CONDITION

Syphilis

Syphilis is a sexually transmitted bacterial infection that can affect many parts of the body.

WHAT IT IS
Sexually transmitted bacterial infection affecting many body systems

BODY SYSTEM
Skin, genitals, brain, nerves, heart, and pregnancy

MAIN SYMPTOMS
Painless sore, skin rash, swollen glands, vision or nerve problems

WHAT CAUSES IT
Infection with Treponema pallidum bacteria

HOW IT IS DIAGNOSED
Blood tests and sometimes fluid testing from a sore

MAIN TREATMENT
Penicillin antibiotics

CAN IT BE CURED?
Yes - antibiotics clear the infection

IS IT AN EMERGENCY?
Sometimes - sudden vision loss or stroke symptoms

LONG-TERM OUTLOOK
Excellent after early treatment; late damage may remain

Overview

Syphilis is an infection caused by the bacterium Treponema pallidum . It is usually passed through sexual contact. It can also pass from a pregnant person to their baby.

The infection develops in stages. Early symptoms may include a painless sore or a body rash, but these can be mild or hidden. Symptoms may then disappear even though the infection remains in the body. Without treatment, syphilis can eventually damage the brain, nerves, eyes, heart, blood vessels, and other organs.

Syphilis is curable with the right antibiotics like amoxicillin or doxycycline . Treatment is especially important during pregnancy because the infection can seriously affect the pregnancy and baby. Antibiotics stop the infection, but they may not reverse damage that has already happened.

Symptoms

Symptoms differ according to the stage of infection. Stages can overlap, and some people do not notice any symptoms.

Primary syphilis usually begins with one or more sores, called chancres. A chancre is often firm, round, and painless. It develops where the bacteria entered the body, such as the genitals, anus, rectum, lips, or mouth. A hidden sore can easily go unnoticed. It usually heals without treatment, but healing does not mean the infection has gone.

Secondary syphilis can cause a rash. It may affect the trunk, palms, or soles and is often not itchy. The rash can be faint and may look different on different skin tones. Other possible symptoms include:

These symptoms can also settle without treatment.

Latent syphilis causes no noticeable symptoms. The infection is still present and can be detected through blood tests. This stage can last for years.

Tertiary syphilis is a late stage that can occur in some untreated people. It may damage major organs, including the heart, blood vessels, brain, nerves, bones, or liver.

Syphilis can affect the brain and nerves at any stage. This is called neurosyphilis. Possible symptoms include severe headache, weakness, numbness, poor coordination, confusion, personality changes, or memory problems.

Eye involvement, called ocular syphilis, can cause eye pain, redness, blurred vision, or sight loss. Ear involvement, called otosyphilis, can cause hearing loss, ringing in the ears, or dizziness.

- Swollen lymph glands
- Fever, tiredness, headache, or muscle aches
- Sore throat
- Patchy hair loss
- Moist, wart-like patches around the genitals or anus
- White or grey patches inside the mouth

Causes and risk factors

Syphilis is caused by direct contact with a syphilis sore or infectious skin and moist tissue lesions. This most often happens during vaginal, anal, or oral sex. Sores may be inside the mouth, vagina, anus, or rectum, where they are difficult to see.

The infection can also pass through the placenta during pregnancy. This is called congenital syphilis when it affects the baby.

Your chance of exposure may be higher if you:

Anyone exposed to the bacteria can acquire syphilis. It is not a sign of poor hygiene or a person's character.

Syphilis is not spread through casual contact with toilet seats, swimming pools, bathtubs, clothing, or shared eating utensils.

- Have sex without a condom or other barrier
- Have a sexual partner who has syphilis
- Have multiple or new sexual partners
- Have another sexually transmitted infection
- Are part of a sexual network where syphilis is currently common

Diagnosis

Syphilis is usually confirmed with blood tests. Diagnosis normally uses two types because neither provides all the information alone.

A nontreponemal test, such as RPR or VDRL, measures signs of the body's response to infection. The result includes a level called a titre. Changes in this level can help show whether treatment has worked.

A treponemal test looks for antibodies made specifically in response to T. pallidum . This test often stays positive for life, even after successful treatment. A positive result therefore does not always mean that an infection is currently active.

If you have a visible sore, a sample of fluid may sometimes be tested directly for the bacteria. Availability of this testing differs between services.

Your healthcare professional will consider your symptoms, test results, previous treatment, and possible time of exposure. A recent infection may not appear on a blood test immediately, so repeat testing may be advised after a recent exposure.

If symptoms suggest infection of the brain or nerves, you may need a lumbar puncture. This involves taking a small sample of the fluid surrounding the brain and spinal cord. Eye or hearing symptoms may require an urgent specialist assessment.

Testing for HIV and other sexually transmitted infections is commonly offered because the infections can occur together.

Treatment and management

Penicillin is the preferred treatment for syphilis. The form of penicillin and length of treatment are based on the stage of infection and whether the brain, eyes, ears, or pregnancy are involved.

Early syphilis can often be treated with a penicillin injection. A longer course may be needed when the infection has been present for longer or when its duration is unclear. Syphilis affecting the nervous system, eyes, or ears usually needs penicillin given into a vein.

Penicillin is the only treatment with established effectiveness for treating syphilis during pregnancy and protecting the developing baby. If you are pregnant and have a penicillin allergy, specialist-supervised allergy treatment may allow penicillin to be given safely.

Other antibiotics may be considered in limited situations for some people who are not pregnant. They require careful follow-up and are not suitable for every form of syphilis.

Within the first day after treatment, some people develop fever, chills, headache, or muscle aches. This is called a Jarisch-Herxheimer reaction. It is caused by the body's response as bacteria die and is not usually a penicillin allergy. Contact your healthcare service if symptoms are severe, if you are pregnant, or if you are unsure what is causing them.

Follow-up blood tests are important. They check whether the RPR or VDRL level falls as expected. The timing depends on the infection stage, pregnancy, HIV status, and local guidance.

Avoid sexual contact for the period advised by your healthcare service. Current and recent sexual partners may need testing and, in some situations, treatment before their results are available. Sexual health services can often notify partners without naming you.

Complications

Untreated syphilis may remain inactive for years or later cause serious complications. These are much less likely when the infection is found and treated early.

Possible complications include:

Syphilis sores also make it easier for HIV to enter or leave the body during sexual contact.

During pregnancy, untreated syphilis can cause miscarriage, stillbirth, premature birth, or infection in the baby. A baby with congenital syphilis may have no obvious signs at birth but can later develop problems affecting the bones, teeth, hearing, vision, or nervous system. Prompt testing and treatment during pregnancy greatly reduce these risks.

Antibiotics kill the bacteria and prevent further injury. They cannot always repair nerve, vision, hearing, or organ damage that occurred before treatment.

- Damage to the brain, spinal cord, or nerves
- Vision or hearing loss
- Stroke caused by inflamed blood vessels
- Damage to the aorta, the body's main artery
- Problems with movement, balance, memory, or behaviour
- Destructive inflammatory lumps called gummas in skin, bones, or organs

Prevention

Syphilis cannot always be prevented, but you can reduce the chance of acquiring or passing it on.

Condoms and other barriers lower the risk when they cover the infected area. They do not provide complete protection because sores or rashes can occur on nearby uncovered skin.

Regular testing is useful if you have new or multiple partners, a partner diagnosed with syphilis, or another reason for ongoing exposure. Testing is also an important part of pregnancy care. Additional testing later in pregnancy may be offered when exposure risk is higher or local guidance recommends it.

If you are diagnosed, completing treatment and attending follow-up helps prevent complications and transmission. Partner notification allows other people to be tested and treated. Avoiding sexual contact during the advised period reduces the chance of passing the infection back and forth.

There is currently no vaccine against syphilis. Having had syphilis does not create reliable immunity, so you can acquire it again after successful treatment.

Living with it and what to expect

Most people treated during the early stages clear the infection and do not develop long-term health problems. Sores and rashes usually improve, although the exact timing differs.

Blood tests do not all return to negative after treatment. Treponemal antibody tests often remain positive for life. This does not mean that treatment failed. Your healthcare professional will usually monitor a different blood test and compare its level over time.

If syphilis has already affected the brain, eyes, ears, heart, or other organs, recovery is less predictable. Treatment stops the active infection, but some symptoms may remain. Ongoing care may involve eye, hearing, heart, or neurology specialists.

A previous diagnosis does not prevent future relationships, sex, or pregnancy. It is important to complete follow-up, discuss when sexual contact can resume, and continue testing if future exposure is possible.

Emotional reactions such as embarrassment, worry, or concern about telling partners are common. Sexual health clinics handle these infections routinely and usually offer confidential support with partner notification.

When to get medical help

Arrange a sexual health or primary care appointment soon if you have:

Seek prompt medical advice if you are pregnant and may have been exposed, or if a blood test suggests syphilis. Early assessment helps protect both you and the baby. A baby who may have been exposed during pregnancy also needs prompt medical assessment.

Seek urgent same-day care for new blurred vision, eye pain, eye redness, sudden hearing changes, severe headache, confusion, weakness, or poor coordination.

Call emergency services for sudden loss of vision, facial drooping, one-sided weakness, trouble speaking, collapse, or other possible stroke symptoms. Difficulty breathing or swelling of the face or throat after an antibiotic may be a severe allergic reaction and also needs emergency care.

Routine follow-up blood tests are not emergencies, but they remain important even when you feel well.

- A painless genital, anal, or mouth sore
- An unexplained rash, especially on the palms or soles
- A partner who has been diagnosed with syphilis
- A positive syphilis test without documented treatment
- Possible sexual exposure and concerns about infection

Common questions

Is syphilis completely curable?

Yes. The correct antibiotic treatment can eliminate the bacteria. Treatment may not reverse damage caused by a long-standing infection, so early diagnosis matters.

What does a syphilis rash look like?

It can appear as rough, reddish, brown, or faint spots and may involve the palms and soles. It is often not itchy. Because many other conditions cause similar rashes, appearance alone cannot confirm syphilis.

How long can I have syphilis without knowing?

Syphilis can remain without symptoms for years. Early sores may be painless or hidden, and later symptoms may disappear. A blood test is the reliable way to check.

Can syphilis come back after treatment?

Treatment clears the existing infection, but it does not make you immune. You can acquire syphilis again through a new exposure. Follow-up testing helps distinguish reinfection from a slowly changing blood result.

Will my syphilis test always be positive?

Many treponemal antibody tests remain positive for life. Other tests, such as RPR or VDRL, usually fall after successful treatment and are used for follow-up.

Can I get syphilis from kissing or a toilet seat?

Kissing could transmit syphilis if there is direct contact with an infectious sore in or around the mouth. Syphilis is not spread through toilet seats, pools, shared dishes, or ordinary social contact.

Sources

- Centers for Disease Control and Prevention: Syphilis - STI Treatment Guidelines, 2021
- Centers for Disease Control and Prevention: Neurosyphilis, Ocular Syphilis, and Otosyphilis - STI Treatment Guidelines, 2021
- Centers for Disease Control and Prevention: Syphilis During Pregnancy - STI Treatment Guidelines, 2021
- World Health Organization: Syphilis fact sheet, 2024
- Janier M, Unemo M, Dupin N, Tiplica GS, Poto nik M, Patel R: 2020 European guideline on the management of syphilis, Journal of the European Academy of Dermatology and Venereology , 2021



- NHS: Syphilis