

Committee: Infectious

Title: Public Health Reporting and National Notification for Listeriosis

I. Statement of the Problem

CSTE position statement 07-EC-02 recognized the need to develop an official list of nationally notifiable conditions and a standardized reporting definition for each condition on the official list. The position statement also specified that each definition had to comply with American Health Information Community recommended standards to support “automated case reporting from electronic health records or other clinical care information systems.” In July 2008, CSTE identified sixty-eight conditions warranting inclusion on the official list, each of which now requires a standardized reporting definition.

II. Background and Justification

*Background*¹

Listeriosis is a rare, but serious infection caused by the consumption of food contaminated with *L. monocytogenes*. The elderly, immunosuppressed persons, and pregnant women are disproportionately affected. Listeriosis in non-pregnant adults most commonly manifests as sepsis, and meningitis. Other clinical syndromes include endocarditis, abscesses or other localized infections. *Listeria* infection during pregnancy may cause fetal death, still birth, spontaneous abortion, and neonatal sepsis. Molecular subtyping of *Listeria* isolates allows for increased strain discrimination and improved ability to identify cases that may be linked to a common source. Surveillance for listeriosis, including molecular subtype information, is needed to identify and control outbreaks of disease and to better define strategies for preventing the disease.

Justification

Listeriosis meets the following criteria for a nationally and **standard** notifiable condition, as specified in CSTE position statement 08-EC-02:

- A majority of state and territorial jurisdictions—or jurisdictions comprising a majority of the US population—have laws or regulations requiring **standard** reporting of listeriosis to public health authorities
- CDC requests **standard** notification of listeriosis to federal authorities
- CDC has condition-specific policies and practices concerning the agency’s response to, and use of, notifications.

¹ Much of the material in the background is directly quoted from the CDC’s listeriosis website. See the References for further information on this source.

III. Statement of the desired action(s) to be taken

CSTE requests that CDC adopt this standardized reporting definition for listeriosis to facilitate more timely, complete, and standardized local and national reporting of this condition.

IV. Goals of Surveillance

To provide information on the temporal, geographic, and demographic occurrence of listeriosis to facilitate its prevention and control.

V. Methods for Surveillance

Surveillance for listeriosis should use the sources of data and the extent of coverage listed in table V.

Table V. Recommended sources of data and extent of coverage for ascertaining cases of listeriosis.

Source of data for case ascertainment	Coverage	
	Population-wide	Sentinel sites
clinician reporting	X	
laboratory reporting	X	
reporting by other entities (e.g., hospitals, veterinarians, pharmacies)	X	
death certificates	X	
hospital discharge or outpatient records	X	
extracts from electronic medical records	X	
telephone survey		
school-based survey		
other _____		

VI. Criteria for Reporting

Reporting refers to the process of healthcare providers or institutions (e.g., clinicians, clinical laboratories, hospitals) submitting basic information to governmental public health agencies about cases of illness that meet certain reporting requirements or criteria. Cases of illness may also be ascertained by the secondary analysis of administrative health data or clinical data. The purpose of this section is to provide those criteria to determine whether a specific illness should be reported.

A. Narrative description of criteria to determine whether a case should be reported to public health authorities

Report any illness to public health authorities that meets any of the following criteria:

1. Any person with a positive culture for *L. monocytogenes* from a normally sterile site.
2. A positive culture for *L. monocytogenes* from placenta or fetal tissue in the case of a stillbirth or spontaneous abortion.
3. A person whose healthcare record contains a diagnosis of listeriosis.
4. A person whose death certificate lists listeriosis as a cause of death or a significant condition contributing to death.

Other recommended reporting procedures

- All clinical *Listeria* isolates should be referred to a state public health laboratory for subtyping by molecular methods
- All cases of listeriosis, including molecular subtype information, should be reported.
- Reporting should be on-going and routine.
- Frequency of reporting should follow the state health department's routine schedule.

B. Table of criteria to be used to determine whether a case should be reported to public health authorities

Table VI-B. Table of criteria to determine whether a case should be reported to public health authorities. Requirements for reporting are established under State and Territorial laws and/or regulations and may differ from jurisdiction to jurisdiction. These criteria are suggested as a standard approach to identifying cases of this condition for purposes of reporting, but reporting should follow State and Territorial law/regulation if any conflicts occur between these criteria and those laws/regulations.

Criterion	Reporting
<i>Clinical Evidence</i>	
Healthcare record contains a diagnosis of listeriosis	S
Death certificate lists listeriosis as a cause of death or a significant condition contributing to death	S
<i>Laboratory Evidence</i>	
<i>L. monocytogenes</i> isolated from a clinical specimen	O
<i>L. monocytogenes</i> isolated from placenta or fetal tissue	O

Notes:

S = This criterion alone is Sufficient to identify a case for reporting.

O = At least one of these "O" (Optional) criteria in each category (i.e., clinical evidence and laboratory evidence) in the same column is required to identify a case for reporting. (These optional criteria are alternatives, which means that a single column will have either no O criteria or multiple O criteria; no column should have only one O.)

C. Disease Specific Data Elements:

Disease-specific data elements to be included in the initial report are listed below.

Epidemiological Risk Factors

Consumption of raw milk in the 2 months prior to onset

Consumption of raw milk cheese in the 2 months prior to onset

Consumption of uncooked luncheon meat or cold cuts in the 2 months prior to onset

Consumption of uncooked frankfurters or hot dogs in the 2 months prior to onset

Clinical Risk Factors

Pregnant

Immune compromised

Diabetic

Cirrhosis

Alcoholism

VII. Case Definition

A. Narrative description of criteria to determine whether a case should be classified as confirmed is provided below.

Clinical description

In adults, invasive disease caused by *Listeria monocytogenes* manifests most commonly as meningitis or bacteremia; infection during pregnancy may result in fetal loss through miscarriage or stillbirth, or neonatal meningitis or bacteremia. Other manifestations can also be observed.

Laboratory criteria for diagnosis

- A. Isolation of *L. monocytogenes* from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid)
- B. In the setting of miscarriage or stillbirth, isolation of *L. monocytogenes* from placental or fetal tissue

Case classification

Confirmed: A clinically compatible case that is laboratory-confirmed

Comment:

The usefulness of other laboratory methods such as fluorescent antibody testing or polymerase chain reaction to diagnose invasive listeriosis has not been established.

B. Classification Tables

Table VII-B lists the criteria that must be met for a case to be classified as confirmed.

Table VII-B. Table of criteria to determine whether a case is classified.

Criterion	Case Definition	
	Confirmed	
<i>Clinical Evidence</i>		
Meningitis	O	
Bacteremia	O	
Brain Abscess	O	
Endocarditis	O	
Neonatal sepsis		O
Spontaneous Abortion		O
Stillbirth		O
<i>Laboratory Evidence</i>		
<i>L. monocytogenes</i> isolated from a clinical specimen	O	
<i>L. monocytogenes</i> isolated from placenta or fetal tissue		N
<i>Epidemiologic Evidence</i>		
Pregnancy		N

Notes:

N = All “N” criteria in the same column are Necessary to classify a case.

O = At least one of these “O” (Optional) criteria in each category (i.e., clinical evidence and laboratory evidence) in the same column—in conjunction with all “N” criteria in the same column—is required to classify a case.

VIII. Period of Surveillance

Surveillance should be on-going.

IX. Data sharing/release and print criteria

Notification to CDC for confirmed cases of Listeriosis is recommended.

- Data will be used to determine the burden of illness due to *L. monocytogenes*, assess the effectiveness over time of national control programs, and assess the progress toward national goals in listeriosis control. Data may also be used to compare case numbers with information from other foodborne disease surveillance systems. Electronic reports of listeriosis cases in NNDSS are also summarized weekly in the MMWR Tables. Annual case data on listeriosis is summarized in the yearly Summary of Notifiable Diseases.

- State-specific compiled data will continue to be published in the weekly and annual MMWR. In addition to those reports, the frequency of reports/feedback to the states and territories will be dependent on the current epidemiologic situation in the country. Frequency of cases, epidemiologic distribution, importation status transmission risk, and other factors will influence communications.
- State-specific compiled data will continue to be published in the weekly reports and annual MMWR Surveillance Summaries. All cases are verified with the states before publication.

X. References

Centers for Disease Control and Prevention (CDC). Case definitions for infectious conditions under public health surveillance. MMWR 1997; 46 (No. RR-10):1–57. Available from: <http://www.cdc.gov/mmwr/>

Centers for Disease Control and Prevention (CDC). National notifiable diseases surveillance system: case definitions. Atlanta: CDC. Available from: <http://www.cdc.gov/ncphi/disss/nndss/casedef/index.htm> Last updated: 2008 Jan 9. Accessed:

Council of State and Territorial Epidemiologists (CSTE). CSTE official list of nationally notifiable conditions. CSTE position statement 07-EC-02. Atlanta: CSTE; June 2007. Available from: <http://www.cste.org>.

Council of State and Territorial Epidemiologists (CSTE). Criteria for inclusion of conditions on CSTE nationally notifiable condition list and for categorization as immediately or routinely notifiable. CSTE position statement 08-EC-02. Atlanta: CSTE; June 2008. Available from: <http://www.cste.org>.

Council of State and Territorial Epidemiologists (CSTE). Listeria case surveillance. 03-ID-01. Atlanta: CSTE; June 2005. Available from: <http://www.cste.org>.

Council of State and Territorial Epidemiologists (CSTE). Data Release Guidelines of the Council of State & Territorial Epidemiologists for the National Public Health System. Atlanta: CSTE; June 1996.

Council of State and Territorial Epidemiologists, Centers for Disease Control and Prevention. CDC-CSTE Intergovernmental Data Release Guidelines Working Group (DRGWG) Report: CDC-ATSDR Data Release Guidelines and Procedures for Re-release of State-Provided Data. Atlanta: CSTE; 2005. Available from: <http://www.cste.org/pdffiles/2005/drgwgreport.pdf> or <http://www.cdc.gov/od/foia/policies/drgwg.pdf>.

Heymann DL, editor. Control of communicable diseases manual. 18th edition. Washington: American Public Health Association; 2004.

Lorber B. Listeria monocytogenes. In: Mandell GL, Bennett JE, Dolin R, editors. Principles and Practice of Infectious Diseases, 6th edition. Philadelphia: Churchill Livingstone; 2005.

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