

Gonorrhea

Summary

Gonorrhea is a sexually transmitted infection caused by a bacterium. It can be transmitted through sexual contact. All people who are sexually active may be at risk for gonorrhea.

Gonorrhea can infect the urethra (the tube that allows urine and semen to pass out of the body), cervix, rectum, throat, mouth and eyes. Many people with gonorrhea do not have any symptoms. If symptoms do occur, they usually appear one to seven days after infection. Symptoms can include vaginal pain, painful urination, and an abnormal discharge from the vagina, urethra or rectum.

To test for gonorrhea, samples are taken from the sites of suspected infection and tested for the presence of the bacteria. Gonorrhea can be treated and cured using antibiotics, although some strains of gonorrhea have become resistant to some antibiotics.

Gonorrhea can increase the risk of sexual transmission of HIV.

Correct and consistent condom use reduces the risk of gonorrhea transmission.

Key messages on gonorrhea for clients are available at the end of this fact sheet.

The words we use here – CATIE is committed to using language that is relevant to everyone. People use different terms to describe their genitals. This text uses medical terms, such as vagina and penis, to describe genitals. Cisgenderⁱ people can often identify with these terms. Some transgenderⁱⁱ people may use other terms, such as front hole and strapless. CATIE acknowledges and respects that people use words that they are most comfortable with.

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**Published
2016**

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What is gonorrhea?

Gonorrhea is a sexually transmitted infection (STI) caused by the bacterium *Neisseria gonorrhoeae*. The bacterium infects the “wet” linings (mucous membranes) of the body. Gonorrhea can infect the genital tracts, including the cervix, uterus, fallopian tubes, urethra (the tube that allows urine and semen to pass out of the body) and epididymis (a tube in the testicle that stores and carries sperm). It can also infect the mouth, throat (pharynx), anus and rectum. In addition, it can also infect the eyes through contact with infected discharge.^{1,2}

How is gonorrhea transmitted?

Gonorrhea can be transmitted through sexual contact and sharing of sex toys. Transmission occurs when secretions from infected mucous membranes or semen of a person with a urethral infection come into contact with the mucous membranes of another person.

Condomless penetrative vaginal sex and anal sex are the highest-risk behaviours for the transmission of gonorrhea.

Gonorrhea can be transmitted when a person who has the infection in their mouth or throat performs oral sex to another person or when a person performs oral sex on a person who has a genital infection. Oral-anal contact (rimming) can transmit gonorrhea as well.

Shared sex toys can also transmit gonorrhea. It is theoretically possible to transmit gonorrhea through a hand job or fingering if infected fluids are present.

Gonorrhea can be passed during childbirth if the newborn has come into contact with infected vaginal discharge or fluid.^{1,2,3,4}

Who is at risk?

Gonorrhea is the second most common notifiable STI in Canada. A notifiable disease must be reported to public health authorities when an infection is confirmed by a clinic, doctor or laboratory. All people who are sexually active, including people who experience sexual violence, may be at risk

for gonorrhea. The majority of reported cases of gonorrhea occur in people under the age of 30.

Some individuals are at increased risk of gonorrhea infection:

- people who have had sexual contact with a person with a confirmed or suspected case of gonorrhea
- people who have had condomless sex with a resident of an area with high gonorrhea burden and/or high risk of antibiotic resistance
- people with a history of STI infections
- people living with HIV
- people who have had condomless sex with multiple partners.

There are higher rates of gonorrhea among gay men and other men who have sex with men (MSM), sex workers and their sexual partners, Aboriginal people, sexually active youth under 25, street-involved youth, and other homeless populations.^{2,5,6}

Symptoms

Many people with gonorrhea have no symptoms. If symptoms do occur, they usually appear two to seven days after infection (the incubation period) and they may be experienced to varying degrees.

Infection of the cervix: Symptoms may include an increase or change in discharge (a fluid that flows out of the opening of the vagina), vaginal bleeding between periods, painful vaginal intercourse, painful urination and/or pain in the lower abdomen.

Infection of the urethra: Symptoms may include urethral discharge (white, yellow or green), painful urination, urethral itching, and testicular pain and swelling.

Note that the symptoms of gonorrhea may vary for transpersons if they have had bottom surgery and depending on the type of surgery.

Infection of the rectum or anus: Symptoms may include anal itching, anal discharge, painful bowel movements or an urgency to have a bowel movement.

Infection of the throat (pharyngeal gonorrhea) or mouth: Infections in the mouth or throat often have no symptoms; however, individuals with these infections may experience a sore throat.

Infection of the eye: A gonorrhea infection of the eye results in a condition called conjunctivitis (also known as pink eye). The symptoms include itchy red eyes and a green, white or yellow discharge that crusts over the eye.

Symptoms of gonorrhea may be mild or be mistaken for another infection.^{1,2}

Complications

Untreated gonorrhea infection of the cervix can spread to the uterus and fallopian tubes and cause pelvic inflammatory disease (PID). This can result in chronic abdominal pain, infertility and an increased risk of ectopic pregnancy (a potentially serious complication of pregnancy where the embryo implants outside the uterus).

Untreated gonorrhea in the urethra can result in inflammation of the epididymis (called epididymitis). The epididymis is a tube in the testicle that stores and carries sperm. Epididymitis can result in infertility; however, this is a relatively rare occurrence.

Gonorrhea can be passed to a newborn during birth. Severe complications from an infection acquired during birth can include blindness, arthritis, meningitis (inflammation of the protective membrane that surrounds the brain and spinal cord) and sepsis (infection of the bloodstream).

An untreated eye infection (conjunctivitis) caused by gonorrhea can cause scarring of the cornea.

If left untreated, gonorrhea infection can enter the bloodstream and spread through the body (disseminated gonorrhea). This can lead to arthritis, skin lesions and tenosynovitis, which is an inflammation of the sheath surrounding the tendons (the tissues that connect muscle to bone). In rare cases, disseminated gonorrhea may lead to meningitis as well as inflammation of the heart or liver.^{1,2,7}

Testing and diagnosis (screening)

To screen for gonorrhea, samples are taken from the sites of suspected infection and tested for the presence of bacteria. Suspected infection in the urinary and genital tracts may involve providing a urine sample or having a swab of the vagina, cervix or urethra taken. If there is a discharge from the urethra or vagina, a swab may be taken of the discharge. If someone has had oral or anal sex, a swab of the throat or rectum may be taken.

There are two primary methods of testing collected samples for gonorrhea: NAATs (nucleic acid amplification tests) and cell cultures. NAATs are more sensitive than cultures and result in more diagnoses.

NAATs can be used to test urine samples and swabs of the vagina, cervix or urethra. NAATs can be used to detect infection less than 48 hours after a possible exposure to gonorrhea. NAATs should be used to screen individuals who have no symptoms. In Canada there are currently no NAATs licensed to detect rectal and throat samples. However, NAATs can be used to detect gonorrhea in the rectum or throat if the testing laboratory also confirms (validates) a positive NAAT result by using a second test, which may be a cell culture or another NAAT.

Cell culture can be used to test samples taken from the urethra, vagina, cervix, rectum and throat. Cultures may not detect an infection if they are obtained less than 48 hours after an exposure. The Public Health Agency of Canada (PHAC) recommends the use of cultures to determine if the infection is resistant to antibiotics. The use of cultures is also recommended to test symptomatic gay men and other MSM, in cases of sexual assault, and to evaluate pelvic inflammatory disease (PID).

In addition to NAAT and cell culture testing, a swab may be taken if there is a discharge from the urethra or vagina to confirm the presence of gonorrhea bacteria using a microscope.

At the time of testing for gonorrhea, additional specimens should also be obtained from the same sites for chlamydia testing because there are high rates of this infection in people who have gonorrhea. PHAC also recommends HIV counselling and testing, serological testing for syphilis,

immunization for hepatitis B (if not already immune) and immunization for hepatitis A (if not already immune) for high-risk individuals (such as MSM and people who use injection drugs).^{2,8}

Notification of partners

Gonorrhea is a reportable infection in Canada. This means that when an infection is confirmed by a clinic, doctor or laboratory it must be reported to public health authorities. When someone has a confirmed gonorrhea diagnosis, they will be asked by the healthcare provider or public health nurse to contact or provide contact information for all their sexual partners in the 60 days before they were tested or noticed symptoms. If the client chooses not to contact their sexual partners, the healthcare provider or public health nurse will attempt to contact the partners and encourage them to test for gonorrhea and get treated. PHAC recommends that all notified partners be treated without waiting for test results. In an attempt to retain their anonymity, the name of the original client is not given to sexual partners when they are contacted.²

Treatment

Gonorrhea can be cured with treatment using antibiotics.

The 2013 PHAC guidelines for the treatment of gonorrhea recommend dual therapy with a cephalosporin (cefixime or ceftriaxone) *and* azithromycin. Two antibiotics are needed because of the high rates of co-infection with chlamydia and the possibility that some strains of gonorrhea can have resistance to one or more antibiotics. Treatment is given as a single dose. Cefixime and azithromycin are given as pills, and ceftriaxone is given as an intramuscular injection.

To improve the probability of successful treatment, PHAC currently recommends a higher oral dosage of cefixime in combination with azithromycin for treatment of anyone with urethral or rectal gonorrhea.

Intramuscular injection of ceftriaxone in combination with azithromycin is the recommended treatment for gonorrhea in gay men and other MSM. This combination is also recommended

for anyone with throat (pharyngeal) infections or infections with symptoms of pelvic inflammatory disease (PID) or epididymitis (inflammation of the epididymis, a tube in the testicle that stores and carries sperm).^{2,8,9}

Test of cure

To ensure that the infection has been cured after the treatment has been taken, an additional test, called test of cure, is done. PHAC recommends that test of cure follow-up cultures should be done three to seven days after treatment, especially for cases that involve throat (pharyngeal) infection, recurrent infections or persistent symptoms. As well, individuals who have been exposed to drug-resistant strains of gonorrhea should also be retested after treatment. If NAAT is the only choice for test of cure, it should be done two to three weeks after treatment.²

Antibiotic resistance

Some strains of gonorrhea have become resistant to various antibiotics. Culture tests can be used to determine if a gonorrhea sample is antibiotic resistant. Although cephalosporins are currently used to treat the infection, strains of gonorrhea resistant to these drugs have been documented in Asia, Australia, Europe and Canada. Some of these studies have reported incidents of treatment failure with the cephalosporins cefixime and ceftriaxone. To improve the probability of successful treatment, PHAC currently recommends a higher oral dosage of cefixime in combination with azithromycin for treatment of anyone with urethral or rectal gonorrhea.¹⁰

What about HIV?

Having gonorrhea can cause the amount of HIV in the genital and rectal fluids of a person with HIV to increase. This can increase the risk of sexual transmission of HIV.

The impact of effective HIV treatment on the transmission of gonorrhea is unclear.

People with untreated gonorrhea are also at increased risk for HIV infection.^{1,11}

Prevention

Correct and consistent use of condoms reduces the risk of transmitting gonorrhea. There are two types of condoms available. The external condom (sometimes called the “male” condom) is a sheath made from polyurethane, latex or polyisoprene that covers the penis during sex. The internal condom (sometimes called the insertive or “female” condom) is a pouch made of polyurethane or a synthetic latex material called nitrile that can be inserted into the vagina or rectum.

Some transgender men may cut a condom or oral dam to fit their genitals.

The use of oral dams or other barriers can reduce the risk of gonorrhea during oral sex or rimming.

Using a new condom for sex toys with each partner can reduce the risk of gonorrhea transmission by preventing the exchange of bodily fluids.

Someone who is diagnosed with gonorrhea should avoid having sex until they have been treated and all symptoms have gone. The notification, testing and treatment of all sexual partners of an individual with gonorrhea all help to prevent the spread of further infections.^{1,2,3}

Footnotes

i Cisgender – someone whose gender identity aligns with the sex they were assigned at birth

ii Transgender – an umbrella term that describes people with diverse gender identities and gender expressions that do not conform to stereotypical ideas about what it means to be a girl/woman or boy/man in society

(Definitions taken from *Creating Authentic Spaces: A gender identity and gender expression toolkit to support the implementation of institutional and social change*, published by The 519, Toronto, Ontario.)

Resources

Condoms for the prevention of HIV and STI transmission – CATIE fact sheet

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This fact sheet was developed in partnership with the Sex Information and Education Council of Canada (SIECCAN).

Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

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Production of this document has been made possible through a financial contribution from the Public Health Agency of Canada. The views expressed herein do not necessarily represent the views of the Public Health Agency of Canada.

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What you need to know about gonorrhea

Gonorrhea is a sexually transmitted infection (STI) that is most easily passed on during sex without a condom. It can infect the genitals, rectum, mouth and throat. The infection can be cured with antibiotics, and there are ways to lower the chance of getting or passing on gonorrhea, such as using a condom each time you have sex.

The words we use here – CATIE is committed to using language that is relevant to everyone. People use different terms to describe their bodies. This text uses medical terms, such as vagina and penis, to describe genitals. Other people may use other terms, such as private parts or dick or front hole. CATIE acknowledges and respects that people use words that they are most comfortable with.

What is gonorrhea?

Gonorrhea is a sexually transmitted infection (STI). It can infect the genitals, rectum and throat. A person with gonorrhea can pass it on to another person during sex.

Many people with gonorrhea have no symptoms, so they don't know they have an infection. When symptoms do occur, they can take 2 to 7 days to appear. Common symptoms vary depending on where the infection is:

- Infections of the genitals can cause an unusual fluid (or discharge) to come out of the vagina or penis, pain when urinating (peeing), vaginal bleeding, bleeding between periods, painful vaginal sex, swelling or pain in the testicles or pain in the abdomen.
- Rectal infections can cause anal itching, discharge from the anus, painful bowel movements or the feeling of needing to have a bowel movement.
- Throat or mouth infections can cause a sore throat.

If it is not treated, gonorrhea may lead to infertility, abdominal pain or pregnancy complications.

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Could I get gonorrhoea?

Anyone who is sexually active, including people who experience sexual violence, can get gonorrhoea.

Gonorrhoea is most easily passed on during sex without a condom; this includes vaginal intercourse and anal intercourse.

Although less common, gonorrhoea can also be passed on:

- when a person with the infection in their mouth or throat gives oral sex to another person
- when a person gives oral sex to a person with an infection of the genitals
- through oral-anal contact (rimming)
- through sharing sex toys or during a hand job or fingering if infected fluids get onto the toy or hand

Gonorrhoea and HIV

For people with HIV, a gonorrhoea infection may increase the amount of HIV in bodily fluids and increase the chance of passing on HIV to sex partners.

Someone who has gonorrhoea may be more likely to get HIV if they are exposed to HIV during sex.

What can I do?

Prevent infection

Use a condom during vaginal intercourse and anal intercourse.

Use a condom or oral dam during oral sex.

There is no vaccine to protect against gonorrhoea.

Get tested

The only way to know for sure whether or not you have gonorrhoea is to get tested. A doctor or nurse can do the test. The test involves a swab of the genitals, rectum or throat or a urine (pee) sample. Tell the doctor or nurse about all the different kinds

of sex you are having so they can test all the right parts of your body.

It is a good idea to get tested for other sexually transmitted infections (STIs), including HIV, when you get tested for gonorrhoea. Other STIs can be passed on in the same way as gonorrhoea. Talk to your healthcare provider about how often you should test for gonorrhoea and other STIs.

If you are diagnosed with gonorrhoea, a public health staff person will talk to you about informing your sex partners that they might have been exposed to gonorrhoea and encouraging them to get tested. Your identity will not be revealed.

Get treated

Gonorrhoea can be cured with a single dose of oral and injected antibiotics, though treatment can vary in different regions. After you have been treated, another test may be performed to ensure that you no longer have gonorrhoea. You should wait 7 days after treatment is finished to have sex again.

Once you are cured, you cannot pass on gonorrhoea to your sex partners. But you can be infected again. Being treated for gonorrhoea does not protect you from getting gonorrhoea in the future.

This information sheet was developed in partnership with the Sex Information and Education Council of Canada (SIECCAN).



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