Toxoplasmosis
Summary

- People become infected with *Toxoplasma gondii* parasites through contact with infected animal faeces (usually cat faeces).
- A healthy person does not require treatment for toxoplasmosis, as symptoms are mild and usually disappear within a few weeks.
- Pregnant women and people who have compromised immune systems should take precautions against toxoplasmosis.
- A pregnant woman is advised to avoid contact with cats, as her unborn child is at increased risk of birth defects if parasites cross the placenta.

Toxoplasmosis is an infection caused by a parasite known as *Toxoplasma gondii* (*T. gondii*). This single-celled organism is commonly found throughout the world and tends to infect birds and mammals. The parasite forms egg-like structures called oocysts. These must be ingested by mouth, which means the infection cannot be transferred from person to person.

Humans become infected with the toxoplasmosis parasite through contact with infected animal faeces (poo). Cats are the main hosts. They acquire *T. gondii* from eating infected rodents or birds and then may pass the infection to their human handlers.

Another way of catching this infection is touching or eating raw or undercooked lamb, pork or kangaroo meat. The parasites can be stored in small pockets (cysts) in the muscle tissue of these meats. Drinking contaminated unpasteurised milk can also cause infection with toxoplasmosis parasites.

Symptoms of toxoplasmosis

In most cases of animal and human infection, toxoplasmosis does not cause any symptoms. The only evidence of infection is detection of antibodies in the blood against the toxoplasmosis parasite.

Symptoms, if they do occur, include:

- Swollen lymph glands, especially around the neck
- Muscle aches and pains
- Headache
- Fever
- Generally feeling unwell
- Inflammation of the lungs
- Inflammation of the heart muscle
- Inflammation of the eye, for example, the retina (at the back of the eye).

Duration of infection with *T. gondii*

The toxoplasmosis parasite can cause a long-term infection. Following infection, a small number of parasites can remain locked inside cysts within certain parts of the body, such as the brain, lungs and muscle tissue.

Under normal circumstances, the immune system will easily destroy any parasites that escape these cysts, but a person with lowered immunity may not be able to fend off an attack. The parasites can greatly increase in number and cause a variety of serious illnesses, including infection of the brain.

Effects of toxoplasmosis on unborn babies

If newborn babies are infected, at worst, they will only suffer from mild illness. However, toxoplasmosis in pregnancy can expose babies in the womb to the parasite and this is potentially more serious. If a woman contracts toxoplasmosis for the first time while pregnant, the parasites may affect the baby through the placenta.

Most unborn babies aren’t affected at all, but a minority may be harmed by infection. Effects of toxoplasmosis on unborn babies can include:

- Skin rashes
- Nervous system damage
- Mental retardation
- Cerebral calcification (hardening of brain tissue)
- Liver damage
- Eye problems
- Fetal death (in rare cases).

Precautions against toxoplasmosis
Pregnant women and people who have compromised immune systems should take precautions against toxoplasmosis. If a woman is infected before she becomes pregnant, then her immune system will attack the parasite and make it harmless. Problems only occur if a woman becomes infected for the first time while pregnant.

A pregnant woman and people with compromised immune systems can take simple precautions to reduce the risk of infection with the parasite. These include:

- Wash hands after handling raw meat.
- Cook meat (including kangaroo meat) thoroughly until the juices run clear.
- Do not eat rare or medium-rare meat dishes.
- Wash vegetables to remove any traces of soil.
- Wash hands thoroughly before eating.
- Immediately wash cutting boards, knives and any other implements that have come into contact with raw meat.
- Wear gloves while gardening.
- Avoid contact with cats.
- Get someone else to handle litter trays.
- Make sure litter trays are cleaned daily.

Toxoplasmosis in cats and sandpits

The infectious oocysts are robust and hardy. They can survive in water, soil or sand for around 12 months. Young children who play in sandpits and gardens may be at risk if they come into contact with infected cat faeces. Precautions include:

- Make sure your child’s sandpit can be covered when not in use.
- Discourage stray cats from your property.
- Ask your child to always wash their hands thoroughly before eating.

Precautions against toxoplasmosis for your household cat

Cats are only infectious for a few weeks after ingesting the parasites and kittens are more likely to pass on the infection than older cats. Suggestions on reducing the risk of infection in your cat include:

- Keep your cat indoors whenever possible.
- Don’t allow the cat to hunt and eat birds or other wildlife.
- Feed your cat canned or dry foods, instead of raw meat (including kangaroo meat).

Treatment for toxoplasmosis

Treatment of toxoplasmosis is often unnecessary. The infection is diagnosed with a simple blood test that checks for the presence of specific antibodies. A healthy person who is not pregnant and becomes infected does not require treatment. Symptoms, if any, are usually mild and disappear after a few weeks.

For pregnant women and those with compromised immune systems, such as those in the later stages of human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS), medications including antibiotics may be prescribed.

Where to get help

- Your doctor

Things to remember

- People become infected with Toxoplasma gondii parasites through contact with infected animal faeces (usually cat faeces).
- A healthy person does not require treatment for toxoplasmosis, as symptoms are mild and usually disappear within a few weeks.
- Pregnant women and people who have compromised immune systems should take precautions against toxoplasmosis.
- A pregnant woman is advised to avoid contact with cats, as her unborn child is at increased risk of birth defects if parasites cross the placenta.

References

- Parasites - Toxoplasmosis (Toxoplasma infection). Centers for Disease Control and Prevention, USA. More information here.
- Toxoplasmosis, Child and Youth Health, South Australia. More information here.

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More information

Birth defects

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- Birth defects explained
- Birth defect conditions
- Birth defect risks
- Birth defects screening and protection

Birth defects explained
Birth defects explained

The cause of birth defects is often unknown, speak to your GP if you are at increased risk of having a baby with a congenital anomaly.

Disease clusters

Disease clusters are rare but can cause community concern about the possible effects of exposure to environmental hazards.

Birth defect conditions

- **Abdominal birth defects**
  
  During fetal development, the diaphragm or abdominal wall may fail to properly fuse, allowing the abdominal organs to protrude.

- **Ambiguous genitalia**
  
  The causes of ambiguous genitalia include genetic variations, hormonal imbalances and malformations of the fetal tissues that are supposed to evolve into genitals.

- **Autism spectrum disorder (ASD)**
  
  ASD is a complex disorder that affects a person's ability to interact with the world around them.

- **Cleft palate and cleft lip**
  
  Most cleft palates and cleft lips can be repaired so that appearance and speech develop normally.

- **Congenital adrenal hyperplasia (CAH)**
  
  CAH is a rare genetic disorder, but it is well understood and treatment is readily available.

- **Cri du chat syndrome**
  
  Most children born with cri du chat syndrome have moderate intellectual disability, with varying degrees of speech delay and some health problems.

- **Developmental dysplasia of the hip (DDH)**
  
  Around 95 per cent of babies born with developmental dysplasia of the hip can be successfully treated.

- **Digestive tract birth defects**
  
  Too much amniotic fluid surrounding the baby during pregnancy (polyhydramnios) may indicate the presence of defects of the digestive tract.

- **Down syndrome**
  
  With the support and opportunities available to them today, most people with Down syndrome are able to achieve and participate as valued members of their community.

- **Dwarfism**
  
  Dwarfism refers to a group of conditions characterised by shorter than normal skeletal growth.

- **Fetal alcohol spectrum disorder (FASD)**
  
  The World Health Organization recommends that pregnant women should avoid alcohol.

- **Fragile X syndrome**
  
  The facts about fragile X syndrome are complicated, and parents and family members are invited to ask their doctor to refer them to a genetics clinic.

- **Haemophilia**
  
  All children with severe haemophilia are given preventative treatment with infusions of blood products before they have a bleed.

- **Heart abnormality birth defects**
  
  Some congenital heart defects are mild and cause no significant disturbance to the way the heart functions.

- **Kabuki syndrome**
  
  Kabuki syndrome affects males and females equally and there is no cure.

- **Neurofibromatosis**
  
  Neurofibromatosis is caused by faulty genes, which may be inherited or have spontaneously mutated at conception.

- **Noonan syndrome**
  
  Noonan syndrome is a genetic condition that usually includes heart abnormalities and characteristic facial features.

- **Phenylketonuria (PKU)**

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PKU is an inherited disorder that prevents the normal breakdown of a protein found in some foods.

- **Prader-Willi syndrome**
  A feature of Prader-Willi syndrome is the child's excessive appetite, which often leads to obesity.

- **Spina bifida**
  Folate can prevent up to 70 per cent of spina bifida cases if taken daily for one month before conception and during the first three months of pregnancy.

- **Syringomyelia**
  Syringomyelia is the growth of a cyst in the spinal cord that may result in paraplegia or quadriplegia if not treated.

- **Tay-Sachs disease**
  Tay-Sachs disease is a serious genetic disorder common in Ashkenazi Jews and French-Canadians.

- **Thalassaemia**
  Thalassaemia is an inherited blood disorder that can cause anaemia or death if not treated.

- **Trisomy disorders**
  Children affected by trisomy usually have a range of birth defects, including delayed development and intellectual disabilities.

- **Urinary system birth defects**
  Common birth defects of the urinary system include hypospadias, obstructive defects of the renal pelvis and renal agenesis.

- **Williams syndrome**
  Williams syndrome often goes undiagnosed, which means that some people with the disorder fail to get the support and treatment they need until later in life.

### Birth defect risks

- **Fetal alcohol spectrum disorder (FASD)**
  The World Health Organization recommends that pregnant women should avoid alcohol.

- **Rubella**
  Rubella is a mild illness for most people, but very dangerous for pregnant women and their babies.

- **Toxoplasmosis**
  Problems only occur if a woman becomes infected with parasites that cause toxoplasmosis for the first time while pregnant.

### Birth defects screening and protection

- **Egg freezing**
  You can freeze your eggs for medical reasons or for reasons that are more to do with your life circumstances.

- **Folate for pregnant women**
  Even women who aren’t planning to have a baby should increase their folate intake in case of unplanned pregnancy.

- **Genetic services in Victoria**
  Genetic services can help people who are affected by, or who are at risk of, inherited conditions or birth defects, to make informed choices about their healthcare.

- **Immunisation and pregnancy**
  Immunisation can protect a woman and her unborn baby against many infectious diseases.

- **Newborn bloodspot screening**
  Every newborn baby in Australia is offered a newborn bloodspot screening test to identify those at risk of rare, but serious, medical conditions.

- **Pregnancy tests – chorionic villus sampling**
  Chorionic villus sampling (CVS) is a pregnancy test that checks the baby for some abnormalities.

- **Pregnancy tests - maternal serum screening**
  Maternal serum screening can indicate increased risk of abnormalities in the unborn child, but is not a diagnosis.
Pregnancy tests - ultrasound

Ultrasound is used during pregnancy to check the baby’s development and to help pick up any abnormalities.

Related Information

- Bird flu (avian influenza)
  The symptoms of bird flu in humans are similar to those of regular influenza.

- Flu (influenza)
  Influenza (the flu) is caused by a virus. The flu is more than just a bad cold and can occasionally lead to serious complications, including death. Specific antiviral medication is available. It is...

- Hendra virus
  The best defence against Hendra virus is to avoid contact with an infected horse.

- Anthrax
  Anthrax is a rare but potentially fatal bacterial disease that occasionally infects humans.

- Malaria
  Travellers who visit malarial locations should avoid mosquito bites and take anti-malarial drugs.

Home

Related information on other websites

- Centers for Disease Control and Prevention, USA.
- Child and Youth Health, South Australia.
- Victorian Department of Health.

Content Partner

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