

# SHIGELLOSIS

## Case definition

### CONFIRMED CASE

Laboratory confirmation of infection with or without clinical illness:

- isolation of *Shigella* sp. from an appropriate clinical specimen [i.e., sterile site, deep tissue wounds, stool, vomit or urine]

### PROBABLE CASE

Clinical illness in a person who is epidemiologically linked to a confirmed case

## Causative agent

The bacteria *Shigella* have 4 subgroups: *dysenteriae*, *flexneri*, *boydii*, and *sonnei*. *S. dysenteriae* is often associated with severe illness.

## Source

Humans, feces of infected person

## Incubation

1-3 days ranging from 12 hours to 1 week

## Transmission

- Fecal-oral, from person to person primarily due to inadequate hand washing after using the toilet or changing diapers, but can also include sexual contact.
- Ingestion of food or water contaminated by feces of an infected person. Contamination can occur through direct contamination with sewage or sewage-contaminated water or cross contamination by a food handler. Commonly implicated foods include raw fruits and vegetables, milk/milk products [usually raw products] and shellfish harvested from sewage-contaminated waters. Flies may also be a vehicle for the contamination of food.

## Communicability

Shedding usually ends within 4 weeks, carriage for longer periods is possible but rare. Infectious dose is low. Antibiotic treatment reduces communicability to less than a week.

## Symptoms

Diarrhea (can contain blood and mucus), fever, nausea, and occasionally toxemia, vomiting, cramps and tenesmus; illness ranges from mild to severe. Asymptomatic infections may occur.

## Diagnostic testing

Stool for culture

## Treatment

Fluid replacement to prevent dehydration. Antibiotic treatment is useful for severe infections and to shorten duration of shedding. Multi-drug resistance is common, so antimicrobial treatment depends on the isolated strain.

# PUBLIC HEALTH MANAGEMENT & RESPONSE

---

## Case management

Follow up the case using the following steps:

1. Contact the primary care provider to obtain clinical information on the case.
2. Interview the case, review clinical information, determine food history, travel history and activities, employment, potential source of exposure and determine any contacts that may require investigation (see “[Contact tracing](#)” section).
3. Educate the case and/or family about shigellosis and prevention measures, providing access to website, general information, etc.
4. Implement the necessary exclusions as per the “[Exclusion of cases](#)” section for those cases identifying as belonging to one or more risk group(s). For cases that are not listed in either of the risk groups, recommend that the case remain at home until 48 hours after stools have returned to normal and 48 hours after stopping the use of anti-diarrheal medication.
5. If the case identifies consuming shellfish, especially shellfish harvested from an area possibly contaminated with sewage, or raw fruits and vegetables purchased at a food establishment, contact a Food Safety Specialist with the Department of Environment.
6. Document the information on the Enteric Case Report Form and Shigellosis Case Report Form.

## Exclusion of cases

Exclude cases in the risk groups below according to the general guideline as well as any additional noted requirements:

Risk Group	Criteria for Exclusion
Food handlers	Until 2 negative stool samples have been obtained at least 24 hours apart AND at least 48 hours after discontinuance of antibiotics.
Health care, child care or other staff who have contact with susceptible persons	Until 2 negative stool samples have been obtained at least 24 hours apart and at least 48 hours after discontinuance of antibiotics.
Children attending child care setting, etc.	Until 2 negative stool samples have been obtained at least 24 hours apart and at least 48 hours after discontinuance of antibiotics.

Note: Ensure that all samples submitted to the laboratory for testing are labelled “Public Health management requirement to inform exclusion”.

## Education of case

Offer the following information:

- Ensure cases belonging to a high-risk group are aware of exclusion criteria.
- Provide information regarding the collection and submission of stool samples as required.
- Remind cases about the importance of hand hygiene in stopping the spread of *shigella* and to wash hands before preparing food and after using the bathroom and changing diapers.
- Inform the case about the potential to infect contacts and provide information on how to minimize transmission to others; including household and close contacts, including sexual contacts.
- Recommend that cases infected with *shigella* bacteria or any other gastrointestinal illness should not prepare or serve food to other people [for food handlers see “[Exclusion of cases](#)” section].

See the [General Information Sheet](#) for further information on preventing the transmission of *shigella*.

## Contact tracing

Contact tracing should be initiated as part of case management if symptomatic contacts or contacts that belong to any of the risk groups identified in the “[Exclusion of contacts](#)” section are identified by the case.

### Definition of a contact

A contact is a person who has had exposure to a case during the period of communicability and is at risk of infection by the fecal-oral route by either person-to-person contact or the ingestion of contaminated food or water.

Contacts include:

- Household contacts (those living in the same residence)
- Close contacts including sexual contacts and persons who may have had hand-to-mouth contact with the case such as sharing meals the case has prepared.

### Exclusion of contacts

Exclude contacts in the risk groups below:

Risk Group	Criteria for Exclusion
Contacts who are employed in: <ul style="list-style-type: none"><li>• food handling</li><li>• child care*</li><li>• health care and/or other staff who have contact with susceptible persons</li></ul> <p>* Inclusive of those attending child care.</p>	<p><i>Symptomatic:</i> Until 2 negative stool samples have been obtained at least 24 hours apart AND at least 48 hours after discontinuance of antibiotics.</p> <p><i>Asymptomatic:</i> Collect one screening stool sample. Exclusion not necessary while awaiting culture results.</p> <p>Note: If any of the culture specimens are positive for shigella bacteria then treat as a case.</p>

Note: Ensure that all samples submitted to the laboratory for testing are labelled “Public Health management requirement to inform exclusion”.

### Education of contacts

If Public Health is notifying contacts, inform the contacts of the following:

- Their potential exposure
- An explanation of the illness (description of the disease, symptoms, etc.)
- The range of clinical presentation

- Incubation period
- Requirement for testing for symptomatic and asymptomatic contacts identified as belonging to any of the risk groups in the “[Exclusion of contacts](#)” section.
- Report to Public Health if they become symptomatic.

See the [General Information Sheet](#) for further information on preventing the transmission of *shigella*.

## Outbreak control

Consult the [Outbreak Response Plan](#) for further guidance if an outbreak is suspected.

For outbreaks in child care settings also refer to the [Guidelines for Communicable Disease Prevention and Control for Child Care Settings](#).

For Outbreaks in Long-Term Care Facilities also refer to Infection Prevention and Control Nova Scotia’s (IPCNS) [Infection Prevention and Control: Guidelines for Long-Term Care Facilities](#).

## Surveillance forms

[novascotia.ca/dhw/populationhealth/surveillanceguidelines/NS\\_Notifiable\\_Disease\\_Surveillance\\_Case\\_Report\\_Form.docx](http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/NS_Notifiable_Disease_Surveillance_Case_Report_Form.docx)

[novascotia.ca/dhw/populationhealth/surveillanceguidelines/Enteric\\_Case\\_Report\\_Form.pdf](http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/Enteric_Case_Report_Form.pdf)

[novascotia.ca/dhw/populationhealth/surveillanceguidelines/Shigellosis\\_Case\\_Report\\_Form.pdf](http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/Shigellosis_Case_Report_Form.pdf)

## [General Information Sheet](#)

## References

- Public Health Agency of Canada. [2009]. Case Definitions for Communicable Diseases under National Surveillance. CCDR 2009; 35S2, 1-123. Retrieved from [phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/35s2/index-eng.php](http://phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/35s2/index-eng.php)
- Report of the Committee on Infectious Diseases, 2000. American Academy of Pediatrics
- Control of Communicable Diseases Manual, 20th edition. 2015. David Heymann, MD, editor.
- Provincial Microbiology User’s Manual. [cdha.nshealth.ca/pathology-laboratory-medicine](http://cdha.nshealth.ca/pathology-laboratory-medicine)
- Red Book. 2012 Report of the Committee on Infectious Diseases, 29th edition. American Academy of Pediatrics.
- Shigellosis. [cdc.gov/shigella/index.html](http://cdc.gov/shigella/index.html)