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Distributed by the NH Health Alert Network
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September 30, 2019 1630 EDT (4:30 PM EDT)
NH-HAN 20190930



Congenital Syphilis in New Hampshire

Key Points and Recommendations:

1. Three infants with probable congenital syphilis have been born to New Hampshire (NH) residents from May 2018 through September 2019. These are the first congenital syphilis cases reported in NH since 2013.
2. NH has experienced a 196% increase in cases of infectious syphilis, from 54 cases reported in 2014 to 106 cases in 2018. This has resulted in a number of syphilis infections in pregnant women within the last couple of years.
3. Routine screening of pregnant women is necessary to prevent congenital syphilis; however, some women with initial negative tests are at risk of acquiring syphilis later in pregnancy. Therefore, healthcare providers need to assess patient risk factors at all prenatal visits.
4. All women should undergo serologic screening for syphilis early in pregnancy, ideally at the time pregnancy is confirmed or the first prenatal visit.
5. Women at increased risk for syphilis (e.g. women diagnosed with a sexually transmitted disease during pregnancy; exchanging sex for drugs, money, or other services; unprotected sex with multiple sex partners; a new sex partner; illicit drug use, etc.) should be re-tested early in the third trimester (28-32 weeks) and again at delivery.
6. The mother or neonate should not leave the hospital after delivery without the mother's syphilis serologic status having been documented at least once during pregnancy, and if the mother is considered high-risk, documented again at delivery.
7. Any woman with a fetal death after 20 weeks gestation should be tested for syphilis.
8. Sex partners of patients diagnosed with syphilis should be connected with medical care for testing and treatment.
9. Please report all cases of syphilis to the NH Division of Public Health Services at 603-271-4496 (after hours 603-271-5300 and ask for the public health professional on call).

Background:

Syphilis is increasing nationally with infections at a 20-year high. Since 2012, rates of congenital syphilis in the U.S. have steadily increased. From 2012 to 2017 there was a 153% increase in the rate of congenital syphilis nationally, which has paralleled increases in the rate of primary and secondary syphilis in women of reproductive age. Congenital syphilis is preventable with early diagnosis and treatment of infections in pregnant mothers.

Symptoms:

Syphilis is a sexually transmitted disease caused by the bacterium *Treponema pallidum*. Syphilis is divided into stages (primary, secondary, latent, and tertiary), with different signs and symptoms associated with each stage. A person with primary syphilis generally has an ulceration at the original site of infection (e.g. around genitals, anus/rectum, or mouth). These ulcers are usually (but not always) firm, round, and painless. Symptoms of secondary syphilis include skin rash, swollen lymph nodes, and fever. The signs and symptoms of primary and secondary syphilis can be mild, and they might not be noticed. During the latent stage, there are no signs or symptoms. Tertiary syphilis is associated with severe medical problems. It can affect the heart, brain, and other organs of the body. More detailed information about syphilis can be found here: <https://www.cdc.gov/std/syphilis/stdfact-syphilis-detailed.htm>.

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 miscarriage, preterm birth, and stillbirth. Up to 40% of babies born to mothers with untreated syphilis may be stillborn or die in infancy. Congenital syphilis can also cause other complications including hepatosplenomegaly, syphilitic rhinitis (“snuffles”), rashes, generalized lymphadenopathy, neurologic complications, blindness and deafness, skeletal abnormalities, facial deformity, hydrops fetalis.

Infected infants can also be asymptomatic at birth, but can develop serious symptoms in the neonatal period or later in life.

Screening for syphilis in pregnancy

- All pregnant women should be screened for syphilis early in pregnancy, ideally at the time pregnancy is confirmed or the first prenatal visit.
- Women at increased risk for syphilis (e.g. women diagnosed with a sexually transmitted disease during pregnancy; exchanging sex for drugs, money, or services; unprotected sex with multiple sex partners; a new sex partner; illicit drug use, etc.) should be re-tested early in the third trimester (28-32 weeks) and again at delivery.
- Women who experience a stillbirth after 20 weeks of pregnancy should be tested for syphilis.

Diagnosis of syphilis

Two tests are required to diagnose syphilis, a non-treponemal assay (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 *T. pallidum* passive particle agglutination [TP-PA] assay, etc). False positive non-treponemal tests are seen in pregnancy so confirmatory testing with a treponemal test is necessary to diagnose syphilis.

All neonates born to women who have a reactive non-treponemal and treponemal tests should be evaluated with a quantitative non-treponemal serologic test (RPR or VDRL) and be examined thoroughly for evidence of congenital syphilis. Pathologic examination of the placenta or umbilical cord using specific staining (e.g., silver) or a *T. pallidum* PCR test should be considered. Please review the 2015 STD Treatment Guidelines for more information: <https://www.cdc.gov/std/tg2015/congenital.htm>.

Treatment of syphilis during pregnancy

Appropriate treatment of syphilis in pregnant women as soon as possible during pregnancy dramatically decreases the rate of congenital syphilis. Parenteral penicillin G is the only therapy with documented efficacy for syphilis during pregnancy. Pregnant women with syphilis in any stage who report penicillin allergy should be desensitized and treated with penicillin. Pregnant women should be treated with the penicillin regimen appropriate for their stage of infection as outlined in the 2015 STD Treatment Guidelines:

<https://www.cdc.gov/std/tg2015/syphilis.htm>.

Recommended treatment regimens by stage for **adults**:

- Primary or secondary syphilis: Benzathine penicillin G 2.4 million units IM in a single dose.
- Early Latent syphilis (infected within the prior 12 months): Benzathine penicillin G 2.4 million units IM in a single dose.
- Late latent syphilis (acquired more than 12 months previously) or latent syphilis of unknown duration: Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals.
- Tertiary syphilis (with normal CSF examination): Benzathine penicillin-G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals.
- Neurosyphilis 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

Missed doses are not acceptable for pregnant women receiving therapy for latent syphilis. In pregnant women who miss any dose of therapy, or if doses are further apart than 7 days, the treatment schedule must re-start from the beginning.

Guidance for treatment of congenital syphilis or syphilis in infants and children can be found at:

- <https://www.cdc.gov/std/tg2015/congenital.htm>.
- <https://www.cdc.gov/std/tg2015/syphilis.htm>.

Additional Resources

- 2015 CDC STD treatment guidelines: <https://www.cdc.gov/std/tg2015/syphilis.htm>
- National STD Curriculum [https://www.std.uw.edu/external icon](https://www.std.uw.edu/external/icon)
- STD Prevention Resources
https://www.cdc.gov/std/publications/STDPreventionResources_WEB.pdfpdf icon
- National Network of STD Clinical Prevention Training Centers (NNPTC) maintains an online clinical consultation service called the STD Clinical Consultation Network (STDCCN): www.stdccn.org and www.nnptc.org.

For any questions regarding the contents of this message, please call Bureau of Infectious Disease Control at (603) 271-4496 or 1-800-852-3345, extension 4496 during business hours (8 am to 4:30 pm). For after hours or on weekends call the New Hampshire Hospital switchboard at (603) 271-5300 or 1-800-852-3345 extension 5300 and request the Public Health Professional on-call.

To change your contact information in the NH Health Alert Network, contact Adnela Alic at 603-271-7499 or email adnela.alic@dhhs.nh.gov.

Status: Actual
Message Type: Alert
Severity: Moderate
Sensitivity: Not Sensitive
Message Identifier: NH-HAN 20190930 Congenital Syphilis in NH
Delivery Time: 12 hours
Acknowledgement: No
Distribution Method: Email, Fax
Distributed to: Physicians, Physician Assistants, Practice Managers, Infection Control Practitioners, Infectious Disease Specialists, Community Health Centers, Hospital CEOs, Hospital Emergency Departments, Nurses, NHHA, Pharmacists, Laboratory Response Network, Manchester Health Department, Nashua Health Department, Public Health Networks, DHHS Outbreak Team, DPHS Investigation Team, DPHS Management Team, Northeast State Epidemiologists, Zoonotic Alert Team, Health Officers, Deputy Health Officers, MRC, NH Schools, EWIDS
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Originating Agency: NH Department of Health and Human Services, Division of Public Health Services

Attachments: None