# Health Alert:

## Increased Incidence of Congenital Syphilis and Syphilis Among Missouri Women of Childbearing Age

**June 15, 2022**

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**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.

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**Health Alert**
**June 15, 2022**

**FROM:** **PAULA F. NICKELSON**
**ACTING DHSS DIRECTOR**

**SUBJECT:** **Increased Incidence of Congenital Syphilis and Syphilis Among Missouri Women of Childbearing Age**

## Summary:

Cases of congenital syphilis continue to increase in Missouri. In 2021, 63 congenital syphilis cases were reported in Missouri, representing the highest number of cases reported since 1994.

Missouri healthcare 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 preventive treatment, even if testing is negative.

All pregnant women in Missouri should be screened for syphilis. Pregnant women should be tested at the first prenatal visit, in the third trimester (28 weeks), and at delivery regardless of perceived risk. No infant should leave the hospital without the mother's serological status having been documented at least once during pregnancy and preferably again at delivery.

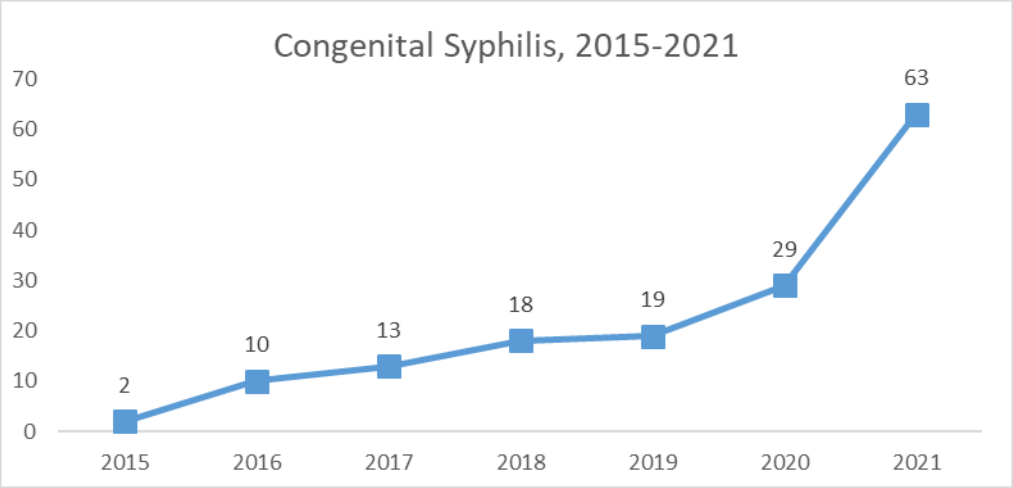
Pregnant women with syphilis should be treated with one to three shots of benzathine penicillin G, 2.4 million units IM depending on the stage of syphilis (see CDC treatment guidelines). Penicillin G is the only known effective antimicrobial for preventing maternal transmission to the fetus and treating fetal infection. Pregnant women who have a history of penicillin allergy must be desensitized 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.

## Background:

Missouri congenital syphilis cases have continued to increase from two (2) in 2015 to sixty-three (63) in 2021 (See Figure 1.), with a sharp increase in cases since 2019. This is a several-fold increase in a preventable disease with the state public health goal zero (0) congenital syphilis cases.

**Figure 1. Congenital syphilis cases by year, Missouri, 2015-2021**




*Source: Missouri Department of Health and Senior Services, Office of Epidemiology, Missouri Health Surveillance Information System (WebSurv). Based on data as of May 24.2022.*

## Symptoms

*Treponema pallidum* causes syphilis and can present in several stages. The chancre or ulcer of primary syphilis is 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, condyloma lata, and 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 illness including hydrops fetalis; hepatosplenomegaly; rashes; fevers; failure to thrive; deformity of the face, teeth, and bones; blindness; and deafness.

## 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 preventive treatment, even if testing is negative.
- All pregnant women in Missouri should be screened for syphilis. Pregnant women should be tested at the first prenatal visit, in the third trimester (28 weeks), and at delivery regardless of perceived risk.
- 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 at least once during pregnancy and preferably again at delivery.

**Diagnosis and Treatment**

*Syphilis during pregnancy*

- Two tests are required to diagnose syphilis, a non-treponemal assay (NTT) (i.e., Venereal Disease Research Laboratory [VDRL] or Rapid Plasma Reagin [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. Syphilis known to be acquired within the prior 12 months (primary, secondary, early non-primary non-secondary) should be treated with **2.4 million units of IM Benzathine penicillin G.** Syphilis acquired >12 months prior (late syphilis) or of unknown duration should be treated with **Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals.** If doses are further apart than 9 days or missed, the treatment schedule must restart from the beginning.
- Patients with penicillin allergies should be desensitized 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.

*Congenital Syphilis in the infant*

- Infected infants can 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 a 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).

| Treatment Table | | |
|---|---|---|
| **Treatment Population** | **Stage** | **Treatment** |
| Syphilis during pregnancy | Primary<br>Secondary<br>Early non-primary non-secondary | 2.4 million units of IM Benzathine penicillin G[1] |
| | Unknown duration<br>Late | Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals[2] |
| | Neuro and ocular syphilis | Aqueous crystalline penicillin G 18-24 million units per day, administered as 3-4 million units IV every 4 hours or continuous infusion, for 10-14 days |
| Congenital syphilis in the infant[3] | | Aqueous crystalline penicillin G 100,000-150,000 units/kg/day, administered as 50,000 units/kg/dose IV every 12 hours during the first 7 days of life and every 8 hours thereafter for a total of 10 days<br>OR<br>Procaine penicillin G 50,000 units/kg/dose IM in a single daily dose for 10 days |

[1]Patients with penicillin allergies should be desensitized and treated with penicillin as it is the only known effective antimicrobial for preventing maternal transmission to the fetus and treating fetal infection.
[2]If doses are further apart than 9 days or missed, the treatment schedule must restart from the beginning.
[3]If more than 1 day of therapy is missed the entire course should be restarted.

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.

**Resources**


1. 2021 CDC STI treatment guidelines https://www.cdc.gov/std/treatment-guidelines/lgv.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. STD Prevention Resources https://www.cdc.gov/std/publications/STDPreventionResources_WEB.pdf
5. National Network of STD Clinical Prevention Training Centers clinical consult network www.stdccn.org
6. Rac M, Revell P, Eppes C. Syphilis during pregnancy: a preventable threat to maternal-fetal health. AJOG Dec 2016:1-12.
7. 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 )