakened immunity.

## Special Groups with Increased Susceptibility

Very old patients, patients with cancer, patients with AIDS, and patients taking medications that impair immunity may require ongoing antibiotic therapy to prevent recurrences.

## Final Comments

Toxoplasmosis retinochoroiditis causes approximately one third of all inflammatory disease of the retina. It can be effectively treated if caught early, but can be a blinding infection if ignored. Prevention is possible through good hand washing practices, washing fresh vegetables, and cooking meat thoroughly. Pregnant women should avoid handling cat litter and should be especially careful about hand washing before eating.

If you have questions after reading this brochure, more in-depth research on your own is possible through the PubMed website of the National Library of Medicine, <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>. You can also submit a question online at the home page (click on Contact) of my website [www.retinareference.com](http://www.retinareference.com).

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## Reference List

- (1) Kovacevic-Pavicevic D, Radosavljevic A, Ilic A, et al. Clinical patterns of ocular toxoplasmosis treated in a referral centre in Serbia. *Eye* 2012; 26:723-728.