

*Pregnancy
and
Foodborne
Illness*

**You and your baby
could be at risk for
Foodborne Illness**

**Colorado
State
University**

Extension



What should I know about pregnancy and foodborne illness?

- During pregnancy, changes in hormones cause a woman's immune system to become suppressed so the baby can develop. However, this also makes it harder to fight off infections.
- The 6.5 million women who are pregnant each year in the U.S. are at increased risk for some types of foodborne illness.
- Some foodborne illnesses can cause a woman to have a miscarriage or stillbirth.

What are the signs of foodborne illness?

Foodborne illness is an illness that comes from a food you ate. You may feel like you have a mild flu. Symptoms of foodborne illness can be mild or severe and may include:

- Diarrhea
- Nausea/ vomiting
- Muscle aches
- Stomach ache
- Headache
- Fever or Chills



Can a foodborne illness be harmful to my baby?

YES! Foodborne illnesses can harm a mother AND her baby. In fact, they can be more harmful to the baby. When a woman gets sick, it depletes her body and the baby of important nutrients. Also, some pathogens can be passed from the mother to the fetus across the placenta. This can have serious effects for the baby such as miscarriage, stillbirth or health problems after birth, including eye and/ or brain damage.

Which pathogens are of greatest concern during pregnancy?

- *Listeria monocytogenes*
- *Toxoplasma gondii*
- *Salmonella*
- *Campylobacter jejuni*

Pathogen 1: *Listeria monocytogenes*

Where is *Listeria* found?

Listeria monocytogenes are bacteria most often found in high protein foods that are served raw (e.g., raw milk or fish) or without reheating (e.g., deli meats, hot dogs, seafood salads).



Listeria can grow at refrigeration temperatures. If a food becomes contaminated and is stored in the refrigerator for long periods of time, a person can develop listeriosis after eating the food. Luckily, proper heating kills *Listeria*.

What is my risk of getting listeriosis?

The Centers for Disease Control and Prevention (CDC) report that pregnant women are 14 times more likely than other healthy adults to get listeriosis. About 1 in 3 cases of listeriosis occurs in pregnant women, which means over 800 pregnant women in the U.S. get listeriosis each year.

An outbreak of listeriosis in 2002 caused 23 deaths and 3 miscarriages. The contaminated food was deli turkey.

How can I prevent listeriosis?

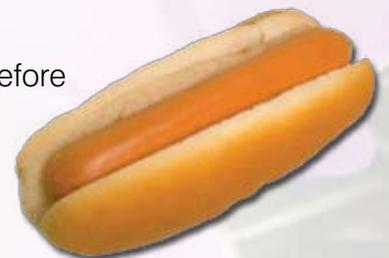
The most important way to reduce your risk of *Listeria* is to keep your refrigerator below 40°F and use perishable and ready-to-eat foods as soon as possible or within 4 days.

In addition, it's best to AVOID these foods during pregnancy:

- Raw (unpasteurized) milk, raw milk cheese and yogurt products.
- Soft cheeses made from raw milk (Feta, Brie, Camembert, blue veined cheeses, queso fresco, queso blanco and Panela).

Note: Soft, raw milk cheeses may be eaten if heated to 160°F before eating.

- Refrigerated smoked or precooked seafood such as shrimp, crab and deli seafood salads.
- Hot dogs, deli meats and pâté, unless reheated to steaming hot before serving or reformulated to prevent *Listeria*.
- Raw or undercooked seafood (e.g., sushi, sushami or ceviche).



Pathogen 2: *Toxoplasma gondii*



Where is *Toxoplasma gondii* found?

Cats are carriers of the *Toxoplasma* parasite, and can pass it to people, food or animals. It is passed through the cat litter box, but also can be present in soil contaminated with cat feces. Raw or undercooked meat is another source of the *Toxoplasma* parasite.

What is my risk of getting toxoplasmosis?

Many people have been infected with the *Toxoplasma* parasite and do not even know it! Most healthy people do not show symptoms when first exposed to this parasite. They develop a protective immunity that keeps them from getting sick in the future from *Toxoplasma*. But, if you are first exposed to *Toxoplasma* a few months before or during pregnancy, you and your baby are at risk of becoming infected with toxoplasmosis. You may experience mild symptoms like fever, rash and weakness, or you may not have any symptoms.

It is estimated that 400 to 6,000 babies are infected each year with *T. gondii* because their mothers acquired the infection during pregnancy.

Infection of the mother can result in death of the baby or health problems later in life like eye and/ or brain damage.

How can I prevent toxoplasmosis?

Follow these tips to keep you and your baby safe from toxoplasmosis:

- Use a thermometer to make sure meat and poultry (including ground meats) are cooked to safe temperatures.
- Wash hands often, especially after handling pets and working in the garden.
- Have another family member clean the cat litter box.
- Clean kitchen counters before preparing food, in case your pet has been climbing on them!

Pathogen 3: Salmonella and Campylobacter jejuni

Why are Salmonella and Campylobacter grouped together?

These bacteria are grouped together because both are found in the intestinal tracts of animals and are sources of foodborne illness with fever. Together, they cause nearly 5 million cases of foodborne illness each year in the U.S.

Where are Salmonella and Campylobacter found?

Both pathogens are commonly associated with raw (unpasteurized) milk, raw milk products, and raw or undercooked meat and poultry. *Salmonella* is also associated with raw or undercooked eggs and raw sprouts. Both pathogens may end up in salads and other foods through cross-contamination.

What is my risk of getting infection?

While pregnant women aren't at higher risk than other adults for becoming ill with these pathogens, severe infections with *Campylobacter jejuni* or *Salmonella*, may be passed to the fetus and cause abortion, stillbirth or premature labor.

How can I prevent salmonellosis and campylobacteriosis?

Follow these tips to keep from getting sick from these bacteria:

- Avoid eating raw or undercooked eggs.
- Use only pasteurized milk, cheese and yogurt.
- Use only pasteurized fruit juices.
- Use a food thermometer to make sure meat and poultry (including ground meats) are cooked to safe endpoint temperatures.
- Avoid eating raw sprouts (alfalfa, clover, radish and broccoli)
- Thoroughly rinse fresh fruits and vegetables under running water before eating.



What else can I do to keep my food safe?

Step 1: Practice Personal Cleanliness

- Wash hands well with soap and warm running water before handling food, after using the toilet, after changing a baby's diaper, or after touching animals.

Step 2: Avoid Cross-Contamination



- Wash knives, cutting boards and food preparation areas with hot, soapy water after touching raw poultry, meat and seafood.
- Wash hands with soap and warm water after handling foods.
 - Thoroughly rinse fresh fruits and vegetables under running water before eating.
 - Keep cooked and ready-to-eat foods separate from raw meat, poultry, seafood and their juices.

Cross-contaminate = Spreading bacteria from one food or a surface to another

Step 3: Cook Foods Adequately

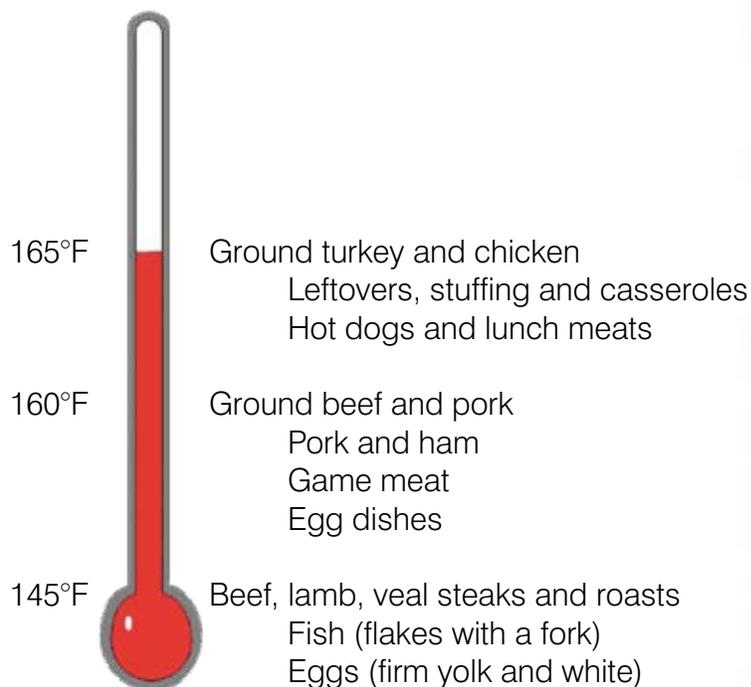
- Use a food thermometer to make sure meat and poultry, including ground meats are cooked to safe endpoint temperatures.
- Place the tip of the thermometer in the middle of the thickest part of what you are cooking. Give it a few seconds to register the temperature. When you test the temperature of a hamburger, lift it out of the pan on a spatula and insert the thermometer from the side.
- Use a thermometer to make sure leftovers are reheated to 165°F.
- Cook shellfish until the shell opens and the flesh is fully cooked; cook fish until the flesh is firm and flakes easily with a fork or to 145°F.



Step 4: Keep Foods at Safe Temperatures

- Store all perishable foods at or below 40°F. Use a refrigerator thermometer to make sure your refrigerator is between 35 to 40°F.
- Store eggs and other perishable foods in the refrigerator.
- Use perishable foods that are precooked or ready-to-eat as soon as possible. If you can't eat the food within four days, it's best to freeze or discard it.

Food Thermometers Can Help You Determine the Safe Endpoint Cooking Temperature



Important Terms to Understand

Pathogens: Organisms (bacteria, viruses or parasites) so small they cannot be seen by the naked eye. Pathogens can cause illness in humans.

Listeriosis: The illness caused by the bacteria, *Listeria monocytogenes*.

Toxoplasmosis: The illness caused by the parasite, *Toxoplasma gondii*.

Salmonellosis: The illness caused by the bacteria, *Salmonella* species.

Campylobacteriosis: The illness caused by the bacteria, *Campylobacter jejuni*.

Pasteurized: Heat treated to kill harmful bacteria.

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