

<p><b>IN THIS ISSUE:</b></p> <ul style="list-style-type: none"> <li>▪ <b>Public Health Alert: Emergence of extensively drug-resistant (XDR) Shigella cases in men who have sex with men</b></li> </ul>	<p><b>FROM:</b> Nicholas Brandon, MD, MA, MSc, CCFP, FRCPC Acting Medical Officer of Health</p>
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<p><b>Key Messages:</b></p> <ul style="list-style-type: none"> <li>▪ Consider extensively drug resistant (XDR) shigellosis in symptomatic men who have sex with men.</li> <li>▪ Request antibiotic susceptibility testing on requisition for stool sample bacterial culture.</li> <li>▪ <u>Do not treat empirically</u> with Ampicillin, Fluoroquinolones, third-generation Cephalosporins, Azithromycin, or Trimethoprim-Sulfamethoxazole if XDR shigellosis is suspected.</li> <li>▪ Assess and counsel patients with XDR Shigella regarding sexual activity, testing for other STIs, other transmission risk factors and precautions.</li> </ul>
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**Public Health Alert: Emergence of extensively drug-resistant (XDR) Shigella cases in men who have sex with men**

Public Health Ontario (PHO) is aware of at least ten cases (all male) of XDR Shigella sonnei in Ontario with onsets between March 29, 2022 and January 31, 2023; nine cases in Toronto and one in Region of Waterloo. There could be other cases in Ontario that were tested at community or hospital laboratories.

Sexual contact between gay, bisexual, and other men who have sex with men (GBMSM) has been identified as the predominant route of transmission. The United Kingdom, a number of European countries, and the United States have seen similar increases in XDR shigellosis.

XDR Shigella is currently defined as resistant to the following five antimicrobials: Ampicillin, Fluoroquinolones, third-generation Cephalosporins, Azithromycin, and Trimethoprim-Sulfamethoxazole. This leaves limited treatment options available that have documented clinical success for shigellosis.

**Shigellosis**

Shigellosis is a reportable disease in Ontario. There are four pathogenic species within the genus: Shigella dysenteriae (serogroup A), Shigella flexneri (serogroup B), Shigella boydii (serogroup C) and Shigella sonnei (serogroup D). The infectious dose is as low as 10 - 100 organisms. The primary mode of transmission is fecal-oral; including ingestion of contaminated food or water and through sexual contact. The illness is usually self-limiting, lasting 4 - 7 days. The risk of transmission increases for individuals engaging in anal-oral sex and in settings where personal hygiene is limited such as child-care centres. Cases of shigellosis co-occurring with other sexually transmitted infections (STIs), including HIV, have been previously described among GBMSM.

Symptoms of shigellosis include:

- watery, loose stools; stools may contain mucus and blood
- fever
- abdominal cramps, nausea, and vomiting
- tenesmus

**For clinicians**

- Take a sexual history if shigellosis is suspected.
- Submit stool specimens for culturing using Public Health Ontario's Reference Bacteriology Requisition form: <https://www.publichealthontario.ca/-/media/Documents/Lab/reference-bacteriology-requisition.pdf>. Under section "3 - Test(s) requested" check off both the "identification" and "antimicrobial sensitivity" boxes.

- If concerned about sexually transmitted proctocolitis or enteritis, test for other STIs and bloodborne infections, including HIV, Syphilis, Gonorrhoea, Chlamydia, Hepatitis B and Hepatitis C at exposed sites, as appropriate.

## Treatment considerations

- Oral rehydration/electrolyte replacement is essential in patients who are dehydrated.
- Most patients (regardless of XDR results) will improve without antibiotic therapy.
- Antibiotic therapy is recommended for patients with severe disease (e.g., hospitalized) or immunocompromised patients.
- In those who require antibiotics, therapy should be guided by antimicrobial susceptibility testing in consultation with an infectious disease specialist or other clinicians knowledgeable in treating resistant bacteria. Antibiotics should only be used when clinically indicated.

## Counselling of cases

- Sexual activity should be avoided from symptom onset until at least seven days after symptoms have stopped. Fecal-oral contact during sexual activity should be avoided for 4 - 6 weeks, in consideration of the shedding period for shigellosis.
- Hygiene measures should be completed prior to sexual activity to potentially reduce fecal-oral exposure and include the following:
  - Wash hands, genitals, and anus before and after sexual activity
  - Use latex gloves for fingering or fisting and dental dams during oral-anal sex
  - Refrain from sharing sex toys and ensure proper cleaning and disinfection after their use and between partners
  - Change condoms between anal and oral sex
- Practice safer sex by using a condom to reduce the risk of acquiring other sexually transmitted

infections, including HIV, Syphilis, Gonorrhoea and Chlamydia.

- Advise against swimming and using hot tubs, or water spray parks until 48 hours after symptoms have resolved.
- Symptomatic cases who are food-handlers, health care providers, care givers or childcare attendees are excluded by public health pending a negative stool sample collected at least 24 hours after cessation of symptoms **OR** 48 hours after completion of antibiotic therapy. Symptomatic contacts who work in high-risk settings need to be assessed and should be excluded pending stool testing results.

## For laboratories

- Laboratories performing initial stool testing by molecular methods instead of culture should perform reflexive culture following any positive findings for bacterial enteric pathogens, including Shigella.
- All laboratories in the province should continue to perform susceptibility testing of cultured Shigella isolates in their laboratories, if susceptibility testing is already in place.
- In addition, all laboratories in the province performing bacterial stool testing should continue to send their cultured Shigella isolates to the Public Health Ontario laboratory for routine subtyping surveillance.

## Reference

Public Health Ontario. Infectious Diseases Protocol, Appendix 1: Case Definitions and Disease-Specific Information. Disease: Shigellosis (May 2022): [https://www.health.gov.on.ca/en/pro/programs/publichealth/oph\\_standards/docs/shigellosis\\_chapter.pdf](https://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/shigellosis_chapter.pdf)