

Listeria Investigation Overview

The following guidelines provide a brief overview of the steps of a Listeriosis investigation. Listeriosis is a serious infection usually caused by eating food contaminated with the bacterium *Listeria monocytogenes*. The infection is most likely to sicken pregnant women and their newborns, adults aged 65 or older, and people with weakened immune systems. Listeriosis is usually acquired through foodborne transmission, except for fetal and neonatal infection, which is usually acquired *in utero*. The incubation period usually ranges from 1-4 weeks but can be delayed up to 70 days. Infection can cause fever and diarrhea like other foodborne pathogens, or it may be invasive.

Listeria is a hardy organism that can withstand a wide range of conditions including freezing, drying, heat, and relatively high levels of acid, salinity, and alcohol. Unlike most foodborne pathogens, it can grow at standard refrigerator temperature (40°F). It is the most severe of our foodborne illnesses with up to 20% of cases resulting in death.

**** This disease requires an additional CDC Listeria Initiative Form be completed and attached to event. The form is in the CD Manual.**

For additional support, consult the NC Communicable Disease Branch at (919) 733-3419.

Basic Steps of a Listeria Investigation

<p>IMMEDIATE STEP</p>	<ul style="list-style-type: none"> Ensure testing laboratory has forwarded the isolate to the NC State Laboratory of Public Health (SLPH) for advanced public health testing (i.e., whole genome sequencing). <ul style="list-style-type: none"> This is a request CDC makes of all <i>Listeria</i> cases nationally. Submit the Special Bacteriology (DHHS 4121) requisition with any isolate; the information and forms can be accessed here: https://slph.ncpublichealth.com/forms.asp#specimen
<p>1. Ensure case definition is met</p>	<ul style="list-style-type: none"> See infographic posted on CD manual to help classify the case. Clinical criteria are not required for the Listeriosis case definition. Laboratory evidence is sufficient to meet case definition. Mother-infant pairs have additional criteria that most often count both as cases even if one does not have laboratory confirmation.
<p>2. Collect clinical information</p>	<ul style="list-style-type: none"> Use information collected from medical records and/or speak with the case <ul style="list-style-type: none"> Symptoms may vary depending on the person and the part of the body affected. Older adults/ immunocompromised: invasive infections, such as sepsis, meningitis, and meningoenephalitis Pregnancy: typically, a mild “flu-like” illness, some pregnant women have no symptoms. Infection during pregnancy can result in miscarriage, stillbirth, preterm labor, and sepsis or meningitis in the neonate
<p>3. Incubation period</p>	<ul style="list-style-type: none"> As soon as the same day and up to 70 days after exposure, but usually 1-4 weeks.
<p>4. Manage the case</p>	<ul style="list-style-type: none"> Most cases are severely ill and hospitalized; for this reason, case interviews may be delayed, or a proxy can be used. <ul style="list-style-type: none"> The medical record serves as an additional resource. Interview the case/proxy and complete the Part 2 Form/risk history and clinical packages in NCEDSS. Complete the CDC Listeria Initiative Form, found in the CD manual, and attach to the NCEDSS event.

5. Review Laboratory Information	<ul style="list-style-type: none"> • Ensure reporting laboratory has forwarded the isolate to the SLPH for advanced public health testing (i.e., whole genome sequencing). • Submit the Special Bacteriology (DHHS 4121) requisition with any isolate. Use the following link for information and forms: https://slph.ncpublichealth.com/forms.asp#specimen
6. Identify source of exposure	<ul style="list-style-type: none"> • If source of exposure is suspected to be restaurant related, involve Environmental Health Specialist. • Interview patient to obtain a detailed assessment of potential sources including: <ul style="list-style-type: none"> • Consumption of unpasteurized dairy or juice products • Consumption of unwashed food or vegetables • Consumption of cold hot dogs or deli meats • Consumption of recalled products • Contact with farms or farm animals • If source of exposure is suspected to be un-pasteurized milk/dairy products the NC Department of Agriculture will need to be contacted. <ul style="list-style-type: none"> • Inform the enterics team via epi on call (919-733-3419) to start this process.
7. Implement Control Measures	<ul style="list-style-type: none"> • If specific food item identified, work with local health director, Environmental Health Specialist and Department of Agriculture to restrict access to and recall contaminated items • Work with local health director, Environmental Health Specialist and Department of Agriculture to stop distribution of any potentially contaminated products or foods • Refer to SLPH website for information on collection, packaging, and shipment of food specimens

*High-risk contacts include individuals at high-risk for severe illness or complications, healthcare workers, childcare workers, and food handlers
➤ Resources – <https://www.cdc.gov/listeria/index.html>

Critical Elements for NCEDSS

- Document if high risk (food worker, childcare attendee/worker or healthcare worker)
- Document if patient resides or has been in a congregate living situation (LTCF, Assisted Living, Camp, etc.)
- Document if this is a pregnant woman