

Labstract – January 2016

***Listeria monocytogenes* – Clinical and Food Testing Guidelines for Foodborne Illness Outbreaks**

To Health Care Providers,

Listeriosis is a foodborne illness that usually presents as a self-limited syndrome with malaise, fever, and diarrhea with no further untoward outcome. In a minority of cases, particularly in the immunocompromised, neonates, elderly and pregnant women, illness such as bacteremia, meningitis, and fetal loss can ensue. Ingestion of suspect food by healthy or immunocompetent persons does not necessarily result in infection with *Listeria*.

These guidelines are applicable during an outbreak investigation or when there is a known contaminated or recalled food product. The guidelines address both clinical testing and food testing for *Listeria*.

Individuals with symptoms of meningitis and/or invasive disease require clinical laboratory testing, regardless of consumption of a known contaminated or recalled food product. The optimal clinical specimens for suspected, symptomatic cases of listeriosis are blood cultures.

Listeria stool testing should ONLY be submitted to the Public Health Ontario Laboratory (PHOL) for symptomatic, high risk persons (i.e., immunocompromised, 65 years of age and over, pregnant women) with known consumption of a contaminated or recalled food product. Stool specimens submitted will be forwarded to Health Canada for testing however they may not be very helpful in clinical management as it takes up to 2 weeks from sample collection to final results and may have a lower sensitivity.

Testing for *Listeria* in asymptomatic people who consumed a contaminated or recalled food product is not required.

CLINICAL TESTING FOR *LISTERIA*

Clinical symptoms/ exposure	Host affected	Testing recommended	Where to submit testing
Asymptomatic with consumption of a known contaminated or recalled food product	All hosts, including immunocompromised, pregnant and those 65 years of age or older	<p>None</p> <ul style="list-style-type: none"> Counsel regarding potential symptoms of gastroenteritis and invasive listeriosis and to consult a health care provider should these develop 	Not applicable
<p>Gastroenteritis with or without fever and no other symptoms</p> <p>AND</p> <p>consumption of a known contaminated or recalled food product</p>	Immunocompetent hosts who are not pregnant and not 65 years of age or older	<ul style="list-style-type: none"> Stool for routine culture and susceptibility as per usual practice Stool testing for <i>Listeria</i> is not indicated Counsel regarding potential symptoms of invasive listeriosis and to return to the health care provider should these develop If evidence of fever within 24 hours of clinical assessment, may consider 2 sets of routine blood cultures (which detect <i>Listeria spp.</i>) 	<ul style="list-style-type: none"> Routine stool and blood cultures can be submitted to a hospital laboratory with a hospital requisition or a commercial laboratory with an OHIP requisition* Routine blood or stool cultures are not available at PHO
	Pregnant, immunocompromised, or 65 years of age or older	<ul style="list-style-type: none"> Stool for routine culture and susceptibility as per usual practice If evidence of fever within 24 hours of clinical assessment, may consider 2 sets of routine blood cultures (which detect <i>Listeria spp.</i>) Stool cultures for <i>Listeria</i> can be considered (these can be submitted to PHOL in a sterile urine container for testing at Health Canada). Of note, stool culture for <i>Listeria</i> may not be very helpful in clinical management, as it may have a lower sensitivity and takes up to 2 weeks from sample collection to final results. Counsel regarding potential symptoms of invasive listeriosis and to return to the health care provider should these develop 	<ul style="list-style-type: none"> Routine stool and blood cultures can be submitted to a hospital laboratory with a hospital requisition or a commercial laboratory with an OHIP requisition* Routine blood or stool cultures are not available at PHO Stool cultures for <i>Listeria</i> can be submitted to PHOL in a sterile urine container for testing at Health Canada. These specimens must be accompanied by a PHO laboratory requisition
Evidence of systemic involvement suggested by headache, stiff neck, confusion, loss of balance, or convulsions in addition to fever and muscle aches, REGARDLESS of exposure to a known contaminated or recalled food product	All hosts	<ul style="list-style-type: none"> Routine blood cultures (which will detect <i>Listeria spp.</i>). Two sets of blood cultures should be taken from different sites. A third set of blood cultures should be drawn only if endocarditis is suspected. Collect another set of blood cultures after 48 hours if the previous cultures are negative and there is ongoing concern of invasive infection with <i>Listeria monocytogenes</i>. If clinical assessment is suggestive of possible neurological involvement (meningitis or meningoencephalitis), consider lumbar puncture and bacterial culture of cerebrospinal fluid Culture of other potentially involved anatomic sites as needed (e.g., joint, pleural, pericardial fluid, sputum) 	<ul style="list-style-type: none"> Routine blood and other sterile site cultures can be submitted to a hospital laboratory with a hospital requisition or a commercial laboratory with an OHIP requisition* Blood or cerebrospinal fluid cultures are not available at PHO

NB. Serology for *Listeria* is not available.

*If clinical specimens are positive for *Listeria monocytogenes*, the hospital or commercial laboratory should forward isolates to PHOL for molecular subtyping.

FOOD TESTING FOR LISTERIA

Food testing at PHOL is performed to support local public health units to identify contaminated food products linked to human illness and mitigate ongoing exposure and risk.

Suspect foods can be submitted for testing to PHOL for laboratory-confirmed cases of listeriosis, to support a foodborne illness investigation after assessment by the local public health unit.

Food products that are already recalled are generally not tested. A recalled product may be considered for testing only for laboratory-confirmed clinical cases of listeriosis following an assessment by the local public health unit and Public Health Ontario.

For further information:

- Contact the PHOL Customer Service Centre at 416-235-6556 or 1-877-604-4567 (toll-free), or by email at CustomerServiceCentre@oahpp.ca
- For PHOL specimen collection information and previous Lababstracts, refer to <http://www.publichealthontario.ca/Labs>
- The current version of the PHOL General Test Requisition and other forms are available at <http://www.publichealthontario.ca/Requisitions>
- To subscribe to future Lababstracts, email lababstracts@oahpp.ca
- To register for Autofax and receive laboratory reports by fax directly from our laboratory information system as soon as they are released, contact the PHOL Customer Service Centre.