

Notification Timeline:

From Lab/Practitioner to Public Health: Within 72 hours.

From Public Health to Saskatchewan Health: Within 2 weeks.

Public Health Follow-up Timeline: Initiate within 72 hours.

Public Health Purpose for Notification of Gonococcal infections

- To minimize mortality and morbidity from gonococcal infections through contact tracing;
- To track epidemiology trends of gonococcal infections in Saskatchewan including presentation, risk factors and distribution;
- To monitor the incidence and frequency of antimicrobial resistant *N. gonorrhoeae* in Saskatchewan in order to inform treatment guidelines;
- To identify at risk populations in order to inform prevention and control programming;
- To monitor the effectiveness of prevention and control measures; and
- To inform the public and medical community about gonococcal infections.

Table 1. Surveillance Case Definition¹

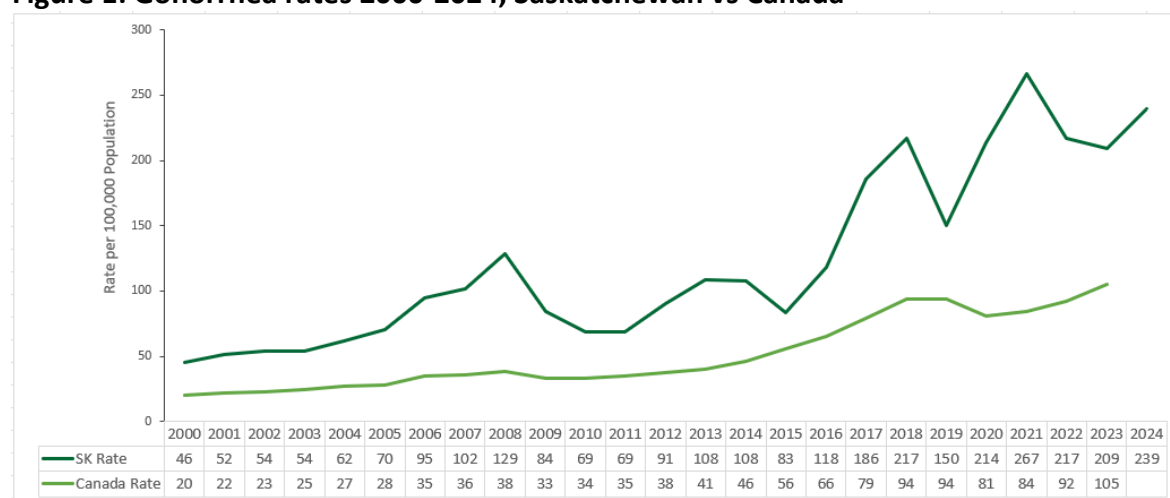
Confirmed Case – Genital Infections (Public Health Agency of Canada, 2008)	Laboratory confirmation of infection in genitourinary specimens: • detection of <i>N. gonorrhoeae</i> by culture; OR • detection of <i>N. gonorrhoeae</i> by nucleic acid amplification test (NAAT).
Confirmed Case – Extra-genital Infections (Adapted from Public Health Agency of Canada, 2008)	Laboratory confirmation of infection from pharynx, rectum, or conjunctiva: • detection of <i>N. gonorrhoeae</i> by culture; OR • detection of <i>N. gonorrhoeae</i> by nucleic acid amplification test (NAAT).

¹ Surveillance case definitions ensure uniform reporting to allow comparability of surveillance data. The definition is not intended to be used for clinical or laboratory diagnosis or management of cases.

Confirmed Case – Disseminated Infections (Adapted from Public Health Agency of Canada, 2008 and US Center for Disease Control, 2023)	Laboratory confirmation of infection from appropriate clinical specimen (synovial fluid, blood, skin lesions or CSF) or other extra-genital (non-mucosal) sites in a person with or without clinical manifestations ¹ of disseminated infection: • detection of <i>N. gonorrhoeae</i> by culture; - OR • detection of <i>N. gonorrhoeae</i> by nucleic acid amplification test (NAAT).
Confirmed Case – Perinatally Acquired Infections (Public Health Agency of Canada, 2008)	Laboratory confirmation of infection from a neonate in the first 4 weeks of life leading to the diagnosis of gonococcal conjunctivitis, scalp abscess, vaginitis, bacteremia, arthritis, meningitis or endocarditis: • detection of <i>N. gonorrhoeae</i> by culture; - OR • detection of <i>N. gonorrhoeae</i> by nucleic acid amplification test (NAAT).
¹ Clinical manifestations of disseminated gonococcal infection include septic arthritis, polyarthralgia, tenosynovitis, petechial/pustular skin lesions, bacteremia, or endocarditis or meningitis	

Epidemiology and Occurrence (Government of Canada, 2025b)

- Occurs worldwide and rates in Canada are highest among males between the ages of 20-39 years and females 15-29 years of age.
- It is the second most commonly reported STI in Canada.
- *Neisseria gonorrhoeae* has an ability to rapidly develop resistance to antimicrobials and has developed resistance to every class of antimicrobial used to treat it. This represents a significant public health concern.
- Some antibiotics are ineffective and are no longer used.
- There are also reports of travel-related ceftriaxone resistant gonorrhea in Canada and resistance to azithromycin is also increasing.
- Continued monitoring for antimicrobial resistance is important to prevent the spread of drug-resistant *N. gonorrhoeae* and to ensure high cure rates for this treatable infection.

Figure 1: Gonorrhea rates 2000-2024, Saskatchewan vs Canada

- The epidemiology in Saskatchewan:
 - Gonococcal infection rates in Saskatchewan are over double those in Canada, albeit the majority of jurisdictions in Canada are also experiencing an upward trend in number of identified cases.
 - Gonococcal infection rates are highest in the northern population of Saskatchewan. This is presumed to be related to barriers in accessing health care services or reluctance to seek health care because of the lack of anonymity in small communities.
 - The sharp rate increase in 2016 and 2017 reflects a large cluster of cases among men practicing sex with men in Saskatoon area.
 - Commonly reported risk factors include unprotected sex; new or multiple partners in the past 3 months; alcohol use (about a quarter of cases aged 15-29 years); and having sex with a person with a known sexually transmitted infection (STI).
 - Over time, *N. gonorrhoeae* has developed resistance to multiple antibiotics previously effective as empiric therapy. Resistance to currently recommended antibiotic treatment has not yet been detected in Saskatchewan, however, there are significant gaps in antimicrobial susceptibility surveillance. If undiagnosed, this can be transmitted to several partners before it is treated and treatment options are limited.
- Without treatment, infection persists for many months.
- Chlamydia is often a co-infection for those diagnosed with *N. gonorrhoeae*.

Additional Background Information

Causative Agent

Bacterial infection caused by *Neisseria gonorrhoeae*.

Symptoms (Government of Canada, 2025b)

Gonococcal infection can result in a range of clinical presentations depending on the site of infection. Rectal and pharyngeal infections are often asymptomatic; symptoms, if they do occur, are related to the inflammation, i.e; proctitis or pharyngitis, caused by *N. gonorrhea*. Genital infections in males and females may be asymptomatic, however males are more likely to experience symptoms.

Males

- Urethritis (dysuria, urethral discharge)
- Epididymitis

Females

- Vaginal discharge
- Urethritis (dysuria)
- Abnormal vaginal bleeding
- Cervicitis (strawberry/friable cervix, cervical discharge)
- Lower abdominal pain
- Deep dyspareunia

Children over 30 days

- As above
- Children are more likely to present with conjunctivitis or disseminated gonococcal infection (DGI) (see [Complications](#))

Neonates

- Ophthalmia neonatorum (eyelid edema, conjunctivitis, purulent discharge)
- Disseminated gonococcal infection (DGI)

Complications

Infection can spread from the local site in untreated infections or if diagnosis and treatment are delayed or inadequate. The following complications can arise:

- DGI (a spectrum of conditions including arthritis, septic arthritis, polyarthralgia, tenosynovitis, petechial/pustular skin lesions, bacteremia, or, on rare occasions, endocarditis or meningitis)
- Reactive arthritis
- Perihepatitis
- Pelvic inflammatory disease (which can lead to infertility or increased risk of ectopic pregnancy)
- Epididymo-orchitis (which can lead to infertility)

Reservoir

Humans.

Mode of Transmission

Contact with exudates from mucous membranes of infected people.

Sexual transmission: transmission usually occurs through oral, anal or vaginal sexual contact with a person with gonorrhea (symptomatic or asymptomatic)

Perinatal infections: passage through birth canal.

Autoinoculation may occur from an infected genital site to conjunctiva or rectum (Government of Canada, 2025b).

Incubation Period

Usually 2-7 days.

Period of Communicability

Effective treatment ends communicability within hours. Without treatment, communicability may extend for months.

Specimen Collection and Transport

In response to increasing gonococcal antimicrobial resistance being observed in Canada and other parts of the world, improved monitoring of trends in antimicrobial resistance patterns is needed. While NAAT are non-invasive and have high sensitivity and specificity, culture is required to obtain an isolate that can be tested for antimicrobial susceptibility. Without antimicrobial susceptibility information for at least a portion of patients in a population, there will not be adequate data for surveillance required to inform empiric treatment guidelines

Culture is recommended in the following circumstances (Government of Canada, 2025b):

- *In the presence of symptoms compatible with cervicitis, urethritis, pelvic inflammatory disease (PID), epididymo-orchitis, proctitis or pharyngitis*
- *In pregnant individuals*
- *When an asymptomatic individual is notified as a contact of an individual infected with *N. gonorrhoeae**
- *When sexual abuse/sexual assault is suspected (this may vary according to legal and medical contexts of the jurisdiction)*
- *If the infection might have been acquired in countries or areas with high rates of AMR*

The [Saskatchewan STBBI Testing Policy](#) outlines testing recommendations for STBBIs and supports providers to offer options for STBBI testing. The National Advisory Committee on Sexually Transmitted and Blood Borne infections (2025b) provides specific recommendations for gonorrhea testing, [Gonorrhea guide: Screening and diagnostic testing - Canada.ca](#)

Lab Results and Interpretation

Nucleic acid amplification tests (NAAT)

NAAT are the most sensitive tests for *N. gonorrhoeae* and can detect small amounts of genetic material.

Culture

Culture is less sensitive than NAAT, however it is required for traditional antimicrobial susceptibility testing, serotyping, and monitoring AMR patterns and trends. Successfully culturing *N. gonorrhoeae* can be a challenge because it is difficult to maintain the bacteria's viability during extended transport or temperature fluctuations (Qureshi, 2025).

Gram Stain

The presence of Gram-negative intracellular diplococci seen on direct microscopic examination of urethral smears from symptomatic males is highly predictive of *N. gonorrhoeae* (Government of Canada, 2025b).

Molecular Prediction Tools

There are now methods available to detect molecular markers predictive of antimicrobial resistance and serotypes in *N. gonorrhoeae*. This testing can be performed on cultured isolates or directly on NAAT-positive specimens. Molecular prediction is not validated to inform individual care decisions, and in cases of disseminated gonorrhea, neonatal infections, or treatment failure it is important to obtain cultured isolates for traditional antimicrobial susceptibility testing. However, for population-level surveillance of antimicrobial resistance and transmission trends, molecular prediction tools are able to effectively increase the number of cases contributing to monitoring efforts.

Table 2. Interpretation of Test Results

Type of Test	Test Result	Site of Specimen	Interpretation as per Case Definition	Comments
NAAT	Positive	Genitourinary (urethra, urine, vagina, cervix, rectum)	Confirmed - Genital	
		Pharynx, conjunctiva, and other extra-genital sites	Confirmed - Extragenital	
		Synovial fluid, blood, pustular skin lesions, CSF	Confirmed - Disseminated	
	Not Detected	All sites	Does not meet case definition	
	Indeterminate	All sites	Does not meet case definition	Organism may be present near the limit of detection of the test. Recommend recollection of new sample for repeat testing
	Invalid	All sites	Does not meet case definition	Specimen failed Quality Control or exhibited non-specific amplification. Recommend recollection of new sample for repeat testing.
Culture	Detected	Genitourinary (urethra, urine, vagina, cervix, rectum)	Confirmed – Genital infection	
		Pharynx, conjunctiva, and other extra-genital sites	Confirmed – Extra-genital infection	
		Synovial fluid, blood, pustular	Confirmed - Disseminated	Depending on clinical manifestations

Type of Test	Test Result	Site of Specimen	Interpretation as per Case Definition	Comments
		skin lesions, CSF		
	Not detected	All Sites	Does not meet case definition	
Microscopy (in-clinic assessment)	Visualization of Gram-negative intracellular diplococci	Urethra, endocervix	Does not meet case definition.	Predictive of <i>N. gonorrhoeae</i> , Submit specimens for NAAT and/or culture confirmation

Source: Roy Romanow Provincial Laboratory, December 2025

Test of Cure is important in the era of increasing AMR-GC. Refer to the [Canadian Gonorrhea guide: Treatment and follow-up](#) for details.

Interpretation of positive test of cure results must consider if this is treatment failure or reinfection.

For surveillance purposes, a subsequent positive result within 30 days of treatment is considered a duplicate case.

Public Health Investigation

I. Case

Refer to [Attachment – Confidential Notification of Chlamydia and Gonorrhea](#) to assist.

History

- Patients should be informed that their sexual history is confidential. Key elements to inquire about include:
 - Onset of illness
 - Risk factors including:
 - sexual contact with a gonococcal-infected person or with a person with a compatible syndrome;
 - unprotected sex with a new partner
 - more than two sexual partners in the past 6 months;

- vulnerable populations (for example persons who inject drugs, individuals who receive food, shelter, money or drugs for sex, street youth, men who have unprotected sex with men, sexually active youth and those <30 years of age with multiple partners, etc.).
 - unprotected sex with a partner from a high gonorrhea burden (either international or within Canada);
 - previous gonococcal infection and other STI infection;
 - anonymous partnering;
 - substance use.
- Sexual contacts in order to interrupt the cycle of transmission. Travel history may be of significance in contact tracing.

Treatment

Treatment for gonococcal infection is indicated for the following:

- a positive *N. gonorrhoeae* test;
- presumptive diagnosis of a syndrome compatible with a gonococcal infection, (without waiting for the test results of *N. gonorrhoeae*);
- laboratory diagnosis of gonococcal infection in a sexual partner;

Increasing gonococcal antimicrobial resistance being observed in Canada. In response, the Public Health Agency of Canada has been updating treatment recommendations since December 2011 and more recently from the National Advisory Committee on Sexually Transmitted and Blood-Borne Infections in December 2024.

See [Canadian Gonorrhea Treatment Guidelines](#) for preferred treatment recommendations.

Public Health Interventions

Refer to [Attachment - Chlamydia and Gonorrhea Public Health Follow-up Data Collection Worksheet](#) to support public health follow-up.

Assessment

- Assess for contacts.

Communication

- The ordering practitioner should be contacted to discuss circumstances of the case and follow up completed such as treatment, contact tracing, etc if this detail has not been communicated to public health.
- It is important to provide updates to care providers when they have referred cases to public health to assist in follow-up.

Education

- All cases should be provided disease information as well as information on prevention and control measures including safer sex practices.
- Provide education on treatment;
 - patients and contacts should abstain from unprotected intercourse until treatment of both partners is complete (i.e., 7 days after completion of a multiple-dose treatment or for 7 days after single-dose therapy).

Immunization

- There is currently no vaccine licensed in Canada for the prevention of gonorrhea.
- Cases and contacts should be offered any immunizations (e.g., hepatitis B vaccine, etc.) they may be eligible for based on the Saskatchewan Immunization Manual, Chapter 7.

Referral

- Refer to harm reduction or other supportive services as indicated.

Testing

- Additional testing, including HIV, should be recommended for individuals based on the risk assessment and testing history. Refer to the [Saskatchewan STBBI Testing Policy](#).
- Patients who have persistent symptoms after receiving treatment or whose symptoms recur shortly after being treated should be reevaluated and tested for anti-microbial resistance.
- Repeat testing in all individuals is recommended 6 months post-treatment, as re-infection risk is high.

II. Contacts

Contact tracing relies on the cooperation of the patient; it is important that health care providers offer supportive, non-judgmental advice and assistance to patients and their contacts. Most individuals feel notifying partners is the 'right thing to do'; however, they also want advice and support for this from their health care provider.

It is important to understand the patient's particular situation and identify individual barriers to notifying contacts. Inform patients that for many individuals who discuss their STI diagnosis with a partner, the experience is better than they had anticipated (Australian Government Department of Health, 2016).

Table 3. Definitions of Contacts

Sexual Contact	All individuals who have had sexual contact with the index case within 60 days prior to symptom onset or date of diagnosis. If there is no partner during this period, the last sexual partner should be identified.
Neonatal Contact	Neonates born to infected mothers. Mothers of infected neonates. Sexual partners of mothers with infected neonates.

Public Health Interventions

Assessment

- Assess for symptoms.

Communication

- Individual follow-up of contacts is important to intercept the transmission of STIs. These individuals must be notified of their exposure within 72 hours.
- Offer supportive, non-judgmental advice and assistance to contacts.

Education

- All contacts should be provided disease information as well as information on prevention and control measures including safer sex practices.
- Provide education on treatment;
 - cases and contacts should abstain from unprotected intercourse until treatment of both partners is complete (i.e., 7 days after completion of a multiple-dose treatment or for 7 days after single-dose therapy).

Immunization

- Recommend immunizations contacts are eligible for as per the Saskatchewan Immunization Manual. Sexual risk factors may render individuals eligible for Hepatitis A and B vaccines.

Testing

- It is recommended that testing for other sexually transmitted and blood borne infections including occur at the same time. Refer to the [Saskatchewan STBI Testing Policy](#).

Treatment

- Provide medications for gonococcal infection to contacts at the same time of testing. It is not advised to await test results for these individuals.

Prevention Measures

Refer to the [Sexually Transmitted Infections Introduction and General Considerations](#) section of the manual that highlights topics for client education that should be considered as well as provides information on high-risk groups and activities.

Immunization

There is currently no vaccine licensed in Canada for the prevention of gonorrhea. Observational studies have shown protection against gonorrhea infection from the four-component meningococcal serogroup B (4CMenB). Recommendations on the use of 4CMenB for individuals at high-risk for infection have been made in the UK and New York (Government of Canada, 2025).

Education

Education should be provided regarding healthy dating relationships and consent. The Saskatchewan Prevention Institute has several resources to support these topics.

Screening

Screening is an important strategy in reducing gonorrhea rates because infections are often asymptomatic.

Refer to the [Saskatchewan STBI Testing Policy](#) for more information and testing recommendations.

Post-Exposure Prophylaxis

The National Advisory Committee on Sexually Transmitted and Blood-Borne Infections (NAC-STBI) published a statement in November 2025, *Recommendations on the use of prophylactic doxycycline for the prevention of bacterial STI (chlamydia, gonorrhea, syphilis)*².

² <https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/national-advisory-committee-stbi/recommendations-prophylactic-doxycycline-prevention-bacterial-sti-chlamydia-gonorrhea-syphilis.html>

- The NAC-STBBI suggests offering doxycycline post-exposure prophylaxis (200 mg orally, taken within 72 hours of exposure) to cisgender GBMSM and transgender women at increased risk of bacterial STI as a component of comprehensive STBBI services to reduce the risk of syphilis, chlamydia and possibly gonorrhea. The impact of this approach must consider the AMR profile of *Neisseria gonorrhea*.

Revisions

December 2025	Overall, created alignment with Government of Canada, STBBI Guide for Health Professionals. Incorporated reference to SK STBBI Testing Policy. Separated disseminated gonococcal infection from extra-genital infection in Case Definition. Removed treatment failure from case definition. Added text box with link to Canadian guidelines for details on Test of Cure and Treatment Failure. Updated epidemiology and occurrence section and added Figure 1. Gonorrhea Rates 2000-2024 SK vs Canada. Simplified symptoms. Removed clinical details on specimen collection and transport. Aligned with Canadian Guidelines for obtaining culture for monitoring for AMR-GC. Added Lab Results and Interpretation section. Updated treatment recommendations to include link to national guidelines. Updated language to align with other STI chapters regarding prevention and education. Removed clinical details for testing of cases and contacts. Added reference to emerging evidence in Prevention under Immunization, Post-Exposure Prophylaxis. Updated references.
October 2018	Updated contact tracing timelines from 90 days to 60 days in alignments with the Canadian STI Guidelines.
September 2018	Incorporated Public Health Purpose of Notification. Added Epidemiology and Occurrence section. Updated Table 2 to align with Canadian STI Guidelines. Reorganized chapter and applied new format. References reaffirmed or updated as necessary. Aligned with Panorama and included the updated Confidential Notification of Chlamydia and Gonorrhea. Incorporated PHAC definition of treatment failure.
August 2018	Removed reference to preventative treatment for ophthalmia neonatorum with erythromycin ophthalmic prophylaxis.

References

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