

# Listeriosis (*Listeria monocytogenes*)

## 2019 Case Definition

**NOTE:** A surveillance case definition is a set of uniform criteria used to define a disease for public health surveillance. Surveillance case definitions enable public health officials to classify and count cases consistently across reporting jurisdictions. Surveillance case definitions are not intended to be used by healthcare providers for making a clinical diagnosis or determining how to meet an individual patient's health needs.

### CSTE Position Statement(s)

- 18-ID-16

### Clinical Criteria

#### Invasive listeriosis:

- Systemic illness caused by *L. monocytogenes* manifests most commonly as bacteremia or central nervous system infection. Other manifestations can include pneumonia, peritonitis, endocarditis, and focal infections of joints and bones.
- Pregnancy-associated listeriosis has generally been classified as illness occurring in a pregnant woman or in an infant age  $\leq 28$  days. Listeriosis may result in pregnancy loss (fetal loss before 20 weeks gestation), intrauterine fetal demise ( $\geq 20$  weeks gestation), pre-term labor, or neonatal infection, while causing minimal or no systemic symptoms in the mother. Pregnancy loss and intrauterine fetal demise are considered to be maternal outcomes.
- Neonatal listeriosis commonly manifests as bacteremia, central nervous system infection, and pneumonia, and is associated with high fatality rates. Transmission of *Listeria* from mother to baby transplacentally or during delivery is almost always the source of early-onset neonatal infections (diagnosed between birth and 6 days), and the most likely source of late-onset neonatal listeriosis (diagnosed between 7–28 days).

#### 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.

### Laboratory Criteria For Diagnosis

#### Confirmatory laboratory evidence:

- Isolation of *L. monocytogenes* from a specimen collected from a normally sterile site reflective of an invasive infection (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**

- For neonatal isolates: In the setting of live birth, isolation of *L. monocytogenes* from a non-sterile neonatal specimen (e.g., meconium, tracheal aspirate, but not products of conception) collected within 48 hours of delivery.

**Presumptive laboratory evidence:**

- Detection of *L. monocytogenes* by culture-independent diagnostic testing (CIDT<sup>1</sup>) in 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, detection of *L. monocytogenes* by CIDT<sup>1</sup> from products of conception (e.g., chorionic villi, placenta, fetal tissue, umbilical cord blood, amniotic fluid) collected at the time of delivery;

**OR**

- For neonatal isolates: In the setting of live birth, detection of *L. monocytogenes* by CIDT<sup>1</sup> from a non-sterile neonatal specimen (e.g., meconium, tracheal aspirate, but not products of conception) collected within 48 hours of delivery.

**Supportive laboratory evidence:**

- Isolation of *L. monocytogenes* 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.

# Epidemiologic Linkage

## For probable maternal cases:

- A mother who does not meet the confirmed case criteria, **BUT**
- Who gave birth to a neonate who meets confirmatory or presumptive laboratory evidence for diagnosis, **AND**
- Neonatal specimen was collected up to 28 days of birth.

OR

## For probable neonatal cases:

- Neonate(s) who do not meet the confirmed case criteria, **AND**
  - Whose mother meets confirmatory or presumptive laboratory evidence for diagnosis from products of conception, **OR**
  - A clinically compatible neonate whose mother meets confirmatory or presumptive laboratory evidence for diagnosis from a normally sterile site.

# Criteria to Distinguish a New Case from an Existing Case

There is currently insufficient data available to support a routine recommendation for criteria to distinguish a new case of listeriosis from prior reports or notifications. Duplicate or recurring reports of listeriosis in an individual should be evaluated on a case by case basis.

## Case Classification

### Suspected

- A person with supportive laboratory evidence.

### Probable

- A person who meets the presumptive laboratory evidence;

**OR**

- A mother or neonate who meets the epidemiologic linkage but who does not have confirmatory laboratory evidence.

### Confirmed

- A person who meets confirmatory laboratory evidence

## Case Classification Comments

Pregnancy loss and intrauterine fetal demise are considered maternal outcomes and would be counted as a single case in the mother.

Cases in neonates and mothers should be reported separately when each meets the case definition. A case in a neonate is counted if live-born.

<sup>1</sup> Culture-independent diagnostic testing includes PCR, EIA, ELISA, and other antigen detection tests. It does NOT include Antibody testing.