

SYPHILIS

(Primary; Secondary; Early Non-Primary Non-Secondary; Unknown Duration or Late; along with neurologic, ocular, otic, and late clinical manifestations in any of the four stages of syphilis; Congenital; and Syphilitic Stillbirth)

REPORTING INFORMATION

- **Class B:** Report the case, suspected case and/or a positive laboratory result to the local public health department where the patient resides by the close of the next business day. If patient residence is unknown, report to the local public health department in which the reporting health care provider or laboratory is located.
- Health care providers and laboratories report using the following form(s) and/or mechanism: [Ohio Confidential Reportable Disease form](#) (HEA 3334, rev. 5/2014), [Positive Laboratory Findings for Reportable Disease form](#) (HEA 3333, rev. 8/2005), Ohio Disease Reporting System (ODRS), electronic laboratory reporting (ELR), or telephone.
- Local public health departments report the case, suspected case and/or a positive laboratory result to the Ohio Department of Health (ODH) via ODRS by the end of the next business day.
- Key fields for ODRS reporting include for laboratory – date collected, test name, and result (including numeric result if available [e.g. titers]); for clinical – treatment name, dose, and start date. Please note that data concerning risk factors and contacts will be obtained by STD Disease Intervention Specialists (DIS) during their investigation and reported using ODRS.

AGENT

Treponema pallidum, a spirochete, classified as a bacterium. It is motile with 6-14 spirals.

CASE DEFINITION

Clinical Description

Syphilis is a sexually transmitted disease (STD) caused by the bacterium *Treponema pallidum*. Syphilis is passed from person to person through direct contact with a syphilitic chancre. Chancres occur mainly on the external genitals, vagina, anus, or in the rectum but can also occur on the lips and in the mouth. Transmission of the organism occurs during vaginal, anal, or oral sex. Pregnant women with the disease can transmit it through the placenta to the fetus or at birth to the neonate. Many people infected with syphilis do not have any symptoms for years, yet remain at risk for late complications if they are not treated. Although transmission occurs from persons with chancres who are in the primary or secondary stage, many of these chancres are unrecognized. Thus, transmission may occur from persons who are unaware of their infection.

Syphilis is a complex sexually transmitted disease that has a highly variable clinical course. Adherence to the following surveillance case definitions will facilitate understanding the epidemiology of this disease across the U.S. Clinical manifestations of syphilis can occur during the primary; secondary, early non-primary, non-secondary; or unknown duration or late stages. The manifestations include neurologic, ocular, otic, and late clinical manifestations.

Syphilis, Primary

Clinical Description

A stage of infection with *Treponema pallidum* characterized by one or more ulcerative lesions (e.g. chancre), which might differ considerably in clinical appearance.

Laboratory Criteria for Diagnosis

Confirmatory:

- Demonstration of *T. pallidum* by darkfield microscopy in a clinical specimen that was not obtained from the oropharynx and is not potentially contaminated by stool, OR
- Demonstration of *T. pallidum* by polymerase chain reaction (PCR) or equivalent direct molecular methods in any clinical specimen

Supportive:

- A reactive nontreponemal serologic test (Venereal Disease Research Laboratory [VDRL], rapid plasma reagin [RPR], or equivalent serologic methods), OR
- A reactive treponemal test (*T. pallidum* particle agglutination [TP-PA], enzyme immunoassay [EIA], chemiluminescence immunoassay [CIA], or equivalent serologic methods)*

* These treponemal tests supersede older testing technologies, including microhemagglutination assay antibody to *T. pallidum* [MHA-TP].

Case Classification

Probable: A case that meets the clinical description of primary syphilis and the supportive laboratory criteria

Confirmed: A case that meets the clinical description of primary syphilis and the confirmatory laboratory criteria

Syphilis, Secondary

Clinical Description

A stage of infection caused by *T. pallidum* characterized by localized or diffuse mucocutaneous lesions (e.g. rash – such as non-pruritic macular, maculopapular, papular, or pustular lesions), often with generalized lymphadenopathy. Other symptoms can include mucous patches, condyloma lata, and alopecia. The primary ulcerative lesion may still be present.*

*Because of the wide array of symptoms and signs possibly indicating secondary syphilis, serologic tests for syphilis and a physical examination are crucial to determining if a case should be classified as secondary syphilis.

Laboratory Criteria for Diagnosis

Confirmatory:

- Demonstration of *T. pallidum* by darkfield microscopy in a clinical specimen that was not obtained from the oropharynx and is not potentially contaminated by stool, OR
- Demonstration of *T. pallidum* by polymerase chain reaction (PCR) or equivalent direct molecular methods in any clinical specimen

Supportive:

- A reactive nontreponemal serologic test (VDRL, RPR, or equivalent serologic methods), AND
- A reactive treponemal serologic test (TP-PA, EIA, CIA, or equivalent serologic methods)

Case Classification

Probable: A case that meets the clinical description of secondary syphilis and the supportive laboratory criteria

Confirmed: A case that meets the clinical description of secondary syphilis and the confirmatory laboratory criteria

Syphilis, Early Non-Primary Non-Secondary

Clinical Description

A stage of infection caused by *T. pallidum* in which initial infection has occurred within the previous 12 months, but there are no signs or symptoms of primary or secondary syphilis.

Laboratory Criteria

Confirmatory: Not applicable

Supportive: A current nontreponemal test titer demonstrating fourfold or greater increase from the last nontreponemal test titer, unless there is evidence that this increase was not sustained for >2 weeks.

Epidemiologic Criteria

- A history of sexual exposure to a partner within the previous 12 months who had primary, secondary, or early non-primary non-secondary syphilis (documented independently as duration <12 months) OR
- Only sexual contact (sexual debut) was within the previous 12 months

Case Classification

Probable: A person with no clinical signs or symptoms of primary or secondary syphilis who has one of the following:

- No prior history of syphilis, AND a current reactive nontreponemal test (e.g. VDRL, RPR, or equivalent serologic methods), AND a current reactive treponemal test (TP-PA, EIA, CIA, or equivalent serologic methods), OR
- A prior history of syphilis and meets the supportive laboratory criteria

AND evidence of having acquired the infection within the previous 12 months based upon one or more of the following criteria:

- Documented seroconversion or four-fold or greater increase in titer of a nontreponemal test during the previous 12 months, unless there is evidence that this increase was not sustained for >2 weeks OR
- Documented seroconversion of a treponemal test during the previous 12 months OR
- A history of symptoms consistent with primary or secondary syphilis during the previous 12 months OR
- Meets epidemiologic criteria

Confirmed: Not applicable

Syphilis, Unknown Duration or Late

Clinical Description

A stage of infection caused by *T. pallidum* in which initial infection has occurred >12 months previously or in which there is insufficient evidence to conclude that infection was acquired during the previous 12 months

Case Classification

Probable: A person with no clinical signs or symptoms of primary or secondary syphilis who meets one of the following sets of criteria:

- No prior history of syphilis, AND a current reactive nontreponemal test (e.g. VDRL, RPR, or equivalent serologic methods), AND a current reactive treponemal test (e.g.,

- TP-PA, EIA, CIA, or equivalent serologic methods), OR
- A prior history of syphilis, AND a current nontreponemal test titer demonstrating fourfold or greater increase from the last nontreponemal test titer, unless there is evidence that this increase was not sustained for >2 weeks, OR
- Clinical signs or symptoms AND laboratory results that meet the likely or verified criteria for neurologic, ocular, otic, or late clinical manifestations of syphilis (see below)

AND who has no evidence of having acquired the disease within the preceding 12 months (See Syphilis, Early Non-Primary Non-Secondary).

Confirmed: Not applicable

Comment

Although cases of syphilis of unknown duration are grouped together with late syphilis for the purposes of surveillance, the conservative clinical and public health responses to these cases will differ when there is uncertainty about the duration of infection. When faced with uncertainty, clinicians should act conservatively and treat unknown duration syphilis as if it were late infection, with three doses of benzathine penicillin. In contrast, the most conservative approach for STD control programs would be to manage cases of syphilis of unknown duration as early non-primary non-secondary infections and search for partners who may have been recently infected. Because this would not be feasible for most STD control programs, programs should consider prioritizing cases of syphilis of unknown duration with higher nontreponemal titers (e.g., 1:32 or higher) for investigation and partner services. Although nontreponemal titers cannot reliably distinguish between early infection (<12 months duration) and late infection (>12 months duration), nontreponemal titers usually are higher early in the course of syphilis infection.

Additional Information to be Collected on Clinical Manifestations of Reported Syphilis Cases

Syphilis is a systemic infection that, if untreated, can cause a variety of clinical manifestations, including:

- Signs and symptoms of primary and secondary syphilis (see above case definitions)
- Latent infections (i.e., those lacking any signs or symptoms)
- Neurologic, ocular, or otic manifestations (neurosyphilis, ocular syphilis, or otosyphilis) which can occur at any stage of syphilis
- Late clinical manifestations (tertiary syphilis), which generally occur after 15-30 years of untreated infection

The following provides guidance for reporting neurologic, ocular, otic, and late clinical manifestations of syphilis. Cases should be reported according to stage of infection, as defined above (e.g., primary syphilis, secondary syphilis, early non-primary non-secondary, or late of unknown duration syphilis) and the clinical manifestations should be reported in the case report data, as defined below.

Neurologic Manifestations

Neurologic manifestations (neurosyphilis) can occur at any stage of syphilis. If the patient has neurologic manifestations of syphilis, the case should be reported with the appropriate state of infection (as if neurologic manifestations were not present) and neurologic manifestations should be noted in the case report data.

Clinical Description

Infection of the central nervous system with *T. pallidum*, as evidenced by manifestations including syphilitic meningitis, meningovascular syphilis, general paresis, including dementia, and tabes dorsalis.

Classification of Neurologic Manifestations (Neurosyphilis)

Possible: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent serologic methods) AND clinical symptoms or signs that are consistent with neurosyphilis without other known causes for these clinical abnormalities

Likely: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent serologic methods) with BOTH of the following:

- Clinical symptoms or signs that are consistent with neurosyphilis without other known causes for these clinical abnormalities AND
- Elevated cerebrospinal fluid (CSF) protein (>50 mg/dL²) or leukocyte count (>5 white blood cells/cubic millimeter CSF) in the absence of other known causes of these abnormalities

Verified: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent serologic methods) with BOTH of the following:

- Clinical symptoms or signs that are consistent with neurosyphilis without other known causes for these clinical abnormalities, AND
- A reactive VDRL in CSF in the absence of grossly bloody contamination of the CSF

Ocular Manifestations

Ocular manifestations (ocular syphilis) can occur at any stage of syphilis. If the patient has ocular manifestations of syphilis, the case should be reported with the appropriate stage of infection (as if ocular manifestations were not present) and ocular manifestations should be noted in the case report data.

Clinical Description

Infection of any eye structure with *T. pallidum*, as evidenced by manifestations including posterior uveitis, panuveitis, anterior uveitis, optic neuropathy, and retinal vasculitis. Ocular syphilis may lead to decreased visual acuity, including permanent blindness.

Classification of Ocular Manifestations (Ocular Syphilis)

Possible: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent serologic methods) AND clinical symptoms or signs consistent with ocular syphilis without other known causes for these clinical abnormalities

Likely: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent serologic methods) and BOTH of the following:

- Clinical symptoms or signs consistent with ocular syphilis without other known causes for these clinical abnormalities, AND
- Findings on exam by an ophthalmologist that are consistent with ocular syphilis in the absence of other known causes for these abnormalities

Verified: A person with a reactive nontreponemal tests (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent

serologic methods) BOTH of the following:

- Clinical symptoms or signs consistent with ocular syphilis without other known causes for these clinical abnormalities AND
- Demonstration of *T. pallidum* in aqueous or vitreous fluid by darkfield microscopy, by polymerase chain reaction (PCR), or equivalent direct molecular methods

Otic Manifestations

Otic manifestations can occur at any stage of syphilis. If the patient has otic manifestations of syphilis, the case should be reported with the appropriate stage of infection (as if otic manifestations were not present) and otic manifestations should be noted in the case report data.

Clinical Description

Infection of the cochleovestibular system with *T. pallidum*, as evidence by manifestations, including sensorineural hearing loss, tinnitus, and vertigo.

Classification of Otic Manifestations (Otosyphilis)

Possible: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent serologic methods) AND clinical symptoms or signs consistent with otosyphilis without other known causes for these clinical abnormalities

Likely: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent serologic methods) with BOTH of the following:

- Clinical symptoms or signs consistent with otosyphilis without other known causes for these clinical abnormalities, AND
- Findings on exam by an otolaryngologist that are consistent with otosyphilis in the absence of other known causes for these abnormalities

Verified: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA, or equivalent serologic methods) AND both of the following:

- Clinical symptoms or signs consistent with otosyphilis without other known causes for these clinical abnormalities, AND
- Demonstration of *T. pallidum* in inner ear fluid by darkfield microscopy, or by polymerase chain reaction (PCR), or equivalent direct molecular detection methods.

Late Clinical Manifestations

Late clinical manifestations of syphilis usually develop only after a period of 15–30 years of untreated infection. Therefore, if the patient has late clinical manifestations of syphilis, the case should be reported with the appropriate stage of infection (for the vast majority of cases, this will be unknown duration or late syphilis) and late clinical manifestations should be noted in the case report data.

Clinical Description

Late clinical manifestations of syphilis (tertiary syphilis) may include inflammatory lesions of the cardiovascular system (e.g., aortitis, coronary vessel disease), skin (e.g., gummatous lesions), bone (e.g., osteitis), or other tissue. Rarely, other structures (e.g., the upper and lower respiratory tracts, mouth, eye, abdominal organs, reproductive organs, lymph nodes, and skeletal muscle) may be involved. In addition, certain neurologic manifestations (e.g., general paresis and tabes dorsalis) are also late clinical manifestations of syphilis.

Classification of Late Clinical Manifestations of Syphilis (Tertiary Syphilis)

Likely: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA or equivalent serologic methods) with EITHER of the following:

- Characteristic abnormalities or lesions of the cardiovascular system (e.g., aortitis, coronary vessel disease), skin (e.g., gummatous lesions), bone (e.g., osteitis), or other tissue, in the absence of other known causes of these abnormalities, OR
- Clinical signs and symptoms consistent with late neurologic manifestations of syphilis (e.g., general paresis, including dementia, or tabes dorsalis) in a case that meets the criteria for likely neurologic manifestations of syphilis (see above)

Verified: A person with a reactive nontreponemal test (e.g., VDRL, RPR, or equivalent serologic methods) AND a reactive treponemal test (e.g., TP-PA, EIA, CIA or equivalent serologic methods) and EITHER of the following:

- Characteristic abnormalities or lesions of the cardiovascular system (e.g., aortitis, coronary vessel disease), skin (e.g., gummatous lesions), bone (e.g., osteitis), or other tissue in the absence of other known causes of these abnormalities, in combination with either demonstration of *T. pallidum* in late lesions by special stains or equivalent methods, or by polymerase chain reaction (PCR) or equivalent direct molecular methods, or demonstration of pathologic changes that are consistent with *T. pallidum* infection on histologic examination of late lesions, OR
- Clinical signs and symptoms consistent with late neurologic manifestations of syphilis (e.g., general paresis, including dementia, or tabes dorsalis) in a case that meets the criteria for verified neurologic manifestations of syphilis (see above)

Syphilis, Congenital

Clinical Description

A condition caused by infection in utero with *Treponema pallidum*. A wide spectrum of severity exists, from inapparent infection to severe cases that are clinically apparent at birth. An infant or child (aged less than 2 years) may have signs such as hepatosplenomegaly, rash, condyloma lata, snuffles, jaundice (nonviral hepatitis), pseudoparalysis, anemia, or edema (nephrotic syndrome and/or malnutrition). An older child may have stigmata (e.g. interstitial keratitis, nerve deafness, anterior bowing of shins, frontal bossing, mulberry molars, Hutchinson teeth, saddle nose, rhagades, or Clutton joints).

Laboratory Criteria for Diagnosis

Demonstration of *Treponema pallidum* by:

- Darkfield microscopy of lesions, body fluids, or neonatal nasal discharge, OR
- Polymerase chain reaction (PCR) or other equivalent direct molecular methods of lesions, neonatal nasal discharge, placenta, umbilical cord, or autopsy material, OR
- Immunohistochemistry (IHC), or special stains (e.g., silver staining) of specimens from lesions, placenta, umbilical cord, or autopsy material

Case Classification

Probable: A condition affecting an infant whose mother had untreated or inadequately* treated syphilis at delivery, regardless of signs in the infant, OR an infant or child who has a reactive non-treponemal test for syphilis (VDRL, RPR, or equivalent serologic methods) AND any one of the following:

- Any evidence of congenital syphilis on physical examination (see Clinical Description)
- Any evidence of congenital syphilis on radiographs of long bones
- A reactive CSF VDRL test
- In a nontraumatic lumbar puncture, an elevated CSF leukocyte (white blood cell,

WBC) count or protein (without other cause)

Suggested parameters for abnormal CSF WBC and protein values:

1. During the first 30 days of life, a CSF WBC count of >15 WBC/mm³ or a CSF protein >120 mg/dL
2. After the first 30 days of life, a CSF WBC count of >5 WBC/mm³ or a CSF protein >40 mg/dL, regardless of CSF serology

The treating clinician should be consulted to interpret the CSF values for the specific patient.

Confirmed: A case that is laboratory confirmed

Comments

Congenital and acquired syphilis may be difficult to distinguish when a child is seropositive after infancy. Signs of congenital syphilis may not be obvious and stigmata may not yet have developed. Abnormal values for CSF VDRL, WBC count, and protein, may be found in either congenital or acquired syphilis. Findings on radiographs of long bones may help because radiographic changes in the metaphysis and epiphysis are considered classic signs of congenitally acquired syphilis. While maternal antibodies can complicate interpretation of serologic tests in an infant, reactive tests past 18 months of age are considered to reflect the status of the child. The decision may ultimately be based on maternal history and clinical judgment. In a young child, the possibility of sexual abuse should be considered as a cause of acquired rather than congenital syphilis, depending upon the clinical picture. For reporting purposes, congenital syphilis includes cases of congenitally acquired syphilis among infants and children as well as syphilitic stillbirths.

Syphilitic Stillbirth

Clinical Description

A fetal death that occurs after a 20-week gestation or in which the fetus weighs greater than 500g and the mother had untreated or inadequately treated syphilis at delivery.

* Adequate treatment is defined as completion of a penicillin-based regimen, in accordance with CDC treatment guidelines, appropriate for stage of infection, initiated 30 or more days before delivery.

PUBLIC HEALTH MANAGEMENT

Case

All early infectious primary, secondary, early non-primary non-secondary syphilis (less than one-year duration) and congenital syphilis cases should be reported promptly to the local health jurisdiction, and, referred to a Disease Intervention Specialist (DIS) for further investigation.

Treatment

Consult the most recent CDC-published "STD Treatment Guidelines" for recommended therapy at the CDC Web Site (<http://www.cdc.gov/std/treatment/>).

Treatment failure can occur with any regimen. However, assessing response to treatment frequently is difficult, and definitive criteria for cure or failure have not been established. In addition, nontreponemal test titers might decline more slowly for persons who previously have had syphilis. Clinical and serologic evaluation should be performed 6 months and 12

months after treatment; more frequent evaluation might be prudent if follow-up is uncertain.

Patients who have signs or symptoms that persist or recur or who have a sustained fourfold increase in nontreponemal test titer (i.e. compared with the maximum or baseline titer at the time of treatment) probably failed treatment or were reinfected. These patients should be retreated and reevaluated for HIV infection. Because treatment failure usually cannot be reliably distinguished from reinfection with *T. pallidum*, a CSF analysis also should be performed.

Isolation None.

Contacts

Each case of diagnosed primary, secondary and early non-primary non-secondary (under one year's duration) syphilis should be referred to a Disease Intervention Specialist (DIS) so that specialized skills and assistance in contact tracing can be immediately initiated. Physicians have a responsibility to the public as well as to their patients. Untreated syphilitic patients are a public health threat to themselves and others. Contact tracing will help locate infected individuals who can continue infecting others and who might develop severe manifestations of late syphilis.

Sexual transmission of *T. pallidum* is thought to occur only when mucocutaneous syphilitic lesions are present. Although such manifestations are uncommon after the first year of infection, persons exposed sexually to a patient who has syphilis in any stage should be evaluated clinically and serologically and treated with a recommended regimen, according to the following recommendations:

- Persons who were exposed within the 90 days preceding the diagnosis of primary, secondary, or early non-primary non-secondary syphilis in a sex partner might be infected even if seronegative; therefore, such persons should be treated presumptively.
- Persons who were exposed >90 days before the diagnosis of primary, secondary, or early non-primary non-secondary syphilis in a sex partner should be treated presumptively if serologic test results are not available immediately and the opportunity for follow-up is uncertain.
- For purposes of partner notification and presumptive treatment of exposed sex partners, patients with syphilis of unknown duration who have high nontreponemal serologic test titers (i.e. >1:32) can be assumed to have early syphilis. For determining a treatment regimen, however, serologic titers should not be used to differentiate early from late syphilis.
- Long-term sex partners of patients who have early non-primary non-secondary syphilis or unknown duration or late syphilis should be evaluated clinically and serologically for syphilis and treated based on the evaluation findings.

Sexual partners of infected patients should be considered at risk and provided treatment if they have had sexual contact with the patient within three months plus the duration of symptoms for patients diagnosed with primary syphilis, six months plus duration of symptoms for those with secondary syphilis, and 1 year for patients with early non-primary non-secondary syphilis.

Screening

Persons with a positive treponemal screening test should have a standard nontreponemal test with titer performed reflexively by the laboratory to guide patient management decisions. If the nontreponemal test is negative, then the laboratory should perform a

different treponemal test (preferably one based on different antigens than the original test) to confirm the results of the initial test. If a second treponemal test is positive, persons with a history of previous treatment will require no further management unless sexual history suggests likelihood of re-exposure. Those without a history of treatment for syphilis should be offered treatment. Unless history or results of a physical examination suggest a recent infection, previously untreated persons should be treated for unknown duration or late syphilis. If the second treponemal test is negative, further evaluation or treatment is not indicated.

All persons who have syphilis should be tested for HIV infection. In geographic areas in which the prevalence of HIV is high, persons who have primary syphilis should be retested for HIV after 3 months if the first HIV test result was negative. For most HIV-infected persons, serologic tests are accurate and reliable for the diagnosis of syphilis and for following a patient's response to treatment. However, atypical syphilis serologic test results (i.e. unusually high, unusually low, or fluctuating titers) can occur in HIV-infected persons. When serologic tests do not correspond with clinical findings suggestive of early syphilis, use of other tests (e.g. biopsy and darkfield microscopy) should be considered.

All women should be screened serologically for syphilis early in pregnancy. Most states mandate screening at the first prenatal visit for all women; antepartum screening by nontreponemal antibody testing is typical, but in some settings, treponemal antibody testing is being used. Pregnant women with reactive treponemal screening tests should have confirmatory testing with nontreponemal tests with titers. In populations in which use of prenatal care is not optimal, RPR test screening and treatment (if the RPR test is reactive) should be performed at the time that pregnancy is confirmed. For communities and populations in which the prevalence of syphilis is high and for patients at high-risk, serologic testing should be performed twice during the third trimester (ideally at 28–32 weeks' gestation) and at delivery. Any woman who delivers a stillborn infant after 20 weeks' gestation should be tested for syphilis. No infant should leave the hospital without the maternal serologic status having been determined at least once during pregnancy.

Patients who have syphilis and symptoms or signs suggesting neurologic disease (e.g. meningitis and hearing loss) or ophthalmic disease (e.g. uveitis, iritis, neuroretinitis, and optic neuritis) should have an evaluation that includes CSF analysis, ocular slit-lamp ophthalmologic examination, and otologic examination. Treatment should be guided by the results of this evaluation.

Prevention and Control

If control of syphilis is to be achieved, it is essential that all contacts be examined. Primary, secondary and early non-primary non-secondary (under one year duration) syphilis contacts and cluster suspects should be prophylactically (epidemiologically) treated during their first visit immediately after this physical examination and stat RPR serology results. All contacts, infected and not infected, should be referred to a skilled Disease Intervention Specialist (DIS) for an epidemiologic interview. Very rapid case follow-up is essential for syphilis control.

Latex male condoms, when used consistently and correctly, can reduce the risk of getting or giving syphilis. The surest way to avoid syphilis is to abstain from vaginal, anal, and oral sex or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected.

Special Consideration with Syphilis Infection Among Children

Older infants and children aged ≥ 1 month who are identified as having reactive serologic

tests for syphilis should have maternal serology and records reviewed to assess whether they have congenital or acquired syphilis. Any child at risk for congenital syphilis should receive a full evaluation and testing for HIV infection.

Sexual abuse may be considered a cause of syphilis infection in preadolescent children. In all cases in which an STD has been diagnosed in a child, efforts should be made to detect evidence of sexual abuse, including conducting diagnostic testing for other commonly occurring STDs. If there is a reasonable suspicion of abuse or neglect, public health officials have a responsibility to report their suspicions to the appropriate authorities as designated mandatory reporters (Ohio Revised Code 2151.421).

What is syphilis?

Syphilis is a sexually transmitted disease (STD) caused by a bacterium. Syphilis can cause long-term complications and/or death if not adequately treated.

How common is syphilis?

There were 88,042 new cases (rate of 27.4 cases per 100,000 population) of syphilis (all stages) were reported in the U.S. in 2016, compared to 39,513 estimated new diagnoses of HIV infection in 2015, and 468,514 cases (rate of 145.8 cases per 100,000 population) of gonorrhea in 2016. Of new cases of syphilis reported in 2016, 27,814 cases (rate of 8.7 cases per 100,000 population) were of primary and secondary (P&S) syphilis, the earliest and most infectious stages of syphilis. In 2016, 58% of P&S syphilis occurred among men who have sex with men. There were also 628 reports (rate of 15.7 cases per 100,000 live births) of children with congenital syphilis in the U.S. in 2016, including 41 syphilis stillbirths.

How do people get syphilis?

Syphilis is transmitted from person to person by direct contact with syphilis sores. Sores occur mainly on the external genitals, vagina, anus, or in the rectum. Sores also can occur on the lips and in the mouth. Syphilis can be transmitted during vaginal, anal, or oral sexual contact. Pregnant women with the disease can pass it to their unborn children.

How quickly do symptoms appear after infection?

The average time between infection with syphilis and appearance of the first symptom is 21 days, but it can range from ten to 90 days.

What are the symptoms in adults?Primary Stage

The appearance of a single sore marks the first (primary) stage of syphilis symptoms, but there may be multiple sores. The sore appears at the location where syphilis entered the body. The sore is usually firm, round, and painless. Because the sore is painless, it can easily go unnoticed. The sore lasts three to six weeks and heals regardless of whether a person is treated. However, if the infected person does not receive adequate treatment the infection progresses to the secondary stage.

Secondary Stage

Skin rashes and/or sores in the mouth, vagina, or anus (also called mucous membrane lesions) mark the secondary stage of symptoms. This stage usually starts with a rash on one or more areas of the body. Rashes associated with secondary syphilis can appear from the time when the primary sore is healing to several weeks after the sore has healed. The rash usually does not cause itching. This rash may appear as rough, red, or reddish-brown spots both on the palms of the hands and/or the bottoms of the feet. However, this rash may look different on other parts of the body and can look like rashes caused by other diseases.

Large, raised, gray or white lesions may develop in warm, moist areas such as the mouth, underarm or groin region. Sometimes rashes associated with secondary syphilis are so faint that they are not noticed. Other symptoms of secondary syphilis include fever, swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and fatigue. The symptoms of secondary syphilis will go away with or without treatment. Without appropriate treatment, the infection will progress to the early non-primary non-secondary and unknown duration or late stages of disease.

Early Non-Primary Non-Secondary and Unknown Duration or Late Stages

The early non-primary non-secondary stage of syphilis begins when primary and secondary symptoms disappear. Without treatment, the infected person can continue to have syphilis in their body even though there are no signs or symptoms. This stage can last for years. About 15% of people who have not been treated for syphilis develop late stage syphilis, which can appear 10–30 years after infection began. Symptoms of the late stage of syphilis include difficulty coordinating muscle movements, paralysis, numbness, gradual blindness, and dementia. In the late stages of syphilis, the disease damages the internal organs, including the brain, nerves, eyes, heart, blood vessels, liver, bones, and joints. This damage can result in death.

How does syphilis affect a pregnant woman and her baby?

A pregnant woman with syphilis can pass the disease to her unborn baby. Babies born with syphilis can have many health problems. This may lead to low birth weight, premature delivery or even having a stillbirth (a baby born dead). To protect their babies, pregnant women should be tested for syphilis regularly during the pregnancy and at delivery and receive immediate treatment, if positive.

An infected baby may be born without signs or symptoms of disease. However, if not treated immediately, the baby may develop serious problems within a few weeks. Untreated babies can have many health problems (such as cataracts, deafness, or seizures), and they can die.

How is syphilis diagnosed?

A blood test is the most common way to determine if someone has syphilis. Shortly after infection, the body produces syphilis antibodies that can be detected by an accurate, safe, and inexpensive blood test.

Some health care providers can diagnose syphilis by examining material from a syphilis sore using a special microscope called a dark-field microscope. If syphilis bacteria are present in the sore, they will show up when observed through the microscope.

Special note: Because untreated syphilis in a pregnant woman can infect and kill her developing baby, every pregnant woman should receive prenatal care and be tested for syphilis during pregnancy and at delivery.

What is the link between syphilis and HIV?

Oral, anal, vaginal, or penile syphilis sores make it easier to transmit and acquire HIV infection. A person is 2 to 5 times more likely to get HIV if exposed when syphilis sores are present.

How is syphilis treated?

No home remedies or over-the-counter drugs will cure syphilis, but syphilis is simple to cure with appropriate antibiotics from a physician. Treatment will kill the syphilis bacterium and prevent further damage, but it will not repair damage already done.

Persons treated for syphilis must abstain from sexual contact with new partners until the syphilis sores are completely healed. Persons with syphilis must notify their sex partners so that they also can be tested and treated if necessary.

Who should be tested for syphilis?

Providers should routinely test persons who:

- are pregnant
- are men who have sex with men
- have HIV infection
- have partner(s) who have tested positive for syphilis

Will syphilis recur or "come back?"

Follow-up testing is recommended to be sure that treatment is successful. Having syphilis once does not protect a person from getting it again. Even following successful treatment, people can still be re-infected. Only laboratory tests can confirm whether someone has syphilis.

Because syphilis sores can be hidden in the vagina, anus, under the foreskin, or mouth, it may not be obvious that a sex partner has syphilis. Unless a person knows that their sex partners have been tested and treated, they may be at risk of getting syphilis again from an untreated sex partner.

How can syphilis be prevented?

Correct and consistent use of latex condoms can reduce the risk of syphilis when the sore or site of potential exposure is covered, but it is best to abstain from sex while any sore is present in the genital, anal, or oral area. Contact with a sore outside of the area covered by a latex condom can still cause infection.

The surest way to avoid transmission of sexually transmitted diseases, including syphilis, is to abstain from sexual contact or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected.

Transmission of an STD, including syphilis, cannot be prevented by washing the genitals, urinating, and/or douching after sex. Any unusual discharge, sore, or rash, particularly in the groin area, should be a signal to abstain from having sex and to see a doctor immediately.

Avoiding alcohol and drug use may also help prevent transmission of syphilis because these activities may lead to risky sexual behavior. It is important that sex partners talk to each other about their HIV status and history of other STDs so that preventive action can be taken.

Where can I get more information?

Centers for Disease Control and Prevention (CDC) Division of STD Prevention (DSTDP)
www.cdc.gov/std