

GONORRHEA

Goal/Objective

One of the most serious complications of gonococcal infection is ophthalmia neonatorum. Gonococcal ophthalmia occurs in 30% to 50% of infants exposed during delivery and may progress quickly to corneal ulceration, perforation of the globe and permanent visual impairment. Disseminated gonococcal infection may also lead to endocarditis and meningitis in all age groups.

The public health goal in the management of gonorrhea is to reduce/prevent transmission, major sequelae and re-infection.

Case definition

CONFIRMED CASE- GENITAL INFECTIONS

Laboratory confirmation of infection in genitourinary specimens:

- Detection of *Neisseria gonorrhoeae* by culture
OR
- DETECTION OF *N. gonorrhoeae* nucleic acid

CONFIRMED CASE- EXTRA GENITAL INFECTIONS

Laboratory confirmation of infection from pharynx, rectum, joint, conjunctiva, blood and other extra-genital sites:

- Detection of *N. gonorrhoeae* by culture
OR
- Detection of *N. gonorrhoeae* nucleic acid

CONFIRMED CASE- PERINATALLY ACQUIRED INFECTIONS

Laboratory confirmation of infection from a neonate in the first four weeks of life leading to the diagnosis of gonococcal conjunctivitis, scalp abscess, vaginitis, bacteremia, arthritis, meningitis or endocarditis:

- Detection of *N. gonorrhoeae* by culture
OR
- Detection of *N. gonorrhoeae* nucleic acid

Causative agent

Neisseria gonorrhoeae, a gram negative diplococcal bacterium.

Source

Exudate and secretions of infected mucosal surfaces (vagina, urethra, rectum and/or throat).

Incubation

Usually 2-7 days.

Transmission

Transmission occurs by direct sexual contact from a sexual partner through contact with exudates from infected mucosal surfaces.

Infection can be spread to infants if the mother is infected at the time of birth.
Infection in the newborn usually involves the eye.

Communicability

The infection may extend for months as long as the bacteria are present in the body, even if the individual is asymptomatic. Effective therapy ends communicability within hours.

Symptoms

- Infection is often asymptomatic in females and symptomatic in males. In both males and females, rectal and pharyngeal infections are more likely to be asymptomatic.

Females	Males
Vaginal discharge	Urethral discharge
Dysuria	Dysuria
Lower abdominal pain	Urethral itch
Abnormal vaginal bleeding	Testicular pain and/or swelling or symptoms of epididymitis
Deep dyspareunia	Rectal pain and discharge with proctitis
Rectal pain and discharge if proctitis	

- The bacteria may spread throughout the body causing pelvic inflammatory disease, epididymo-orchitis, reactive arthritis and disseminated gonococcal infection.
- For a complete list of clinical manifestations and major sequelae of gonorrhea infection in neonate, infants, children, youth and adults, see the latest edition of the [Canadian Guidelines on Sexually Transmitted Infections](#).

Diagnostic testing

- In general, NAAT testing is recommended for general screening and diagnosis of gonorrhea in Nova Scotia.
- NAAT may be done at the time of presentation without having to wait 48 hours post-exposure.
- IDEG recommends the following in relation to test of cure [TOC] [September 2019]: Routine TOC is not necessary when a recommended treatment has been given and symptoms completely resolve. However, under the following circumstances, follow-up **cultures where available should be completed 3-7 days after completion of therapy. If testing by cultures are not available, then NAAT** should be completed 4 weeks after completion of therapy:
 - A previous treatment for gonorrhea has [failed](#)
 - Second line therapy was used
 - Gonococcal antimicrobial resistance has been documented in the case's isolate
 - Patient compliance with treatment is poor or uncertain
 - Pharyngeal or rectal gonorrhea is suspected or confirmed
 - There is re-exposure to an untreated partner
 - Infection occurs during pregnancy
 - PID or disseminated gonococcal infection is diagnosed
 - The case is a woman undergoing therapeutic abortion (TA) who has a positive test result for gonococcal infection, as they are at increased risk of developing pelvic inflammatory disease
 - The case is a child

In addition to the above IDEG recommendations, as per the [Canadian Guidelines on Sexually Transmitted Infections](#) and if known to Public Health, TOC is also recommended in the following situations:

- Case is linked to another case with documented antimicrobial resistance to the treatment provided
- Case is linked to a treatment failure case that was treated with the same antibiotic

The table below outlines what TOC options are available in each of the zones:

Laboratory	TOC Option	Specimen	Timing	Result Interpretation
<u>Central Zone</u> QEII	NAAT	Throat/rectal/ vaginal - Panther Swab Urine -males	4 weeks after completion of treatment	Positive specimens may indicate failure. Consult ID for treatment options.
	Culture	Throat / rectal / cervical / meatal source - Ames swab	3-7 days after completion of treatment	Positive specimens will be sent to the NML for molecular testing for strain typing and resistance markers
<u>Western Zone</u> Valley Regional Yarmouth Regional	NAAT	Throat/rectal/ vaginal – Roche collections swabs Urine -males	4 weeks after completion of treatment	Positive specimens may indicate failure. Consult ID for treatment options.
	Culture	Throat / rectal / cervical / meatal source - Ames swab	3-7 days after completion of treatment	Positive specimens will be sent to the NML for molecular testing for strain typing and resistance markers
<u>Eastern Zone</u> CBRH	NAAT	Throat/rectal/ vaginal - Panther Swab Urine -males	4 weeks after completion of treatment	Positive specimens may indicate failure. Consult ID for treatment options.
	Culture	Not available at the regional laboratory. *		Positive specimens will be sent to the NML for molecular testing for strain typing and resistance markers
<u>Northern Zone</u> Colchester Regional	NAAT	Testing done at QEII (See above)		
	Culture	Not available at the regional laboratory. *		

*Neisseria gonorrhoeae is very labile and will become non-viable if not plated to appropriate media within 24 hours. This limits the feasibility of culture in zones outside Central and Western. If the TOC NAAT is positive suggesting treatment failure, culture should be attempted prior to re-treatment. Contact the regional laboratory to ensure samples are referred to Central Zone to allow plating within 24 hours.

Source: Dr. David Haldane & Dr. Todd Hatchette, October 2019

Treatment

The recommended treatment for gonorrhea is combination antibiotic therapy [with a cephalosporin and a macrolide] in response to increasing antimicrobial resistance. Ideally the 2 drugs should be administered concurrently. This combination therapy includes effective treatment for chlamydia due to high rates of co-infections.

The most recent version of the [Canadian Guidelines on Sexually Transmitted Infections](#) provides extensive information regarding treatment of specific gonococcal infections in specific populations.

PUBLIC HEALTH MANAGEMENT & CONTROL

Case Management

CASE FOLLOW UP

- Contact the primary care provider to ascertain that case has been notified of positive result and obtain clinical information about the case.
- Interview the case:
 - Review clinical information.
 - Determine if follow-up test of cure is required. If test of cure is required, discuss the importance of testing and ensure testing has been done [see diagnostic testing section].
 - Determine if testing for Chlamydia, Syphilis and HIV were considered.
 - Determine contacts [see Contact Tracing section].
 - Advise case that re-screening six months post treatment is recommended to rule out re-infection.
- If genital, rectal, or oral infections are diagnosed in prepubescent children, sexual abuse must be considered. For more information regarding sexual abuse, review and refer to the [Supplementary statement for the management and follow-up of sexual abuse in peripubertal and prepubertal children](#).

EDUCATION OF THE CASE

At the time of diagnosis, reviewing and providing education on prevention practices should include discussion of:

- The risk of re-infection,
- The need for the case and their contact[s] to abstain from sexual activity until the completion of a multiple-dose treatment or for 7 days after a single-dose treatment and the case/contact[s] are asymptomatic [i.e., signs and symptoms have resolved],

- Strategies for effective prevention practices [refer to the Primary Care and Sexually Transmitted Infections chapter of the [Canadian Guidelines on Sexually Transmitted Infections](#)]
- Prevention of reproductive sequelae.

Contact Tracing

The goal of partner notification is to prevent re-infection and further transmission. This is achieved by obtaining enough information to confidentially locate, notify and refer sexual partners/contacts for clinical evaluation, testing, treatment and health education.

The function of partner notification may reside with the case, the health care provider or Public Health. Depending on the circumstance, a public health nurse may be required to conduct partner notification, for e.g. increase cluster of cases.

INITIATE CONTACT TRACING

All partners who have had sexual contact with the case within at least 60 days before the onset of symptoms or date of specimen collection [if the case is asymptomatic] should be notified, tested and treated (regardless of clinical findings and without waiting for test results).

The length of time for the trace-back period should be extended in the following three circumstances:

- To include additional time between the date of testing and date of treatment,
- If the case states that there were no partners during the recommended trace-back period, the most recent partner should be notified,
- If all partners traced [according to recommended trace-back period] test negative, the last partner prior to the trace-back period should be notified.

When a neonate or infant is confirmed to have gonorrhea, the mother and her most recent sexual partner(s) within 60 days of delivery should be notified/contacted, clinically evaluated and empirically treated regardless of clinical findings and without waiting for test results.

EDUCATION OF THE CONTACT

- Provide information on the disease transmission, symptoms and safer sexual practices.
- Discuss the importance of being tested and treated.
- Contacts should abstain from sexual contact until the completion of a multiple-dose treatment or for 7 days after a single-dose treatment.

Surveillance Guidelines

General Information Sheet

References

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