Teratogens, Toxoplasmosis, Listeriosis and Environmental/Work Hazards during Pregnancy, a healthy guide

What is a teratogen?

A teratogen is an agent, which can cause a birth defect. It is usually something in the environment that the mother may be exposed to during her pregnancy. It could be a prescribed medication, a street drug, alcohol use, or a disease present in the mother which could increase the chance for the baby to be born with a birth defect. About 4 to 5 percent of birth defects are caused by exposure to a teratogen.

Examples of Teratogens: Fetal Alcohol Syndrome, Pesticides, Varicella (chicken pox)

What are the most sensitive periods for teratogens in pregnancy?

Teratogens are thought to have the ability to affect the fetus about 10 to 14 days after conception. During the development of a baby, there are certain organs forming at certain times. If a teratogen has the potential to interfere with the closure of the neural tube, for example, the exposure to the teratogen must occur in the first 3.5 to 4.5 weeks of the pregnancy.

What is toxoplasmosis?

Toxoplasmosis is an infection caused by a single-celled parasite named Toxoplasma gondii. Although many people may have Toxoplasma infection, very few have symptoms because the immune system usually keeps the parasite from causing illness. Babies who became infected before birth can be born with serious mental or physical problems. Toxoplasmosis often causes flu-like symptoms, swollen lymph glands, or muscle aches and pains that last for a few days to several weeks. Mothers can be tested to see if they have developed an antibody to the illness. Fetal testing may include ultrasound, and/or testing of amniotic fluid or cord blood. Treatment may include antibiotics.

How do I prevent toxoplasmosis?

The Centers for Disease Control and Prevention (CDC) recommends the following measures to help prevent toxoplasmosis infection:

- Wear gloves when you garden or do anything outdoors that involves handling soil. Cats, that may pass the parasite in their feces, often use gardens and sandboxes as litter boxes. Wash your hands well with soap and warm water after outdoor activities, especially before you eat or prepare any food.

- Have someone who is healthy and not pregnant change your cat's litter box. If this is not possible, wear gloves and clean the litter box daily (the parasite found in cat feces can only infect you a few days after being passed). Wash your hands well with soap and warm water afterwards.
- Have someone who is healthy and not pregnant handle raw meat for you. If this is not possible, wear clean, latex gloves when you touch raw meat and wash any cutting boards, sinks, knives, and other utensils that might have touched the raw meat. Wash your hands well with soap and warm water afterwards.

- Cook all meat thoroughly, that is, until it is no longer pink in the center or until the juices run clear. Do not sample meat before it is fully cooked.

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What is Listeriosis?

Listeriosis is a food-borne illness transmitted by bacteria in contaminated food. The listeria organism has been found in a variety of raw foods, such as uncooked meats and vegetables, as well as in processed foods that become contaminated after processing, such as soft cheeses and cold cuts at the deli counter. Unpasteurized (raw) milk or foods made from unpasteurized milk may contain the bacterium.

Infection occurs after eating a contaminated food. It is most common during the third trimester of pregnancy, and women often have flu-like symptoms such as fever, muscle aches, and sometimes nausea or diarrhea. The fetus and newborn are at greatest risk from the infection. Antibiotics are used to treat the infection when it is diagnosed.

Preventing Listeriosis:

The Centers for Disease Control and Prevention (CDC) recommends the following measures to help prevent listeriosis infection:

- Thoroughly cook raw food from animal sources, such as beef, pork, or poultry.
- Wash raw vegetables thoroughly before eating.
- Keep uncooked meats separate from vegetables and from cooked foods and ready-to-eat foods.
- Avoid raw (unpasteurized) milk or foods made from raw milk.
- Wash hands, knives, and cutting boards after handling uncooked foods.
- Avoid soft cheeses such as feta, Brie, Camembert, blue-veined, and Mexican-style cheese. (Hard cheeses, processed cheeses, cream cheese, cottage cheese, or yogurt need not be avoided.)
- Left-over foods or ready-to-eat foods, such as hot dogs, should be cooked until steaming hot before eating.
- Although the risk of listeriosis associated with foods from deli counters is relatively low, pregnant women may choose to avoid these foods or thoroughly reheat cold cuts before eating.
Environmental & Work Hazards

Avoid Exposure To Toxic Substance

When pregnant, it is advisable to avoid toxic substances and chemicals in our food and environment. In some cases, environmental and occupational exposure to chemicals or toxins may affect the developing fetus in pregnant women.

There is considerable controversy about the effect of toxins on fertility and pregnancy. Below is a list of the substances that are thought to present an exposure risk during conception and pregnancy. This list is lengthy, and may seem overwhelming. But, most will find that these exposure risks are infrequent and many of the safety precautions mentioned, are practices that we do on a regular basis anyway.

Always discuss concerns you have about toxic exposures with your care provider

**Lead:** Human studies indicate that exposure to lead may decrease fertility. Individuals working with paints/varnishes and auto manufacturing may be at risk.

**Medical Treatments and Materials:** Repeated exposure to sources of radiation, such as x-rays and cancer treatments (e.g., chemotherapy), has been shown to affect sperm production and contribute to ovarian problems.

**Other Environmental Factors:** Certain substances found in the chemical and waste material industries and in paper manufacturing, have been associated with a high risk of reproductive problems.

**Computers:** Although the data on the risks of computer exposure is limited it is generally recommend to limit exposure to video display terminals (VDTs) during pregnancy by:

1. using a screen cover -- available at major office supply stores
2. positioning your work space so that any other computers are at least 3-4 feet away.

If you are in the Medical field, work with pesticides, paint, cleaning chemicals or other hazardous material, discuss in greater detail your risks.