



# HEALTH UPDATE

## Missouri Department of Health and Senior Services

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The Missouri Department of Health & Senior Services (DHSS) uses four types of documents to provide important information to medical and public health professionals, and to other interested persons:

**Health Alerts** convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

**Health Advisories** provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

**Health Guidances** contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

**Health Updates** provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

Phone: 800-392-0272  
Fax: 573-751-6041  
Web: [health.mo.gov](http://health.mo.gov)

## Congenital Syphilis in Missouri

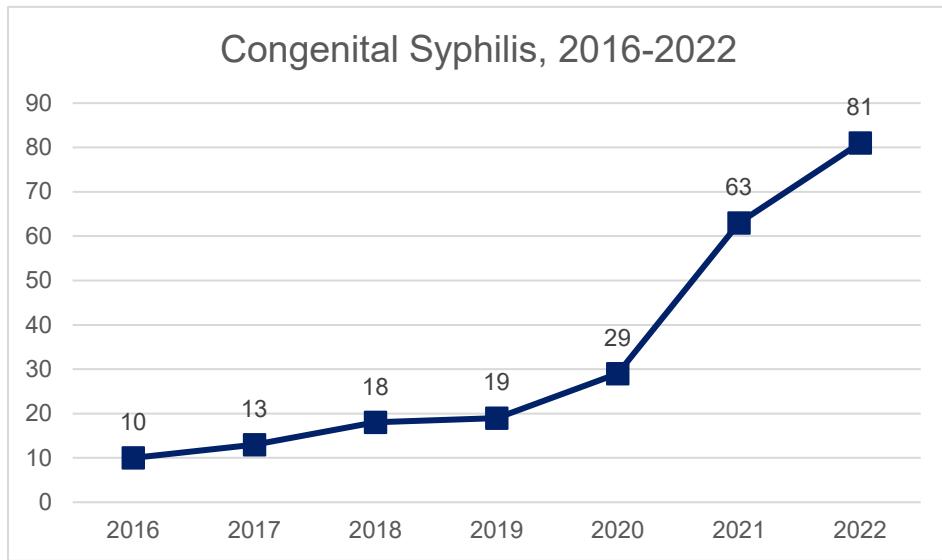
### Summary

- Cases of congenital syphilis continue to increase in Missouri. In 2022, 81 congenital syphilis cases were reported in Missouri, compared to 10 cases in 2016. The number of cases in 2022 represent the highest reported in nearly 30 years (97 cases in 1993).
- The number of early syphilis cases reported in Missouri increased by 230% from 2016 to 2022, from 676 cases to 2,228 cases.
- Missouri health care providers should assess the sexual health of all patients and discuss STDs and HIV risks for the patient and partners of the patient. Providers should routinely test for syphilis in individuals who have signs or symptoms suggestive of infection or risk factors for infection. Individuals exposed to syphilis within the past 90 days should receive testing and preventive treatment even if testing is negative.
- All pregnant women in Missouri should be screened for syphilis three times regardless of perceived risk: (1) at the first prenatal visit, (2) in the third trimester (28 weeks), and (3) at delivery. No infant should leave the hospital without the mother's serological status having been documented during pregnancy, preferably including the test result during the delivery hospitalization.
- Pregnant women with syphilis should be treated with one to three shots of benzathine penicillin G, 2.4 million units IM, depending on the stage of syphilis ([see CDC treatment guidelines](#)). Penicillin G is the only known effective antimicrobial for preventing maternal transmission to the fetus and treating fetal infection. Pregnant women who have a history of penicillin allergy must be desensitized by an allergist and treated with penicillin.
- Congenital syphilis should be considered in all stillbirths after 20 weeks and in infants of mothers with evidence of syphilis infection during pregnancy, especially if syphilis is newly acquired during pregnancy. Infected infants can be asymptomatic at birth but can develop serious symptoms in the neonatal period or later in life.

### Congenital Syphilis Background

Missouri's public health goal is to have zero congenital syphilis cases. Unfortunately, similar to the national trend, Missouri's congenital syphilis cases have been increasing from ten (10) in 2016 to eighty-one (81) in 2022 (See Figure 1.), with a sharp increase in cases since 2019. This is an eight-fold increase in a preventable disease.

**Figure 1.** Congenital syphilis cases by year, Missouri, 2016-2022



Source: Missouri Department of Health and Senior Services, Office of Epidemiology, Missouri Health Surveillance Information System (WebSurv). Based on data as of September 13, 2023.

### Symptoms of Syphilis

*Treponema pallidum* causes syphilis and can present in several stages. The chancre or ulcer of primary syphilis is commonly painless and may not be noted by infected persons as it resolves even without treatment. Most patients who seek care do so with secondary syphilis, whose symptoms include a rash that may involve the palms and soles, patchy hair loss, wart-like lesions (condyloma lata), and swelling of the lymph nodes (lymphadenopathy). Left untreated, syphilis can cause cardiac system abnormalities and neurological symptoms in later stages.

A pregnant woman can transmit syphilis to her child during any stage of syphilis and any trimester of pregnancy. However, the risk of transmission is highest if the mother has been infected recently. Syphilis infection during pregnancy increases adverse pregnancy outcomes, including preterm birth and stillbirth. Up to 40% of babies born to mothers with untreated syphilis (if infected within four years prior to delivery) will be stillborn or die in infancy. Congenital syphilis can lead to newborn and childhood illnesses, including hydrops fetalis, hepatosplenomegaly, rashes, fevers, failure to thrive, blindness, deafness, and deformity of the face, teeth, and bones.

### Missouri DHSS Recommendations

#### Screening

- Providers should assess the sexual health of all patients and discuss STDs and HIV risks for the patient and partners of the patient.
- Providers should routinely test for syphilis in individuals who have signs or symptoms suggestive of infection. Individuals exposed to syphilis within the past 90 days should receive testing and presumptive treatment.
- All pregnant women in Missouri should be screened for syphilis three times regardless of perceived risk at the first prenatal visit.
- Women with risk for syphilis acquisition during pregnancy should also be tested in the third trimester (28 weeks), and at delivery (<https://www.cdc.gov/std/treatment-guidelines/screening-recommendations.htm>).

- Women who experience a stillbirth after 20 weeks of pregnancy should be tested for syphilis.
- Infants should not be discharged from the hospital unless the mother has been tested for syphilis during pregnancy, preferably including the test during the delivery hospitalization.

## **Diagnosis and Treatment**

### *Syphilis during pregnancy*

- Two tests are required to diagnose syphilis, a non-treponemal test (NTT) assay (i.e., Venereal Disease Research Laboratory [VDRL] or Rapid Plasma Reagins [RPR]) and a confirmatory treponemal test (i.e., fluorescent treponemal antibody absorbed [FTA-ABS] tests, the *pallidum* passive particle agglutination [TP-PA] assay, etc.). Since false positive NTT tests are seen in pregnancy, confirmatory testing with a treponemal test is necessary to diagnose syphilis.
- Adequate treatment of syphilis in pregnant women as soon as possible during pregnancy dramatically decreases the rate of congenital syphilis.
- Only Benzathine penicillin G should be used in pregnant women.
- Patients with penicillin allergies should be desensitized by an allergist and treated with penicillin, as it is the only known effective antimicrobial for preventing maternal transmission to the fetus and treating fetal infection.
- Partners should (at a minimum) be presumptively treated (**2.4 million units of IM Benzathine penicillin G**) to prevent reinfection during pregnancy no matter their test results. Ideally, they should be evaluated for syphilis by a provider and staged and treated appropriately.
- Please refer to the full CDC STI Treatment Guidelines (<https://www.cdc.gov/std/treatment-guidelines/syphilis-pregnancy.htm>) for additional treatment information.

### *Congenital Syphilis in the infant*

- Infected infants may be asymptomatic.
- Infants born to untreated mothers or mothers with inadequate treatment (including those treated <30 days prior to delivery) should be evaluated and treated for congenital syphilis per CDC guidelines (<https://www.cdc.gov/std/treatment-guidelines/congenital-syphilis.htm>).
- All neonates born to women who have reactive NTT and treponemal tests should be evaluated with a quantitative NTT serologic test (RPR or VDRL) and be examined thoroughly for evidence of congenital syphilis (see details in CDC treatment guidelines at <https://www.cdc.gov/std/treatment-guidelines/congenital-syphilis.htm>).

Questions should be directed to the Missouri Department of Health and Senior Services, Bureau of HIV, STD, and Hepatitis at 573-751-6439, or via email at [STD@health.mo.gov](mailto:STD@health.mo.gov).

## **Resources**

1. 2021 CDC STI treatment guidelines <https://www.cdc.gov/std/treatment-guidelines/toc.htm>
2. National STD Curriculum <https://www.std.uw.edu/>
3. CDC Syphilis Provider Pocket Guide:  
<https://www.cdc.gov/std/syphilis/Syphilis-Pocket-Guide-FINAL-508.pdf>
4. National Network of STD Clinical Prevention Training Centers Clinical Consult Network:  
[www.stdccn.org](http://www.stdccn.org)
5. [Rac M, Revell P, Eppes C. Syphilis during pregnancy: a preventable threat to maternal-fetal health. AJOG Dec 2016;1:1-12.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5070033/)
6. American Academy of Pediatrics, American College of Obstetricians and Gynecologists. Guidelines for perinatal care. 7th ed. Elk Grove Village (IL): AAP; Washington, DC: American College of Obstetricians and Gynecologists; 2012. p. 426-432. <http://ebooks.aappublications.org/content/guidelines-for-perinatal-care-7th-edition>

## **Target Audience**

Local Health Departments, Infectious Disease Physicians, Hospital Emergency Departments, Infection Control Preventionists, Health Care Providers, Long Term Care Facilities, and Laboratories

**Author**

DHSS Bureau of HIV, STD, and Hepatitis, the State Chief Medical Officer, the State Chief Epidemiologist, and Division of Community and Public Health.

This information is current as of February 7, 2024 but may be modified in the future. We may continue to post updated information regarding the most common questions about this subject.