



FOODBORNE ILLNESS EDUCATION SERIES

LISTERIA MONOCYTOGENES

Listeria monocytogenes is a foodborne pathogen associated with outbreaks linked to raw milk, ice cream, hot dogs, and lunch meat; however, recent outbreaks caused by this foodborne pathogen have occurred in produce items such as bagged salads, cantaloupe, celery, and apples. This knowledge sheet focuses on the pathogen, the disease it causes called listeriosis, and risk reduction steps.

TRANSMISSION, SYMPTOMS, AND STATISTICS

- *Listeria monocytogenes* can contaminate fruits and vegetables from the soil or manure used for fertilizer, and meats can become contaminated during processing when *Listeria* has grown to high numbers in the processing facility.
- Contamination can occur during post-processing of ready-to-eat (RTE) foods such as deli meats or prepared salads when *Listeria monocytogenes* survives in a facility, on cooling equipment, or in rooms that have condensation drips.
- Outbreaks and recalls linked to *Listeria monocytogenes* have been reported in RTE packaged salads, and produce such as celery, cantaloupe, and Granny Smith apples. Other RTE foods that have also been the cause of outbreaks in recent history are ice cream, hot dogs, bakery products, turkey deli meat, and soft cheeses.
- Even with proper antibiotic treatment, listeriosis, the *Listeria monocytogenes* infection has a 20-30% mortality rate.
- An estimated 1,600 people get listeriosis each year, and about 260 die. Pregnant women, persons over 65 years of age, and those with weak immune systems account for 90% of those illnesses.
- Listeriosis infection can cause a range of symptoms such as nausea, vomiting, aches, fever, and sometimes diarrhea. In most healthy individuals, illness will resolve itself in a few days.
- Some people, especially high-risk populations such as pregnant women, the immunocompromised, and the elderly, may develop a more severe form of listeriosis where infection spreads through the bloodstream resulting in blood poisoning. It can cross the blood-brain barrier resulting in meningitis, and can cross the placental barrier, causing miscarriage for pregnant women.

ABOUT *LISTERIA MONOCYTOGENES*

Listeria monocytogenes is a naturally occurring pathogen in the environment, found in soil, areas of high moisture, decaying vegetation, water, and livestock.

Listeria monocytogenes is a hardy bacterium, is salt-tolerant, and survives and grows at refrigeration temperatures, making it different from other foodborne pathogens.

This bacterium is an environmental contaminant in food processing facilities and is difficult to eliminate because it can thrive even after sanitation steps. *Listeria* can survive in crevices of equipment or be covered by biofilm in drains.



KEEP YOUR OPERATIONS AND CUSTOMERS SAFE

- Use only approved suppliers and distributors that can verify monitoring of produce growers for Good Agricultural Practices.
- Make purchases from food processors that have Hazard Analysis Critical Control Point (HACCP) programs, environmental swabbing programs for *Listeria*, trace-back capabilities, and third-party audits to confirm they are in compliance with all federal and local regulations.
- Retailers and foodservice establishments alike must utilize HACCP plans, Standard Operating Procedures (SOPs), produce washing procedures, and proper storage rack order in walk-ins.
- Use proven strategies for assuring proper refrigeration of foods.
- Monitor date-marketing on RTE foods prepared on site and use or discard them within the appropriate shelf-life.
- Ensure effective sanitation of facilities and food contact surfaces.
- *Listeria monocytogenes* is easily killed with pasteurization and the use of proper cooking temperatures. However, remember that many foods frequently contaminated with this pathogen, such as RTE foods and lunch meats, do not undergo a cook step. This is why it is extremely important to use only approved suppliers and distributors.
- Require exemplary personal hygiene practices. Ensure that all team members are rigorously practicing proper hand washing and have no bare hand contact with RTE foods. Staff should also change soiled aprons, smocks, and overcoats as often as needed. Develop and enforce policies that prohibit ill team members from working with open foods, especially RTE foods.
- Retailers that receive recall information from their suppliers or have produced product subject to recall must post notices and/or communicate recall information for customers to see.
- Immediately follow-up on any customer foodborne illness claims. Alert health department if multiple reports are received so that any potential outbreaks can be investigated quickly.

5 MUST-KNOW FACTS FOR LOCATION EMPLOYEES

- 1 Follow proper shelf-life requirements of ready-to-eat foods such as prepared produce, fully cooked products, deli meats, prepared salads, and cheeses once opened.
- 2 Protect refrigerated food from condensation or cross-contamination from raw meats or produce.
- 3 Wash raw vegetables and produce before preparing or eating.
- 4 Do not permit raw, unpasteurized milk or foods made from unpasteurized milk into your food establishment.
- 5 Wash hands after handling raw produce, raw meats, and poultry.