



FOOD-BORNE RISKS IN PREGNANCY

Introduction

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When a pregnant woman eats well, she helps ensure that her baby gets all the nutrients needed for healthy development. A healthy, well-balanced diet includes protein foods (meats, poultry, fish, beans, eggs); grains (cereals, bread, pasta, rice); dairy products (milk, cheese); fruits and vegetables. Most of these foods are safe and should be part of a healthy pregnancy diet. However, there are a few foods including certain fish, some soft cheeses, ready-to-eat meats and raw sprouts that may pose risks during pregnancy. A pregnant woman should be aware of these risks, so she can choose the safest foods to nourish herself and her baby.

What fish are unsafe to eat during pregnancy?

Most fish in grocery stores and restaurants are safe to eat during pregnancy. Fish provides plenty of protein and some vitamins and is low in fat. For these reasons, most types of fish are good choices for a healthy diet.

However, the Food and Drug Administration (FDA) recommends that ***pregnant women and women who could become pregnant not eat shark, swordfish, king mackerel and tilefish. Women also should avoid these fish while breastfeeding and should not feed them to children under age 6.*** These fish may contain enough mercury to harm an unborn baby's or young child's developing nervous system, leading to delays in learning to walk or talk and impairments in fine motor skills. Mercury is a metal that is present naturally in the environment. Mercury from natural and man-made sources (such as coal-burning or other industrial pollution) is converted by bacteria to a more dangerous form (methylmercury) that accumulates in the fatty tissues of fish. While trace amounts of mercury are present in many types of fish, it becomes most concentrated in large predatory fish such as swordfish and sharks. Some experts say that because fresh tuna (used for tuna steaks and sushi) may contain significant amounts of mercury, it also should be off the menu for pregnant women. Canned tuna, which is made from smaller fish, contains less mercury. In July 2002, an FDA Food Advisory Committee recommended that the FDA advise pregnant women to limit intake of canned tuna to 12 ounces per week, or 6 ounces if they also eat other kinds of fish.

A woman who is pregnant or who could become pregnant ***should not consume any game fish (fish caught by friends or family) without checking with her state or local health department*** or the Environmental Protection Agency to find out which fish from local waters is safe to eat. Game fish (including bluefish, striped bass, salmon, trout and northern and walleyed pike) may be contaminated by mercury and other industrial pollutants such as PCBs (polychlorinated biphenyls). Some studies suggest that heavy prenatal exposure to PCBs may contribute to learning problems, decreased IQ and reduced birth weight.

According to the FDA, pregnant women can safely eat up to 12 ounces of cooked fish a week (a typical serving is 3 to 6 ounces), as long as they choose from fish other than those for which specific warnings exist. It is best to eat a variety of different types of fish. All fish should be thoroughly cooked to kill any disease-causing bacteria or parasites. Thoroughly cooked fish is opaque and flakes easily with a fork.

A pregnant woman should avoid sushi and other shellfish (oysters, clams) that can be polluted with raw sewage and, can contain harmful microorganisms that can lead to severe gastrointestinal illness.



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What risks do soft cheese and ready-to-eat meats impose?

Certain ***soft cheeses, ready-to-eat meats (including packaged luncheon, meats and deli meats) and unpasteurized milk (and products made from it) can cause a form of food poisoning called listeriosis.***

Listeriosis results from contamination by a bacterium (*Listeria monocytogenes*) and is especially dangerous during pregnancy. When a pregnant woman is infected with listeriosis, she may have a miscarriage, premature delivery or stillbirth, or her newborn baby may become seriously ill and may die. Most people do not become ill when they eat listeria-contaminated foods. However, pregnant women are 20 times more likely than other healthy adults to get listeriosis and more likely to become dangerously ill from it.

Listeriosis often starts with a flu-like illness with fever, muscle aches, chills and, sometimes, nausea or diarrhea. However, it can progress to a potentially life-threatening meningitis (infection of the membranes covering the brain, with symptoms such as severe headache and stiff neck) and blood infection. A pregnant woman should contact her doctor if she develops any of these symptoms. A blood test can show if she has listeriosis. If she does, she can be treated with antibiotics that sometimes prevent fetal infections that could result in miscarriage and stillbirth.

A pregnant woman can help protect herself and her baby from listeriosis by following these guidelines from the FDA:

- ***Do not eat hot dogs or luncheon meats (including deli meats such as ham, turkey, salami, bologna) unless they are reheated until steaming hot.***
- ***Avoid soft cheeses such as feta, brie, Camembert, Roquefort, blue-veined or Mexican-style. (Hard cheeses, processed cheeses and cream and cottage cheeses are safe.)***
- ***Do not eat refrigerated pates or meat spreads. Listeria thrives at refrigerator temperatures. (Canned and shelf-stable versions are safe.)***
- ***Avoid refrigerated smoked seafood unless it has been cooked (as in a casserole). Canned and shelf-stable versions can be eaten safely.***
- ***Do not consume unpasteurized milk or foods made from it. The FDA requires unpasteurized foods to carry a label.***

Is it safe to consume raw sprouts and unpasteurized juices?

Raw vegetable sprouts (including alfalfa, clover and radish) and fresh, unpasteurized, fruit and vegetable juices are loaded with vitamins. Unfortunately, they can carry disease-causing bacteria, making them unsafe choices for pregnant women. In recent years, these products have been linked with food poisoning caused by salmonella and *E. coli* (including the dangerous *E. coli* O157, which can cause kidney failure and death in children). In healthy adults, salmonellosis and *E. coli* infections generally cause diarrhea, nausea, abdominal cramping and fever that lasts for several days. However, pregnant women can sometimes become seriously ill from these infections. Occasionally, a pregnant woman can pass a salmonella or *E. coli* infection on to her unborn baby, who can develop diarrhea, fever and, less frequently, meningitis after birth.

A pregnant woman should drink only pasteurized juices. Check the label: the FDA requires that packaged, unpasteurized juices carry a label stating that they are not pasteurized.



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Is it risky to eat undercooked meat, poultry, or eggs during pregnancy?

Lean meats, poultry and eggs are rich in protein and the same vitamins and are an important part of a healthy diet. However, ***pregnant women should avoid eating raw or undercooked meats, poultry and eggs because they can increase their risk of a number of food-borne illnesses*** (including listeriosis, E. coli infection, salmonellosis and toxoplasmosis).

Toxoplasmosis is a parasitic infection that often causes no symptoms or only mild flu-like symptoms. However, if a pregnant woman contracts it, there is about a 40 percent chance she will pass it on to her unborn baby. Some affected babies develop vision and hearing loss, mental retardation, seizures and other problems. When toxoplasmosis is diagnosed during pregnancy, antibiotic treatment often can help reduce the severity of symptoms in the newborn. (Another common cause of toxoplasmosis is contact with cat feces and dirt. A pregnant woman always should have someone else clean the litter box and wear gloves when gardening.)

Pregnant women should make sure meat and poultry are thoroughly cooked by using a meat thermometer. Ground beef should be cooked to at least 160 degrees F (at which temperature no pink is usually visible); roasts and steaks to 145° F (slightly pink in the center); and whole poultry to 180 F. Pork and lamb should be cooked until well done. Eggs, which can be contaminated with salmonella, should be cooked until both the yolk and white are firm. Pregnant women should avoid foods made with raw or partially cooked eggs, like eggnog and hollandaise sauce.

What safe food handling practices can prevent food poisoning?

Everyone should be careful to avoid contamination when handling and preparing food, and this is especially important for pregnant women. The FDA recommends that individuals wash their hands with hot soapy water before and after handling food. Also wash cutting boards, other work surfaces and utensils with soap and hot water after contact with raw meat, poultry or fish. These foods should always be kept separate from cooked or ready-to-eat foods. Always wash fruits and vegetables with warm water before eating, and remove surface dirt with a scrub brush.

Refrigerate any leftovers promptly, and never eat cooked food, that has been out of the refrigerator longer than two hours. Make sure the temperature in your refrigerator is 40 F. or below, and the freezer 0 F. or below, to slow the growth of bacteria.

Should a pregnant woman eat liver?

There is some concern about consuming liver during pregnancy. ***Liver is a good source of protein and is rich in certain vitamins and minerals.*** These include the B vitamin folic acid (which helps prevent certain birth defects), iron (which helps prevent anemia) and vitamin A (needed for normal fetal growth and development). However, in the case of vitamin A, liver may contain too much of a good thing.

A 1995 study found that women who took more than 10,000 IU (international units) of vitamin A daily (nearly four times the Institute of Medicine's Allowance [RDA] of 2,565 IU for pregnant women) in the first two months of pregnancy had more than double the risk of having a baby with birth defects such as cleft lip or palate, hydrocephalus (water on the brain) or heart defects. Other studies have suggested that doses



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under 25,000 IU daily probably do not cause birth defects, but the lowest dose that can cause birth defects is unknown.

The body is able to make its own vitamin A, when needed, from substances such as beta-carotene, which is found in yellow and green vegetables. This raw material for the vitamin is considered completely safe and healthy during pregnancy. However, ***much of the vitamin A we consume is the preformed vitamin which, in excessive amounts, can cause birth defects.***

Preformed vitamin A is found in many vitamin supplements and some foods including meats, eggs, dairy products and fortified breakfast cereals. Liver is the only food that provides very high amounts of vitamin A. The amount of vitamin A found in liver varies. According to the U.S. Department of Agriculture, a 3-ounce serving of beef liver may contain 30,000 IU; chicken liver, 14,000 IU; and canned chicken pate, 724 IU. ***A pregnant woman who eats liver regularly may consume enough vitamin A to pose a risk to her baby. Though it is not proven that eating liver causes birth defects, the safest approach is for pregnant women to minimize their consumption of liver.***

A pregnant woman also should be sure that her multivitamin or prenatal supplement contains no more than the RDA of preformed vitamin A (some prenatal vitamins contain no preformed vitamin A, substituting beta-carotene or omitting vitamin A entirely), and she should not take any vitamin A supplements beyond that amount.