

Patient information from BMJ

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Syphilis: how is it diagnosed and treated?

Syphilis is an infection caused by a bacteria. It can be passed from person to person during sex, including anal, oral, and vaginal sex. If a pregnant woman has syphilis, she can also pass the infection to her unborn baby.

Antibiotics work well to cure the infection. But, if left untreated, syphilis can spread to other parts of your body and cause damage, leading to serious health problems.

In this leaflet, we look at how syphilis is diagnosed and treated. To learn more about the syphilis infection, its stages, and its symptoms, see the leaflet *Syphilis: what is it?*

How is syphilis diagnosed?

If you think you might have syphilis, you should see your doctor or go to your local sexual health clinic.

A doctor or nurse will examine you and ask questions about any symptoms you have, as well as about your sexual partners and history.

The most common symptom of syphilis is a sore (called a chancre) that forms in the area where the bacteria entered your body: for example, on your genitals, rectum, or mouth. The sore is almost always painless.

To find out if you have syphilis, you will have one or more of the following tests.

- **Blood tests.** Most people are diagnosed with syphilis through blood tests. These tests look for signs of the infection in the blood.

Some tests also show how active the infection is, which can be helpful in checking how well treatment is working.

Blood tests can only detect syphilis once you've had the infection for at least three or four weeks. So you may need to have repeated tests.

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- **Test of the fluid from a sore.** If you have a sore that might be caused by syphilis, your doctor may take a small sample of fluid and cells from the sore. This sample will then be checked under a microscope to look for the bacteria that cause syphilis.

However, this test isn't always available, and some people with syphilis won't have a sore.

- **Test of the fluid surrounding your brain and spinal cord.** If your doctor thinks you could have syphilis in your brain or spinal cord (called neurosyphilis), you may have a lumbar puncture. This involves collecting a small sample of fluid from your spinal cord using a needle. The fluid is then tested for signs of the infection.

If you are diagnosed with syphilis, it's important that you tell your sexual partner or partners so that they can also be tested. If you feel uncomfortable doing this, your sexual health clinic may be able to contact them for you.

In some areas, public health workers are required to contact all of the sexual partners of someone with syphilis.

Screening for syphilis

Many people with syphilis don't know they have the infection, as they may not have any symptoms. As a result, doctors often recommend that people be tested for syphilis if they have a greater chance than usual of becoming infected. This is called screening.

Pregnant women and people donating blood are also routinely screened for syphilis. To learn more, see the leaflet *Syphilis screening*.

What treatments work?

Treating the infection

Antibiotics are the main treatment for syphilis. These are drugs that kill bacteria. They should get rid of your infection, regardless of what stage it is or where it has spread.

But treatment can't undo any damage already caused by syphilis. This is why it's so important to be diagnosed and treated early.

It's also important that you not have any kind of sexual contact with another person until blood tests show that your infection has been cured.

The main antibiotic used for syphilis is **penicillin**. It is usually given as an injection. You may need only one dose. But if your syphilis is at a later stage, you may need more doses.

And if the infection has spread to your brain or spinal cord (neurosyphilis), you will need intensive treatment in hospital. Usually this involves having antibiotics through a drip (an intravenous infusion, or IV for short) for 10 to 14 days.

Penicillin is the most effective antibiotic for syphilis, but some people are allergic to it. These people can be given an antibiotic called **doxycycline**. You take doxycycline as a pill for 14 or 28 days, depending on the stage of your syphilis.

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Doxycycline doesn't seem to work well for neurosyphilis. So people with a penicillin allergy are usually still treated with penicillin. But first they have "penicillin desensitization".

This means you are given a series of small doses of penicillin in the hospital, usually over four hours. Afterward, you should be able to have penicillin treatment safely.

If a pregnant woman has syphilis, treatment with penicillin can cure the infection both in the woman and in her unborn baby. This can reduce the chance of miscarriage, the baby being stillborn, or problems from the infection after the birth.

Doxycycline is not used in pregnancy, as it can harm the baby.

Penicillin is also the recommended treatment for babies born with syphilis.

Some people get a fever, headache, and muscle pain within 24 hours of starting an antibiotic for syphilis. This is called the **Jarisch-Herxheimer reaction**. The symptoms of the reaction usually improve within a few hours.

Drinking lots of water and taking acetaminophen can help you feel better. Doctors also sometimes prescribe medicine to help prevent the reaction.

Treating damage caused by late syphilis

In late syphilis, the infection has spread to other parts of your body and is causing damage. This can result in different problems, depending on where the infection has spread. For example:

- **If syphilis has spread to your brain or spinal cord**, you may get headaches, seizures, problems with your memory, difficulty controlling your muscles (ataxia), problems with your eyesight or hearing, and difficulty controlling your bowels or bladder, among other problems.
- **If syphilis has spread to your heart**, you may get chest pain (angina), shortness of breath, fatigue, and a rapid heartbeat, among other problems.

Syphilis can also damage your **liver, blood vessels, nerves, bones, and joints**.

If you have late syphilis, antibiotics will cure your infection. But you may need other treatments to help with the damage syphilis has caused.

For example, if syphilis has damaged your heart, you may have heart failure. This means your heart is no longer able to pump blood around your body as well as it should. There is no cure for heart failure, but treatment can improve your symptoms and help slow further damage.

You will probably see a specialist doctor to treat any damage caused by syphilis. For example, this might be a cardiologist if syphilis has damaged your heart or a neurologist if syphilis has damaged your brain or spinal cord.

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What will happen to me?

Syphilis is a treatable illness. Antibiotics can cure the infection, and most people make a full recovery. However, if syphilis isn't treated early on, it can cause serious damage to your body and even be fatal.

Early diagnosis and treatment of syphilis are key to making a good recovery and preventing the spread of the infection to others.

If you've had syphilis, you can be re-infected if you come into contact with the bacteria again. Making sure your sexual partners are tested (and treated if necessary) can help prevent this.

Practising safe sex by using condoms reduces your chances of getting syphilis again. But you can still get the infection if you have oral sex with an infected person.

If you're at all concerned that you've been re-infected with syphilis, it's important to get tested.

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