CONDITION

Gonorrhea

Gonorrhea is a sexually transmitted bacterial infection that can affect the genitals, rectum, throat, and eyes.

WHAT IT IS
Sexually transmitted bacterial infection

BODY SYSTEM
Reproductive and urinary systems; throat, rectum, and eyes

MAIN SYMPTOMS
Painful urination, genital discharge, pelvic pain, testicle pain

WHAT CAUSES IT
Infection with Neisseria gonorrhoeae bacteria

HOW IT IS DIAGNOSED
NAAT on urine or swabs; culture when needed

MAIN TREATMENT
Prescription antibiotics and partner treatment

CAN IT BE CURED?
Yes - correct antibiotics clear most infections

IS IT AN EMERGENCY?
Sometimes - severe pelvic, testicle, eye, or widespread symptoms

LONG-TERM OUTLOOK
Usually full recovery; complications may cause lasting harm

Overview

Gonorrhea is a sexually transmitted infection caused by the bacterium Neisseria gonorrhoeae . It can infect the cervix, uterus, urethra, rectum, throat, and, less often, the eyes. The urethra is the tube that carries urine out of the body.

The infection spreads mainly through vaginal, anal, or oral sex. It can also pass from a pregnant person to their baby during birth.

Many people have no symptoms, especially when the cervix, rectum, or throat is affected. This means gonorrhea can be passed to someone else without either person knowing it is present.

Gonorrhea matters because an untreated infection can cause pelvic inflammatory disease, ongoing pelvic pain, fertility problems, or inflammation near a testicle. Rarely, it spreads

through the bloodstream and affects the joints, skin, or other organs.

The infection can usually be cured with antibiotics like amoxicillin or doxycycline . However, antibiotic resistance-when bacteria stop responding to medicines-has made correct testing, treatment, and follow-up increasingly important.

Symptoms

Symptoms may begin within days of exposure, but they can appear later or not at all. The location of the infection affects what you may notice.

Gonorrhea affecting the penis or urethra may cause:

Infection of the cervix or urinary tract may cause:

Rectal gonorrhea may cause discharge, itching, soreness, bleeding, or painful bowel movements. Many rectal infections have no symptoms.

Throat gonorrhea is usually symptom-free. When symptoms occur, they may include a sore throat or swollen glands in the neck. These symptoms can look like an ordinary viral throat infection.

Eye infection can cause redness, pain, swelling, sensitivity to light, or thick discharge. This needs urgent medical assessment because the surface of the eye can be damaged.

Symptoms alone cannot confirm gonorrhea. Other infections and non-infectious conditions can cause similar problems.

- Burning or pain when urinating
- White, yellow, or green discharge from the penis
- Pain or swelling in one testicle
- Increased or unusual vaginal discharge
- Burning or pain when urinating
- Bleeding between periods or after sex
- Pelvic or lower abdominal pain
- Pain during sex

Causes and risk factors

Gonorrhea spreads when infected sexual fluids or tissues come into contact with the genitals,

rectum, throat, or eyes. Ejaculation does not have to occur for transmission.

You may have a higher chance of getting gonorrhea if you have sex without a condom or other barrier, have a new sexual partner, have multiple partners, or have a partner with gonorrhea or another sexually transmitted infection. A previous infection does not create reliable immunity, so you can get gonorrhea again.

Sharing sex toys without washing them or covering them with a new condom can also spread the bacteria. Touching infected fluids and then touching an eye may rarely cause an eye infection.

Gonorrhea is not spread through casual contact such as hugging, sharing food, using swimming pools, or sitting on toilet seats. The bacteria do not survive well outside the human body.

Diagnosis

Gonorrhea is usually confirmed with a nucleic acid amplification test, often called a NAAT. This test looks for genetic material from the bacteria and is more accurate than judging by symptoms alone.

Depending on your body and the sexual contact involved, the sample may be:

Some swabs can be collected by you in a clinic or testing service. Testing the correct body sites matters. For example, a urine test will not reliably find an infection that is only in the throat or rectum.

A culture grows the bacteria in a laboratory. It may be needed when treatment appears not to have worked, symptoms continue, or antibiotic resistance is suspected. Culture can show which antibiotics are likely to work.

Testing may also be offered for chlamydia, syphilis, and HIV because these infections can occur together. If an exposure was very recent, a test may not detect the infection immediately. A healthcare professional or sexual health service can advise whether repeat testing is appropriate.

- Urine
- A vaginal or cervical swab
- A swab from the urethra, rectum, or throat
- An eye swab when eye infection is suspected

Treatment and management

Gonorrhea is treated with prescription antibiotics. An injectable antibiotic is commonly used, but the recommended treatment can differ by country, pregnancy status, allergy history, infection site, and local resistance patterns.

Tell the treating service about medication allergies and the possibility of pregnancy. Do not use leftover antibiotics or someone else's medicine. The wrong drug may not clear the infection and can contribute to antibiotic resistance.

Treatment for chlamydia may also be needed if testing has not ruled it out. People with serious complications or infection that has spread through the bloodstream may need hospital assessment and antibiotics given into a vein.

Avoid sexual contact for seven days after treatment and until recent partners have been treated. This includes vaginal, anal, and oral sex. Following this advice reduces the chance of passing the infection back and forth.

Recent sexual partners should be told so they can be tested and treated. A sexual health clinic may be able to contact partners without naming you. In some places, medication can be provided for a partner without a separate examination.

A follow-up test to prove the infection has cleared is not routinely needed after recommended treatment for uncomplicated genital or rectal gonorrhea. Throat gonorrhea usually requires a test of cure 7 to 14 days after treatment. Follow the timing given by your testing service because testing too early can detect leftover bacterial material.

Repeat testing about three months after treatment is commonly advised because reinfection is frequent. This is different from a test of cure.

Complications

Untreated gonorrhea can move upward from the cervix and cause pelvic inflammatory disease, or PID. This is inflammation and infection of the uterus, fallopian tubes, or nearby tissues. PID can lead to ongoing pelvic pain, difficulty becoming pregnant, or a higher risk of ectopic pregnancy, in which a pregnancy develops outside the uterus.

Infection near a testicle can cause epididymitis. The epididymis is a coiled tube that stores and carries sperm. Severe or untreated inflammation may rarely affect fertility.

Gonorrhea can increase the chance of acquiring or passing on HIV because inflammation makes transmission easier.

During birth, gonorrhea can infect a baby's eyes. Without rapid treatment, this can threaten the

baby's sight. Gonorrhea during pregnancy is also associated with pregnancy and newborn complications, so prompt testing and treatment are important.

Rarely, the bacteria enter the bloodstream. This is called disseminated gonococcal infection. It can cause fever, a rash, pain in several joints, or a hot and swollen joint. Less commonly, it affects the heart lining or tissues around the brain and spinal cord.

Prevention

Gonorrhea can often be prevented, although no method apart from avoiding sexual contact removes all risk. There is currently no approved vaccine specifically for gonorrhea.

Using external or internal condoms correctly throughout vaginal or anal sex lowers the chance of infection. Condoms or dental dams can also reduce risk during oral sex. Cover shared sex toys with a new condom for each person and wash them between uses.

Having sex within a mutually exclusive relationship in which both partners have tested negative reduces risk. Because gonorrhea can be symptom-free, appearance and symptoms cannot show whether someone has it.

Routine screening is recommended for some people based on age, pregnancy, sexual practices, anatomy, and risk factors. Screening may need to include throat or rectal swabs rather than urine testing alone. A sexual health service can help identify which sites should be tested.

If you are diagnosed, completing treatment, pausing sex for the advised period, and making sure partners receive care help prevent reinfection and further spread.

Living with it and what to expect

Most uncomplicated gonorrhea infections clear after the correct antibiotic treatment. Symptoms often begin improving within a few days, although irritation or discomfort may take longer to settle.

Contact the treating service if symptoms do not improve, return after treatment, or if you had sex before you and your partner or partners completed care. Persistent symptoms can result from reinfection, another condition, or antibiotic-resistant bacteria. Further testing and a culture may be needed.

Treatment clears the current infection but does not provide lasting immunity. You can be infected again months or years later. Repeat testing and barrier protection remain useful even

if you have previously been treated.

Gonorrhea itself does not usually cause lasting health problems when it is found and treated before complications develop. If PID, fertility problems, chronic pelvic pain, or joint damage has already occurred, curing the infection may not reverse that damage. Separate follow-up may then be needed.

A diagnosis can bring worry about relationships, privacy, or stigma. Gonorrhea is a common type of sexually transmitted infection and does not reflect someone's character. Sexual health services routinely provide confidential testing, treatment, and help with partner notification.

When to get medical help

Arrange routine testing if you have symptoms, a partner has been diagnosed, or you have had sexual contact that may have exposed you to gonorrhea. Do not wait for symptoms after a known exposure, since many infections remain unnoticed.

Seek same-day medical care for:

Go to an emergency department for sudden severe testicle pain, severe pelvic or abdominal pain with fainting or repeated vomiting, confusion, difficulty breathing, or signs of severe illness. Sudden testicle pain can have causes other than gonorrhea that require immediate treatment.

A newborn with swollen eyelids or eye discharge needs emergency medical assessment.

- Eye pain, marked redness, light sensitivity, or thick eye discharge
- Fever with a new rash or painful, swollen joints
- Increasing lower abdominal or pelvic pain, especially with fever
- Testicle pain or swelling
- Symptoms that continue after treatment
- Gonorrhea symptoms or known exposure during pregnancy

Common questions

Can gonorrhea be cured?

Yes. Correct antibiotics cure most infections. Antibiotic resistance can make some infections harder to treat, so use the prescribed treatment and complete any recommended follow-up.

Can I have gonorrhea without knowing it?

Yes. Infections of the cervix, rectum, and throat often cause no symptoms. Testing is the only reliable way to know whether you have it.

Can gonorrhea go away without treatment?

Symptoms may lessen, but that does not prove the bacteria are gone. Untreated infection may continue, spread to partners, or cause complications. Do not rely on symptoms disappearing.

Can oral sex spread gonorrhea?

Yes. Gonorrhea can pass between the throat and the penis, vagina, or rectum during oral sex. A throat infection may have no symptoms and may require a throat swab to detect it.

Can I get gonorrhea from a toilet seat?

This is extremely unlikely. The bacteria do not survive well on surfaces, and ordinary contact with toilets, towels, food, or swimming pools does not spread gonorrhea.

How soon can I have sex after treatment?

Wait seven days after treatment and until your recent partners have been treated. If symptoms remain or your service gives different instructions because of complications or follow-up testing, follow that advice.

Sources

- Centers for Disease Control and Prevention. Gonococcal Infections Among Adolescents and Adults. Sexually Transmitted Infections Treatment Guidelines, 2021 .
- Centers for Disease Control and Prevention. About Gonorrhea.
- World Health Organization. Gonorrhoea (Neisseria gonorrhoeae infection), fact sheet.)
- U.S. Preventive Services Task Force. Chlamydia and Gonorrhea: Screening, 2021 recommendation statement.
- British Association for Sexual Health and HIV. UK National Guideline for the Management of Infection with Neisseria gonorrhoeae , 2018, updated 2020.
- Unemo M, Seifert HS, Hook EW III, Hawkes S, Ndowa F, Dillon J-AR. Gonorrhoea. Nature Reviews Disease Primers . 2019;5:79.