
SUBJECT: Multidrug-Resistant Gonorrhoea (MDR-GC)
Date: April 17, 2023
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To: Health Care Providers, Hospitals
From: Dr. Matthew Tenenbaum, Associate Medical Officer of Health

Multidrug-resistant gonococcal infections have been identified internationally and within Ontario. Therefore, please ensure that:

- **All patients with suspected infection have NAAT *and* culture specimens taken from each potentially exposed site;**
- **All patients with a confirmed or suspected infection receive appropriate treatment, per guidelines;**
- **All patients receive a test of cure:**
 - **Preferred: Culture, 3-7 days after completing treatment.**
 - **Acceptable: NAAT, 2-3 weeks after completing treatment.**
- **Scenarios involving drug resistance or treatment failures are reported to WDGPH.**

Recent international reports, including from Europe and the United States, have identified a multidrug-resistant strain of *Neisseria gonorrhoeae*.^{1,2} Multidrug-resistant gonococcal infections (MDR-GC) are defined as:

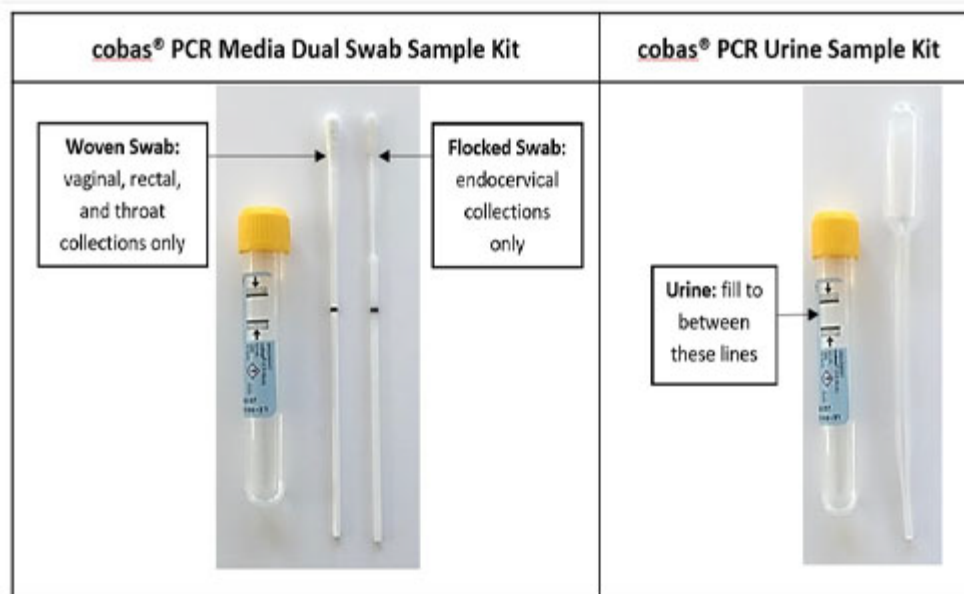
- Decreased susceptibility or resistance to either cephalosporins or azithromycin, AND
- Resistance to ≥ 2 other antimicrobials (penicillin, tetracycline, erythromycin, ciprofloxacin).³

This strain is likely circulating within WDG and Ontario. According to a memo from the Chief Medical Officer of Health, recently an Ontario resident with no known travel history was identified as having a gonococcal infection with a similar resistance pattern to that seen internationally (i.e. reduced susceptibility to ceftriaxone and cefixime, and resistance to penicillin, ciprofloxacin, and tetracycline).

Testing

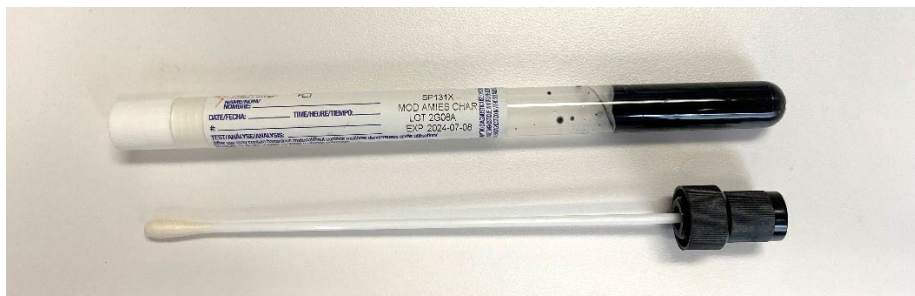
For all patients with suspected gonococcal infections, please ensure that you collect a **NAAT specimen AND a culture specimen** from **each potentially exposed site** (i.e. urogenital, pharyngeal, and/or rectal). NAAT is more sensitive, while culture allows for the assessment of drug sensitivity.

For NAAT testing – Please use the appropriate cobas PCR sample kit and swab recommended by Public Health Ontario. Any samples submitted will also be tested for *Chlamydia trachomatis*.



Source: Public Health Ontario

For Culture testing – Please use the charcoal swabs included in the *Neisseria gonorrhoeae* Culture Kit from Public Health Ontario. Please note that urine cannot be tested for culture.



Source: Wellington-Dufferin-Guelph Public Health

For all specimens:

- Please complete PHO's [General Test Requisition](#) form including demographic details, the name of the test, and additional information (e.g. onset date) as available;
- Swabs should be received within 48 hours if possible but will be accepted by Public Health Ontario Laboratory up to 72 hours after collection;
- If you need testing supplies, please use PHO's [Requisition for Containers and Supplies](#);
- Refer to PHO's [Test Information Index](#) for additional information, as necessary.

Treatment

Per the Canadian Guidelines on STIs (CGSTI), uncomplicated gonococcal infections should be treated with combination therapy. The preferred regimen is **ceftriaxone 250 mg IM plus azithromycin 1 g PO**.⁴

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Alternate treatment regimens for scenarios where first-line therapy is not possible (e.g. severe medication allergy) are outlined in the Ontario Gonorrhoea Testing and Treatment Guide from PHO. Please note that this guide was last updated in 2018 and is currently under review.⁵

STI medications can be ordered from WDGP using the [STI Medication Order Form](#).

Please note that individuals with suspected gonococcal infections can be treated empirically with the same medication regimens; lab confirmation is not required prior to treatment.⁵

Follow Up

Test of cure is recommended for all GC cases at all positive sites (i.e. urogenital, pharyngeal, or rectal). Culture is preferred and should be performed 3-7 days after completing treatment. If culture is not available, NAAT testing performed 2-3 weeks after treatment will also be accepted.⁴

Given the risk of re-infection, all GC cases should also be re-screened six months following treatment.⁴

Reporting

All gonococcal infections are reportable to Public Health. It is particularly important to report any cases involving:

- Multidrug-resistant (MDR) or extensively drug-resistant (XDR) strains of *N. gonorrhoeae*;
or
- Suspected or confirmed treatment failure (i.e. test of cure is positive without known re-exposure).

In these scenarios, WDGP staff can assist with the appropriate management of these cases to reduce the risk of further transmission within the community. Please contact WDGP at **519-822-2715 ext. 7006**.

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References:

1. Golparian D et al. Multidrug-resistant *Neisseria gonorrhoeae* isolate SE690: mosaic penA-60.001 gene causing ceftriaxone resistance internationally has spread to the more antimicrobial-susceptible genomic lineage, Sweden, September 2022. *Eurosurveillance*. 2023;28(10). Available from: <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2023.28.10.2300125>
2. Massachusetts. Department of Public Health. Department of Public Health announces first cases of concerning gonorrhoea strain. [Media Release]. 2023 Jan 2023. Available from: <https://www.mass.gov/news/department-of-public-health-announces-first-cases-of-concerning-gonorrhoea-strain>
3. Martin I et al. Multidrug-resistant and extensively drug-resistant gonorrhoea in Canada, 2012–2016. *CCDR*. 2019;45(2/3). Available from: <https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2019-45/issue-2-february-7-2019/article-1-multidrug-resistant-extensively-drug-resistant-gonorrhoea-canada.html>
4. Public Health Agency of Canada. Gonorrhoea guide: Key information and resources. [Internet]. 2022 July 25. Available from: <https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/gonorrhoea.html>
5. Public Health Ontario. Ontario Gonorrhoea testing and treatment guide, 2nd Edition. [Internet]. 2018. Available from: <https://www.publichealthontario.ca/-/media/documents/G/2018/guide-gonorrhoea-testing-treatment.pdf>

For more information, please contact:

Name/Title: Dr. Matthew Tenenbaum, Associate Medical Officer of Health

Email: matthew.tenenbaum@wdgpublichealth.ca

Website: www.wdgpublichealth.ca