

# Syphilis in Iowa

The following guidance is from the STD Program at the Iowa Department of Public Health and is intended for medical professionals.

## What is it?

Syphilis is a complex sexually transmitted disease (STD) caused by the bacterium *Treponema pallidum*. Syphilis can cause serious long-term health complications if not adequately treated.

Syphilis is transmitted from person to person by direct contact with a syphilitic sore, known as a chancre. Chancres can occur on or around the external genitals, in the vagina, around the anus or in the rectum, or in or around the mouth. Transmission of syphilis can occur during vaginal, anal, or oral sex. In addition, pregnant women with syphilis can transmit the infection to their unborn child.

## How is it transmitted?

## Who is affected?

90% of Iowans diagnosed with syphilis are men, and 70% of those men have sex partners who are men. Syphilis is fairly evenly distributed among age groups between 20 and 54. There was a sharp increase in syphilis in Iowa between 2011 and 2013. Cases remain high in the state, but increases since that time have been more gradual. There have been five cases of congenital syphilis in Iowa since 2014, with two cases in 2017 alone. Previously, there were no reported cases in Iowa since 2007.

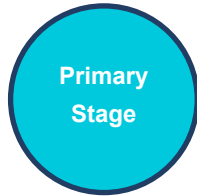
There are two categories of blood tests available for syphilis: 1) nontreponemal tests and 2) treponemal tests. Both types of tests are needed to confirm a diagnosis of syphilis. Nontreponemal tests (e.g., VDRL and RPR) are not specific to syphilis, so reactive tests must be followed up with a treponemal test to confirm syphilis. Quantitative results (titers) are needed to assess response to treatment and check for re-infection in the future. Treponemal tests (e.g., FTA-ABS, TP-PA, various EIAs, IgG, etc.) detect antibodies that are specific for syphilis. Treponemal usually remain positive for life, even after successful treatment. If a treponemal test is performed first, a nontreponemal test with titer is needed next (known as reverse sequence syphilis testing).

## How is it diagnosed?

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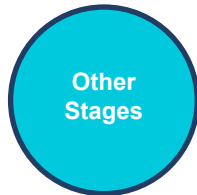
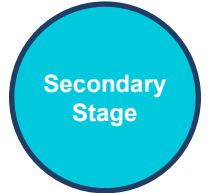
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## Signs and Symptoms of Syphilis



A chancre (sore) appears in the primary stage. It is typically painless. Chancres appear at the site of infection and may be internal (e.g., vagina, anus, mouth).

If untreated, the patient will progress to the secondary stage marked by skin rashes and/or mucous membrane lesions (mouth, vagina, or anus). A palmar-plantar rash is a classic sign of secondary syphilis. Condyloma lata (gray or white lesions) may develop in warm, moist areas such as the mouth, underarm or groin region.



Without treatment, the infected person will continue to have syphilis in their body even if there are no signs or symptoms. People can remain infectious up to one year after being infected. After that time, they can no longer transmit the infection (with the exception of pregnant women passing the infection on to her fetus) but health complications may still occur.

Tertiary syphilis may occur 10–30 years after infection was first acquired, and it can be fatal. Tertiary syphilis can affect multiple organ systems, including the brain, nerves, eyes, heart, blood vessels, liver, bones, and joints.



Syphilis can invade the nervous system at any stage of infection, and causes a range of symptoms, including headache, altered behavior, difficulty coordinating muscle movements, paralysis, sensory deficits, and dementia. Ocular (eye) and otosyphilis(ear) complications can occur at any stage of infection. Ocular often involves posterior uveitis and panuveitis; blindness may occur. Otosyphilis affects the internal structure of the ear and may cause ringing or hearing loss.

Pregnant women with syphilis often transmit the infection to the fetus. This results in miscarriage, stillbirth, or congenital syphilis (which leads to many other health complications for the newborn and possibly death).



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People who have syphilitic symptoms or who have sex partners diagnosed with syphilis should be tested. **Providers should routinely test for syphilis in persons who:** are pregnant; are sexually active men who have sex with men (MSM); are women whose partners are MSM; are living with HIV and are sexually active; or are taking PrEP for HIV prevention. All pregnant women should be tested for syphilis at the first prenatal visit. Women may become infected during pregnancy, therefore it is often beneficial for women to be tested again during the third trimester (28 to 32 weeks gestation) and again at delivery. Any woman who delivers a stillborn infant after 20 weeks gestation should also be tested for syphilis.

Who should be tested?

How is it treated?

The recommended treatment for adults and adolescents with early syphilis (infection occurred within the last 12 months) is Benzathine penicillin G (aka Bicillin **L-A**) 2.4 million units administered intramuscularly in a single dose. If it is uncertain that a patient was infected within the last year, 3 doses of 2.4 million units **Bicillin L-A** should be given (once a week for 3 weeks). The recommended treatment for neurosyphilis, ocular syphilis, and otosyphilis is Aqueous crystalline penicillin G 18-24 million units per day, administered as 3-4 million units intravenously every 4 hours or continuous infusion, for 10-14 days. For pregnant women only penicillin therapy can be used to treat syphilis and prevent passing the disease to her baby; treatment with penicillin is extremely effective in preventing mother-to-child transmission. Pregnant women who are allergic to penicillin should be referred to a specialist for desensitization to penicillin.

Latex condoms, when used consistently and correctly, reduce the risk of transmission of syphilis. However, a chancre outside of the area covered by a latex condom can still allow transmission, so potential risk remains. All recent anal, vaginal, or oral sex partners should be notified by the patient so they can be tested and treated. The Iowa Department of Public Health Partner Services program can assist with notifying partners and referring them to testing services. All persons who test positive for syphilis should be tested for chlamydia, gonorrhea, and HIV.

Risk Reduction

For more information about syphilis please contact George Walton, STD Program Manager, IDPH, at (515) 281-4936 or [george.walton@idph.iowa.gov](mailto:george.walton@idph.iowa.gov)

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