



# IT'S YOUR HEALTH

## Listeria and Food Safety

### The Issue

*Listeria monocytogenes* (commonly called Listeria) is a type of bacterium often found in food and elsewhere in nature. It can cause a rare but serious disease called listeriosis, especially among pregnant women, the elderly or individuals with a weakened immune system. In serious cases it can lead to brain infection and even death.

### The Health Risks of Listeria

Many people may be carriers of Listeria, but few will actually develop listeriosis. Those who do will likely become ill from eating food contaminated with the bacteria, often seen as an outbreak of what people would call 'food poisoning'. Symptoms may start suddenly and include:

- Vomiting
- Nausea
- Cramps

- Diarrhea
- Severe Headache
- Constipation
- Persistent fever

In some instances, these symptoms may be followed by meningitis encephalitis (an infection of the brain or its surrounding tissues) and/or septicemia (blood poisoning), either of which can result in death.

The mild form of foodborne listeriosis usually begins about one day after eating heavily contaminated food. For the more serious form of the disease, the incubation period is generally much longer – up to 90 days after exposure.

Those who are at the highest risk of serious illness include:

- **Pregnant women and their unborn/newborn children.** Pregnant women are about 20 times more likely to get listeriosis than other healthy adults. If a pregnant woman develops listeriosis during the first three months of her pregnancy, she may miscarry. Up to two weeks before a miscarriage, pregnant women may experience a mild flu-like illness with chills, fatigue, headache as well as muscular and joint pain. Listeriosis later on in the pregnancy can result in a stillbirth or the birth of an acutely-ill child.



- **The elderly.** The risk increases with age.
- **People with weakened immune systems**, such as those undergoing chemotherapy, transplant patients, those with HIV, diabetics and alcoholics. The highest risk group includes those whose immune systems are highly compromised, such as bone marrow transplant patients, blood-borne cancer patients and those with full-blown AIDS. People with AIDS are at least 300 times more likely to get listeriosis than those with a normal immune system.

The disease can be effectively treated with antibiotics, but early diagnosis can be critical to the success of the treatment, especially for those at high risk. At the moment, there is no vaccine to prevent listeriosis.

## Minimizing Your Risk

You can minimize your chances of contracting listeriosis (as well as other foodborne illnesses) by following these steps.

- Read and follow all package labels and instructions on food preparation and storage.



- After handling foods in the kitchen, especially raw foods such as meat and fish, thoroughly clean and sanitize all surfaces used for food preparation with a kitchen sanitizer (following the directions on the container) or use a bleach solution (5 ml household bleach to 750 ml of water), and rinse with water.

- To avoid cross-contamination, clean all knives, cutting boards and utensils used with raw food before using them again.
- Thoroughly clean fruits and vegetables before you eat them.
- Refrigerate or freeze perishable food, prepared food and leftovers within two hours.
- Defrost food in the refrigerator, in cold water or in the microwave, but never at room temperature.



- Keep leftovers for a maximum of 4 days, preferably only 2 – 3 days, and reheat them to an internal temperature of 74°C (165°F) before eating them.
- Check the temperature in your refrigerator using a thermometer to make sure it is at 4°C (40°F) or below. As the storage temperature increases, so does the growth of *Listeria* in foods. The higher the number of bacteria in foods, the greater is the risk of getting sick.
- Frequently wash and disinfect the refrigerator. The more often it is cleaned, the less chance there will be for *Listeria* to be transferred from contaminated food and surfaces to non-contaminated foods.

## Select the Safer Alternative (Always refer to the Internal Cooking Temperatures Chart )

### Type of Food

Hot dogs

### Food to Avoid

Hot dogs straight from the package without further heating.

### Safer Alternative

Hot dogs thoroughly cooked to a safe internal temperature. The middle of the hot dog should be steaming hot or 74°C (165°F)

**Tip:** To help prevent foodborne illness, avoid spreading fluid from packages onto other food, cutting boards, utensils, dishes and food preparation surfaces. Wash your hands after handling hot dogs.

### Type of Food

Deli meats

### Food to Avoid

Non-dried deli meats, such as bologna, roast beef and turkey breast.

### Safer Alternative

Dried and salted deli meats such as salami and pepperoni.  
Non-dried deli meats heated throughout to steaming hot.

### Type of Food

Egg and egg products

### Food to Avoid

Raw or lightly cooked egg or egg products, including salad dressings, cookie dough or cake batter sauces, and drinks such as homemade eggnog.

### Safer Alternative

Egg dishes thoroughly cooked to a safe internal temperature. Eggs should be cooked until the yolk is firm.

Homemade eggnog must be heated to 71°C (160°F).

**Tip:** Pasteurized egg products can be used when making uncooked food that calls for raw eggs.





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## **Type of Food**

Meat and poultry

### **Food to Avoid**

Raw or undercooked meat or poultry, such as steak tartare.

### **Safer Alternative**

Meat and poultry cooked to a safe internal temperature. (refer to the Internal Cooking Temperatures Chart)

**Tip:** To help prevent foodborne illness, remember to use a digital food thermometer to check the internal temperature.

## **Type of Food**

Seafood

### **Food to Avoid**

Raw seafood, such as sushi.

Raw oysters, clams, and mussels.

Refrigerated, smoked seafood.

### **Safer Alternative**

Seafood cooked to a safe internal temperature of 74\_C (165\_F).

Cook until the shell has opened.

Smoked seafood in cans that do not require refrigeration until after opening.

**Tip:** Refrigerated smoked seafood can be eaten safely when fully cooked to a safe internal temperature, such as in a casserole.

## **Type of Food**

Dairy products

### **Food to Avoid**

Raw or unpasteurized dairy products, including soft and semi-soft cheese, such as Brie, Camembert and blue-veined

cheese.

### **Safer Alternative**

Pasteurized dairy products, hard cheeses such as Colby, Cheddar, Swiss, and Parmesan.

## **Type of Food**

Sprouts

### **Food to Avoid**

Raw sprouts such as alfalfa, clover, radish, and mung beans.

### **Safer Alternative**

Thoroughly cooked sprouts.

## **Type of Food**

Pâtés and meat spreads

### **Food to Avoid**

Refrigerated pâtés and meat spreads.

### **Safer Alternative**

Pâtés and meat spreads sold in cans or those that do not require refrigeration until after opening.

## **Type of Food**

Fruit juice and cider

### **Food to Avoid**

Unpasteurized fruit juice and cider.

### **Safer Alternative**

Unpasteurized fruit juice and cider brought to a rolling boil and cooled.  
Pasteurized fruit juice and cider.

## **Background**

Listeria is widespread in the environment - found in soil, vegetation, water, sewage, silage and in the faeces of humans and animals. Animals and humans can carry the bacterium without knowing it.

Plants and vegetables can become contaminated with *Listeria* from the soil, water and manure-based fertilizers. Farm animals that appear healthy may also carry *Listeria* and contaminate foods such as meats and dairy products.

Unlike most bacteria, *Listeria* can survive and sometimes grow on foods being stored in the refrigerator. Moreover, foods that are contaminated with this bacterium look, smell and taste normal. *Listeria* can be killed by proper cooking procedures.

*Listeria* is more likely to cause death than other bacteria that cause food poisoning. In fact, 20 to 30 percent of foodborne listeriosis infections in high-risk individuals may be fatal. However, it should be noted that listeriosis is a relatively rare disease in Canada.

## The Government of Canada's Role

Health Canada develops food safety standards and policies to help minimize the risk of foodborne illnesses. The Canadian Food Inspection Agency (CFIA) oversees the food industry to ensure that it meets its food safety responsibilities. Health Canada, in collaboration with the CFIA, has developed a Policy on *Listeria monocytogenes* in ready-to-eat foods which includes inspection and corrective measures.

Health Canada also briefs the medical community, public health officials, the food industry and the public on matters related to listeriosis. As a founding member of the Canadian Partners for Consumer Food Safety Education, Health Canada also participates in public awareness campaigns about safe food practices.

## Need More Info?

- For more information visit Health Canada's **Food and Nutrition** web section at:  
[www.hc-sc.gc.ca/fn-an/index\\_e.html](http://www.hc-sc.gc.ca/fn-an/index_e.html)
- For more information on food safety go to the **Healthy Canadians Food Safety** web section at:  
[www.healthycanadians.gc.ca/index-eng.php](http://www.healthycanadians.gc.ca/index-eng.php)
- For more information about foodborne illnesses, visit the Public Health Agency of Canada's **Laboratory for Foodborne Zoonoses** web section at:  
[www.phac-aspc.gc.ca/lfz-llczoa/index-eng.php](http://www.phac-aspc.gc.ca/lfz-llczoa/index-eng.php)
- For more information on *Listeria* go to the Canadian Food Inspection Agency fact sheet, **Food Safety Facts on *Listeria*** at:  
[www.inspection.gc.ca/english/fssa/concen/cause/listeriae.shtml](http://www.inspection.gc.ca/english/fssa/concen/cause/listeriae.shtml)
- or the Centre for Disease Control, **Listeriosis** website at:  
[www.cdc.gov/ncidod/dbmd/diseaseinfo/listeriosis\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/listeriosis_g.htm)
- For information on **Canadian food issues/recalls**, visit the Canadian Food Inspection Agency at:  
[www.inspection.gc.ca](http://www.inspection.gc.ca)
- For more **Fight BAC!®** tips, visit:  
[www.canfightbac.org/english/indexe.shtml](http://www.canfightbac.org/english/indexe.shtml)
- For more information on **foodborne disease** internationally go to the World Health Organization, foodborne diseases website at:  
[www.who.int/topics/foodborne\\_diseases/en/](http://www.who.int/topics/foodborne_diseases/en/)
- For additional articles on health and safety issues go to the **It's Your Health** web section at:  
[www.healthcanada.gc.ca/iyh](http://www.healthcanada.gc.ca/iyh)

You can also call toll free at  
1-866-225-0709  
or TTY at 1-800-267-1245\*