CDC/NCID
CENTERS FOR DISEASE CONTROL AND PREVENTION
NATIONAL CENTER FOR INFECTIOUS DISEASES

Division of Bacterial and Mycotic Diseases

Preventing Foodborne Illness: Listeriosis

Listeriosis, a serious infection caused by eating food contaminated with the bacterium *Listeria monocytogenes*, has recently become an important public health problem in the United States. The disease affects primarily pregnant women, newborns, and adults with weakened immune systems. It can be avoided by following a few simple recommendations.

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How great is the risk for listeriosis?

In the United States, an estimated 1,850 persons become seriously ill with listeriosis each year. Of these, 425 die.

At increased risk are

- Pregnant women

  They are about 20 times more likely than other healthy adults to get listeriosis. About one-third of listeriosis cases happen during pregnancy.
- Newborns

  Newborns rather than the pregnant women themselves suffer the serious effects of infection in pregnancy.
- Persons with weakened immune systems
  - Persons with cancer, diabetes, or kidney disease
  - Persons with AIDS

    They are almost 300 times more likely to get listeriosis than people with normal immune systems.
  - Persons who take gluco-corticosteroid medications
  - The elderly

Healthy adults and children occasionally get infected with *Listeria*, but they rarely become seriously ill.

How does *Listeria* get into food?

Listeria monocytogenes is found in soil and water. Vegetables can become contaminated from the soil or from manure used as fertilizer. Animals can carry the bacterium without appearing ill and can contaminate foods of animal origin such as meats and dairy products. The bacterium 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.

Persons at risk can prevent *Listeria* infection by avoiding certain high-risk foods and by handling food properly.

Listeria is killed by pasteurization, and heating procedures used to prepare ready-to-eat processed meats should be sufficient to kill the bacterium; however, unless good manufacturing practices are followed, contamination can occur after processing.

How do you get listeriosis?

You get listeriosis by eating food contaminated with *Listeria*. Babies can be born with listeriosis if their mothers eat contaminated food during pregnancy. Although healthy persons may consume

contaminated foods without becoming ill, those at increased risk for infection can probably get listeriosis after eating food contaminated with even a few bacteria. Persons at risk can prevent *Listeria* infection by avoiding certain high-risk foods and by handling food properly.

How do you know if you have listeriosis?

A person with listeriosis usually has fever, muscle aches, and sometimes gastrointestinal symptoms such as nausea or diarrhea. If infection spreads to the nervous system, symptoms such as headache, stiff neck, confusion, loss of balance, or convulsions can occur.

Infected pregnant women may experience only a mild, flu-like illness; however, infection during pregnancy can lead to premature delivery, infection of the newborn, or even stillbirth.

There is no routine screening test for susceptibility to listeriosis during pregnancy, as there is for rubella and some other congenital infections. If you have symptoms such as fever or stiff neck, consult your doctor. A blood or spinal fluid test (to cultivate the bacteria) will show if you have listeriosis. During pregnancy, a blood test is the most reliable way to find out if your symptoms are due to listeriosis.

Can listeriosis be prevented?

The general guidelines recommended for the prevention of listeriosis are similar to those used to help prevent other foodborne illnesses, such as salmonellosis.

How can you reduce your risk for listeriosis?

General recommendations:

- Cook thoroughly 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.

Recommendations for persons at high risk, such as pregnant women and persons with weakened immune systems:

In addition to the recommendations listed above

- 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.)
- Cook until steaming hot left-over foods or ready-to-eat foods, such as hot dogs, before eating.
- Although the risk for listeriosis associated with foods from deli counters is relatively low, pregnant women and immuno-supressed persons may choose to avoid these foods or to thoroughly reheat cold cuts before eating.

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Can listeriosis be treated?

When infection occurs during pregnancy, antibiotics given promptly to the pregnant woman can often prevent infection of the fetus or newborn. Babies with listeriosis receive the same antibiotics as adults, although a combination of antibiotics is often used until physicians are certain of the diagnosis. Even with prompt treatment, some infections result in death. This is particularly likely in the elderly and in persons with other serious medical problems.

What is being done?

Government agencies and the food industry have taken steps to reduce contamination of food by the *Listeria* bacterium. The Food and Drug Administration and the U. S. Department of Agriculture monitor food regularly. When a processed food is found to be contaminated, food monitoring and plant inspection are intensified, and if necessary, the implicated food is recalled.

The National Center for Infectious Diseases has been studying listeriosis in several states to measure the impact of prevention activities and recognize trends in disease occurrence. Recently, the incidence of listeriosis appears to have declined, perhaps as a result of prevention efforts by the food industry and government regulatory agencies. Further monitoring will be necessary to see if these encouraging trends continue. Early detection and reporting of outbreaks of listeriosis to local and state health departments can help to identify sources of infection and prevent more cases of the disease.

For further information on listeriosis contact

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