Toxoplasmosis

This sheet is about exposure to toxoplasmosis in pregnancy and while breastfeeding. This information is based on available research studies. It should not take the place of medical care and advice from your healthcare provider.

What is toxoplasmosis?

Toxoplasmosis is an infection caused by the parasite *Toxoplasma gondii*. *Toxoplasma gondii* can be found in raw or undercooked meat, raw eggs, and unpasteurized (raw) milk. Rodents or cats that eat raw meat can get infected. Once infected, the animal can shed the parasite in the feces (poop) for up to 2 weeks. *Toxoplasma gondii* eggs can live in cat feces or be buried in soil for up to 18 months.

People can get toxoplasmosis by eating infected meat that has not been cooked properly, drinking water that is contaminated, or handling soil or cat feces that contain the parasite. Some studies suggest that toxoplasmosis can be passed to a partner during unprotected sex, including oral sex. People who have recently gotten a cat or have outdoor cats, eat undercooked meat, gardens without gloves, or who have had a recent mononucleosis-type illness have an increased chance of getting toxoplasmosis.

Most adults who are infected with toxoplasmosis have no symptoms. Some people might have swelling of the lymph nodes, fever, headache, or muscle pain. In most cases, once you have gotten toxoplasmosis, you cannot get it again. However, there have been reports of people who have been infected more than 1 time. For example, people with a weakened immune system could develop another active toxoplasmosis infection.

How can I find out if I am infected with toxoplasmosis?

Blood tests can be used to diagnose toxoplasmosis infections. Talk with your healthcare provider about your risk for toxoplasmosis and available screening, testing, and treatment options.

What are some things I can do to lower the chance of a toxoplasmosis infection?

- Cook meat until it is no longer pink, and the juices run clear. Use a food thermometer to measure the internal (inside) temperature to make sure the meat is cooked all the way through. A detailed list of temperatures and foods can be found here: https://www.foodsafety.gov/food-safety-charts/safe-minimum-internal-temperatures.
- Freeze meat for several days at sub-zero (below 0° F/-18°C) temperatures before cooking to greatly lower the chance of infection.
- Do not eat raw or undercooked oysters, mussels, or clams.
- Wash cutting boards, dishes, counters, and utensils with hot soapy water after any contact with raw meat, seafood, or unwashed fruits or vegetables.
- Wash hands carefully after handling raw meat, fruits, and vegetables.
- Wash all fruits and vegetables. Peeling fruits and vegetables also helps to lower the chance of exposure.
- Avoid drinking untreated water.
- Do not drink unpasteurized milk.

- Wear gloves when gardening and during contact with soil or sand. Wash hands with soap and water after gardening or contact with soil or sand.
- Do not touch cat feces directly; wear gloves if you change cat litter & immediately wash hands.
- Do not feed cats raw or undercooked meat.
- Avoid stray cats, especially kittens.
- Keep outdoor sandboxes covered.

I had toxoplasmosis in the past. Can that increase the chance of birth defects or other pregnancy-related problems?

If you had toxoplasmosis in the past, you are likely immune. In general, increased risks to a pregnancy are not expected when someone is infected with toxoplasmosis for more than 6 months before getting pregnant.

Does having toxoplasmosis make it harder to get pregnant?

It is not known if having toxoplasmosis can make it harder to get pregnant. However, 1 study reported that toxoplasmosis might cause diminished ovarian reserve (the ovaries have fewer eggs than expected for a woman's age), which could make it harder to get pregnant.

Does having toxoplasmosis increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. Having toxoplasmosis can increase the chance of miscarriage.

Does having toxoplasmosis increase the chance of birth defects?

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. We look at research studies to try to understand if an exposure, like toxoplasmosis, can increase the chance of birth defects in a pregnancy.

Toxoplasmosis infection can be passed to the fetus when there is an active infection during the pregnancy. When a pregnant woman passes an infection to the fetus, it is called vertical transmission. Vertical transmission can happen at any time in pregnancy but is more likely to happen when someone gets the infection closer to delivery.

If vertical transmission does happen in the pregnancy, the fetus has an increased chance of certain birth defects and developmental problems known as "congenital toxoplasmosis". Some infants with congenital toxoplasmosis can have problems with the brain, eyes, heart, kidneys, blood, liver, or spleen. Hearing loss has also been reported. When the infection starts during the first trimester, the fetus has a higher chance of these problems.

Does having toxoplasmosis increase the chance of other pregnancy-related problems?

Toxoplasmosis might increase the chance of pregnancy-related problems such as preterm delivery (birth before week 37), low birth weight (weighing less than 5 pounds, 8 ounces [2500 grams] at birth), small for gestational age, or preeclampsia. Preeclampsia is pregnancy related condition that can cause high blood pressure and problems with organs, such as the kidneys, which can lead to seizures (called eclampsia). An increased chance of stillbirth has also been reported in women with active toxoplasmosis infection during pregnancy. When toxoplasmosis infection starts late in pregnancy, the chance that the fetus will have these problems is lower. However, the chance of passing the infection to the fetus is higher when infection happens later in pregnancy.

Does having toxoplasmosis in pregnancy affect future behavior or learning for the child?

Infants with congenital toxoplasmosis (up to 90%) can develop problems over time, such as vision loss, seizures, hearing loss, or developmental delays. These symptoms can occur months or years after birth. Infants with congenital toxoplasmosis should be treated for infection during their 1st year of life and then be checked regularly for health problems. Your healthcare team can talk with you about what screenings, tests, and treatments are right for your baby.

What screenings or tests are available to see if my pregnancy has birth defects or other issues?

Prenatal ultrasounds can be used to screen for some birth defects, such as changes in brain structure (calcifications) and bowel (echogenic bowel) or extra fluid in the body. Ultrasound can also be used to watch the growth of the pregnancy. If toxoplasmosis infection is suspected in a fetus, the fluid in the uterus around the fetus (amniotic fluid) can be tested. This requires a procedure called an amniocentesis to remove a small amount of fluid. Talk with your healthcare provider about these or any other prenatal screenings or testing that are available to you. There are no tests available during pregnancy that can tell how much effect there could be on future behavior or learning.

Breastfeeding while I have toxoplasmosis:

Toxoplasma gondii passes into breast milk. The Centers for Disease Control and Prevention (CDC) recommends that women with an active toxoplasmosis infection continue to breastfeed unless they have broken skin or bleeding in the nipple area. If you suspect the baby has any symptoms (fever or flu-like symptoms), contact the child's healthcare provider. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man has toxoplasmosis, can it affect fertility or increase the chance of birth defects?

Toxoplasmosis might affect male fertility (ability to make healthy sperm). Some studies suggest that toxoplasmosis can be passed to a partner during unprotected sex, including oral sex. In a woman who is pregnant, an active toxoplasmosis infection can increase risks to the pregnancy. Talk with your healthcare provider if you have had sexual contact with someone who has toxoplasmosis. For more information on paternal exposures, please see the MotherToBaby fact sheet at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here for references.

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