

Listeriosis

Disease Category: Enteric Diseases/Foodborne

Timeframe to follow-up: Within 1 working day

Signs and Symptoms^{1,2}

- Depends on person infected, and the body part affected
- Can cause invasive illness where *Listeria* spreads beyond the intestines
- Symptoms of intestinal illness: Diarrhea, vomiting
- Symptoms of invasive illness: Fever, flu-like symptoms (muscle aches/fatigue), headache, stiff neck, confusion, loss of balance, seizures

Incubation^{1,3}

Typically 2 or 3 weeks, but case have occurred up to 70 days after exposure to a single contaminated product. Incubation period for invasive disease is longer for pregnancy-associated cases (2-4 weeks or more) than for nonpregnancy-associated cases (1-14 days).

Case Classification

Clinical criteria for Invasive listeriosis

- Systemic illness resulting in bacteremia, central nervous system (CNS) infection, pneumonia, peritonitis, endocarditis, and focal infections of joints and bones.
- Pregnancy-associated listeriosis illness occurring in a pregnant women or infant ≤ 28 days. Can result in pregnancy loss, intrauterine fetal demise, pre-term labor or neonatal infection
- Neonatal listeriosis commonly manifests as bacteremia, CNS infection, and pneumonia and is associated with high fatality rates.

Clinical criteria for non-invasive listeria infections

- *Listeria* infection manifesting as an isolate from a non-invasive clinical specimen suggestive of a non-invasive infection; includes febrile gastroenteritis, urinary tract infection, and wound infection.

Confirmed case:

- Isolation of *L. monocytogenes* from a specimen collected from a normally sterile site (e.g., blood or cerebrospinal fluid or, less commonly: pleural, peritoneal, pericardial, hepatobiliary, or vitreous fluid; orthopedic site such as bone, bone marrow, or joint; or other sterile sites including organs such as spleen, liver, and heart, but not sources such as urine, stool, or external wounds);

OR

- For maternal isolates: In the setting of pregnancy, pregnancy loss, intrauterine fetal demise, or birth, isolation of *L. monocytogenes* from products of conception (e.g. chorionic villi, placenta, fetal tissue, umbilical cord blood, amniotic fluid) collected at the time of delivery;

OR

	• <u>For neonatal isolates:</u> In the setting of live birth, isolation of <i>L. monocytogenes</i> from a non-sterile neonatal specimen (e.g., meconium, tracheal aspirate, but not products of conception) collected within 48 hours of delivery. Probable case: • Detection of <i>L. monocytogenes</i> by culture-independent diagnostic testing (CIDT) in a specimen collected from a normally sterile site OR • <u>For maternal isolates:</u> In the setting of pregnancy, pregnancy loss, intrauterine fetal demise, or birth, detection of <i>L. monocytogenes</i> by CIDT from products of conception collected at the time of delivery; OR • <u>For neonatal isolates:</u> In the setting of live birth, detection of <i>L. monocytogenes</i> by CIDT from a non-sterile neonatal specimen collected within 48 hours of delivery. OR • A mother or neonate who meets the epidemiologic linkage but who does not have confirmatory laboratory evidence Suspect case: • Isolation of <i>L. monocytogenes</i> from a non-invasive clinical specimen, e.g., stool, urine, wound, other than those specified under maternal and neonatal specimens in the confirmatory laboratory evidence section.
Differential Diagnosis ⁵	Depends on manifestation of infection and person infected. For central nervous system infection should consider other infectious causes of meningitis including viral or bacterial pathogens. For pregnant individuals, consider other causes of febrile illness or adverse pregnancy outcomes.
<u>Treatment</u> ^{3,6,7}	Treatment varies based on kind of illness and severity. People with invasive illness are treated with antibiotics. Most people recover from intestinal illness without antibiotic treatment. • For severe infections, combination therapy using ampicillin and second agent typically gentamicin. Alternative second agents include: trimethoprim-sulfamethoxazole (contraindicated in infants < 2 months old), fluoroquinolones, linezolid, or rifampin. • No iron supplements until treatment for listeriosis is complete. Iron can enhance pathogenicity of <i>L. monocytogenes</i>.
Duration ²	Symptoms usually persist for 1-3 days for intestinal illness. For invasive illness duration can vary depending on severity and medical intervention needed.

Exposure ^{1,8}	Mainly foodborne. Previous foodborne outbreaks have been linked to deli-style ready-to-eat meats, particularly poultry, raw sprouts, unpasteurized milk and soft cheeses made with unpasteurized milk. Vertical transmission in utero (infected mother to baby), animal or environmental contact, water, silage, soil, mud, forage, livestock food.
Laboratory Testing	Local Health Authority can arrange testing if an outbreak is suspected OR for exposed individuals: Nevada State Public Health Laboratory (NSPHL)
Control of Contacts ⁹	• Most transmissions are foodborne. Human-to-human transmission is possible but rare. • Humans and animals can be asymptomatic carriers of <i>L. monocytogenes</i> and contaminate the environment around them without proper hand hygiene and environmental cleaning. • Babies born to infected individuals should be monitored and evaluated for listeriosis.
Key areas of focus during investigation	Food history, occupation, pregnancy status, medical comorbidities, environmental contact, water exposure, animal contact.
Public Health Actions	Reports of Listeriosis cases must be made to the Local Health Authority during the regular business hours of the health authority on the first working day following the identification of the case. Local Health Authority to notify Office of State Epidemiology (dpbhepi@health.nv.gov) or call 775-400-0333 for individual cases or if outbreak suspected. For individual confirmed or probable cases: • Confirm diagnosis, if possible • Identify potential exposures • Coordinate transport of specimens to NSPHL to confirm diagnosis if needed • Prepare a case report and submit to the Chief Medical Officer (through OSE) within 7 days after completing the case investigation • Identify potential outbreaks from common sources • Provide education about how to prevent transmission To the best of the local health authority's ability, each step of the investigation should be completed within one working day or in alignment with NAC 441A.
Key Partner Agencies	Nevada Department of Agriculture Nevada Department of Wildlife Local Health Authorities Other states affected if it is a multistate outbreak Food and Drug Administration (FDA) or U.S. Department of Agriculture (USDA) Centers for Disease Control and Prevention (CDC)

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LISTERIOSIS

I. DISEASE REPORTING

A. Legal Reporting Requirements

A report to the health authority may be made by telephone; telecopy (in the form prescribed by the health authority); or any form of electronic communication identified by the health authority, following the specified format and procedure.¹⁰

1. *Health Care Providers and Health Care Facilities*

Health providers and facilities must notify the health authority where provider is located within the first working day after identifying the case.¹⁰⁻¹²

2. *Laboratories*

Laboratories must notify the health authority within the first working day after identifying the case.¹⁰ If the lab is located outside of Nevada, notify the Nevada Chief Medical Officer through the Office of State Epidemiology (OSE) within the same timeframe.^{10,13}

3. *Local Health Authority (LHA)*

LHA's must notify the Office of State Epidemiology (OSE) within 7 days after completing the case investigation.¹⁴

II. THE DISEASE AND ITS EPIDEMIOLOGY

A. Background

Listeriosis is a foodborne illness caused by *Listeria monocytogenes*. Listeriosis can appear as mild intestinal illness or severe invasive illness. Listeriosis is the 4th leading cause of death from foodborne illness in the U.S. with 172 deaths per year.⁷ The case-fatality rate is about 20%. Nearly 25% of pregnancy-associated cases result in fetal loss or newborn death.⁸ The prevalence of stool carriage of *L. monocytogenes* in healthy asymptomatic adults is estimated to be 1% to 5%.³

People who are at higher risk for infection include:

- Pregnant women
- Newborns
- People who are 65 or older
- Immunocompromised individuals

B. Etiologic Agent

L. monocytogenes is a facultatively anaerobic, non-spore forming, nonbranching, motile, Gram-positive rod that multiplies intracellularly. *L. monocytogenes* serotypes 1/2a, 4b, and 1/2b cause about 95% of human infections and grow well at refrigerator temperatures (4° to 10°C).^{1,3}

C. Description of Illness

For invasive illness, fever, flu-like symptoms (muscle aches & fatigue), headache, stiff neck, confusion, loss of balance, and seizures can occur 2 weeks after eating contaminated food.²

For intestinal illness, diarrhea, vomiting, can occur 24 hours after eating contaminated food and last about 1-3 days.²

During pregnancy, symptoms can be mild and some individuals are asymptomatic. Infection during pregnancy usually leads to miscarriage, stillbirth, preterm delivery, and neonatal infection or death.²

D. Disease Burden in Nevada

There have been 0 cases reported in Nevada as of June 11, 2026, and 6 cases reported in 2025. The disease is a foodborne illness so it can occur in outbreaks across the nation but is not endemic to Nevada.

See the [Nevada Office of State Epidemiology Communicable Disease Dashboard](#) for Nevada specific data on Listeriosis (enteric section) in the Communicable Disease Dashboard.

E. Reservoirs

Animal reservoirs include domestic and wild mammals, fowl, and humans. Soil, water, mud, forage, livestock food, and silage can be contaminated with *L. monocytogenes*.¹ *Listeria* can multiply in refrigerated foods, biofilms in production facilities, and attach on stainless steel surfaces and transfer to food products.¹

F. Modes of Transmission

Foodborne transmission, transplacental transmission, ascending infection from vaginal colonization, indirect transmission from fomites.³

G. Incubation Period

- Typically, 2-3 weeks but can be up to 70 days.¹
- Invasive illness: 1-14 days for non-pregnancy associated cases, and 2-4 weeks or longer for pregnancy-associated cases.³
- Intestinal illness: 24 hours following ingestion of a large inoculum.³

H. Period of Communicability

This will vary because you can have asymptomatic carriers that can contaminate environmental surroundings causing further *L. monocytogenes* transmission.

I. Testing

L. monocytogenes can be isolated from blood, cerebrospinal fluid (CSF), meconium, placental or fetal tissue specimens, amniotic fluid, stool, and other infected tissue specimens, including joint, pleural, or peritoneal fluid.³ Confirmatory laboratory evidence includes isolation of *L. monocytogenes* from a sterile site, or product of conception or neonatal specimen.

J. Treatment^{3,6}

Optimal duration of therapy is unknown and is individualized based on patient characteristics, disease severity, and response to treatment. People with invasive illness are treated with antibiotics.

- For severe infections, combination therapy using ampicillin and second agent typically gentamicin. Alternative second agents include: trimethoprim-sulfamethoxazole (contraindicated in infants < 2 months old), fluoroquinolones, linezolid, or rifampin.
- 10-14 days of treatment for bacteremia without CNS infection
- Meningitis: minimum 3 weeks of treatment
- Longer courses for endocarditis & parenchymal brain infection
- No iron supplements until treatment for listeriosis is complete. Iron can enhance pathogenicity of *L. monocytogenes*.
- Intestinal illness: generally, individuals recover without antibiotic treatment.

Provide most current treatment guidelines from Red Book or UpToDate to the healthcare provider or refer case to physician for proper treatment for Listeriosis.

III. EPIDEMIOLOGIC CASE INVESTIGATION

The public health authority should begin investigating the case of Listeriosis step by step, within one working day of notification or in alignment with [NAC 441A](#).

Per NAC 441A.590 Listeriosis.

1. The health authority shall investigate each report of a case having listeriosis to confirm the diagnosis, to identify any carriers or other cases, to identify the source of the infection and to determine if there is an outbreak.
2. If the source of infection is suspected to be an infected animal, a contaminated product or an occupational exposure, the health authority shall notify the Chief Medical Officer. The Chief Medical Officer shall notify the appropriate regulatory agency responsible for controlling the source of the disease.

A. Step 1: Review relevant information about the disease.

1. *Review scientific information in [Control of Communicable Diseases Manual](#), most recent edition.*
2. *Review Listeriosis most recent case definition ([Listeriosis \(Listeria monocytogenes\) 2019 Case Definition / CDC](#)).*

B. Step 2: Begin investigating the case.

1. *Contact Reporting Source and/or Reported Case*

Upon receiving an initial case report, review lab test results and available clinical details and epidemiologic factors. Please make three attempts to contact the case (text and phone calls) on separate days, at different times of the day (morning, afternoon, late afternoon). Document all attempts to contact a reporting source and/or reported case, preferably in the “Encounters” tab of EpiTrax. Please use case report forms (CRF) to gather accurate information about the case. Focus on the key data elements listed above. Filling out an electronic version of the CRF in EpiTrax (called a Confidential Morbidity Report (CMR) in EpiTrax) is preferred. If used, the completed PDF version should be attached to the CMR in EpiTrax. The CRF should be completed within 7 days of completing the investigation of the case.¹⁴

C. Step 3: Identify potential sources of infection

The investigation focuses on exposures in the last 3 weeks before onset. However, individuals can get sick up to 70 days after eating a contaminated food product.

- Foods that commonly have higher risk of *L. monocytogenes*¹⁵:
 - Any type of cheese made with raw (unpasteurized milk)
 - Any unheated queso fresco-type cheeses, when made with pasteurized or unpasteurized milk
 - Unheated deli meat, cold cuts, hot dogs, and fermented or dry sausages
 - Premade deli salads such as coleslaw, potato, tuna or chicken salad
 - Refrigerated pâté or meat spreads
 - Refrigerated smoked fish
 - Raw or lightly cooked sprouts
 - Cut melon left out for more than 2 hours (1 hour if exposed to temperature above 90°F, or cut melon in refrigerator for more than 1 week)
 - Raw milk, yogurt, and ice cream
- Domestic and wild mammals, fowl are other reservoirs in addition to humans.
- Environmental exposures such as soil, water, mud, forage, livestock food, and silage.

D. Step 4: Initiate control measures for case and/or for contacts (see Section IV – Section VI below).

E. Step 5: Provide Education and Prevention messaging to the case and/or contacts (see Section IX below).

IV. CONTROL OF CASE

1. *Management/Exclusions for Specific Groups or Settings*

Symptomatic Cases	
Sensitive Occupation*	Should be excluded until symptoms resolve.
Childcare/School Attendee	Should be excluded until symptoms resolve.
Case in a Medical Facility	Standard Precautions
General Population	N/A

* NAC 441A.170. Sensitive occupation includes, but is not limited to, employment as a food and beverage handler, employment in a health care facility, employment in a school or employment in a child care facility.

Asymptomatic cases

Generally do not require any exclusions but should be educated on proper hand hygiene and environmental cleaning.

2. *Exclusion Notifications*

While human to human transmission is rare, cases can spread *L. monocytogenes* to their environment and cause further transmission.

V. CONTROL OF CONTACTS (IF APPLICABLE)

Investigate symptomatic contacts in the same manner as a case.

1. *Management/Exclusions for Specific Groups or Settings*

Symptomatic	
Sensitive Occupation*	Should be excluded until symptoms resolve.
Childcare/School Attendee	Should be excluded until symptoms resolve.
Case in a Medical Facility	Standard Precautions
General Population	N/A

* NAC 441A.170. Sensitive occupation includes, but is not limited to, employment as a food and beverage handler, employment in a health care facility, employment in a school or employment in a child care facility.

Asymptomatic Contacts

Do not require laboratory testing or exclusion unless symptomatic. Individuals, especially those at higher risk for invasive illness, should be instructed to return for medical treatment if they develop symptoms of listeriosis within 2 months after eating a recalled product.¹⁵

VI. CONTROL OF CARRIERS

Asymptomatic fecal carriage is common even without known exposure. It mostly affects slaughterhouse workers, laboratory workers who work with these *L. monocytogenes* cultures, veterinarians, and farmers. These individuals must take proper precautions in handling aborted fetuses and sick or dead animals, especially sheep.¹

VII. MANAGEMENT OF SPECIAL SITUATIONS/OUTBREAK CONTROL

Coordinate with senior epidemiology staff to determine if an outbreak is occurring. If so, notify DPBH Environmental Health, local health authorities, or infection control, as appropriate.

VIII. PREVENTION

The investigator should reference the most recent disease specific public educational materials from the CDC. The [Nevada OSE website](#) also provides information about Listeriosis, as does the [Listeriosis | One Health Nevada](#) website.

General Recommendations

- Rinse raw fruits and vegetables under running tap water before eating, cutting, or cooking.
- Scrub firm produce like melons and cucumbers with a clean produce brush.
- Dry produce with clean cloth or paper towel
- Separate uncooked meat and poultry from vegetables, cooked foods, and ready-to-eat foods.
- Wash knives, hands, countertops, and cutting boards after handling and preparing uncooked foods.
- *L. monocytogenes* can grow in the refrigerator. The refrigerator temperature should be 40°F or colder and the freezer temperature should be 0°F or colder.
- Clean up spills in the refrigerator right away, especially juices from hot dog and lunch meat packages, raw meat, and raw poultry.
- Cook meat and poultry thoroughly to recommended safe internal temperature
- Safety tip for eating melons: It is recommended to eat cut melon right away or refrigerate. Melons left at room temperature for more than 4 hours should be thrown away. Keep cut melons refrigerated at 41°F or colder and for no more than 7 days.
- Do not eat raw or lightly cooked sprouts
- Do not consume unpasteurized dairy products

IX. REFERENCES

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X. ACKNOWLEDGEMENTS

This document was developed based on the content and format of the disease investigation guidelines of several state and local health jurisdictions:

- Oregon Health Authority Investigative Guidelines
- Washington State Department of Health Reporting and Surveillance Guidelines
- Washoe County Health District Epidemiology and Communicable Disease Program Investigation of Communicable Disease Manual

The Nevada Office of State Epidemiology would like to acknowledge the work of these great partners.

XI. UPDATE LOG



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09/21/2026

Chief Medical Officer Approval Date