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Syphilis

Surveillance Protocol

Provider Responsibilities

1. Report all syphilis cases to the West Virginia Department of Health and Human Resources (DHHR), Bureau for Public Health (BPH) within seven days by submitting a completed VD-91 treatment card and the corresponding lab and clinical information electronically, or by fax, to the STD Surveillance Unit (contact information printed at the bottom of the VD-91 form).
   a. Congenital syphilis (CS) must be reported within 24 hours.
2. Evaluate and test patients who present with signs and symptoms.
3. Evaluate, test, and prophylactically treat patients who present as a contact to an infected person.
4. Conduct syphilis screening on all pregnant patients. Current state law requires screening at the first prenatal care visit, but in areas of high morbidity, further testing at the start of the third trimester (28-32 weeks gestation) and again at delivery is recommended.
   a. Any pregnancy resulting in stillbirth after 20 weeks of gestation, or if the fetus weighs more than 500g should be tested for syphilis (both mother and fetus).
5. Treat patients with positive laboratory tests indicating a new infection according to the most current Center for Disease Control and Prevention (CDC) treatment guidelines: www.cdc.gov/std/treatment/default.htm.
   a. Please note there is **no recommended alternative to penicillin treatment** for Syphilis among pregnant patients.
   b. See the BPH Syphilis Staging and Treatment Algorithm: oeps.wv.gov/syphilis/Documents/LHD/Syphilis_Staging_and_Treatment_Algorithm.pdf.
6. Obtain sexual history for each patient requesting STD services according to the most recent CDC guidelines: www.cdc.gov/std/treatment/sexualhistory.htm.
7. Refer to the district Public Health Investigator, commonly referred to as a Disease Intervention Specialist (DIS), for patient follow-up and partner services.
8. Contact the STD Surveillance Unit with questions or concerns regarding reporting at 304-558-2195 or wvstd@wv.gov.

Laboratory Responsibilities

1. Report all positive syphilis lab results to BPH via electronic lab reporting (ELR) or by faxing a copy of the laboratory result(s) to the STD Surveillance Unit at 304-558-6478.
2. Contact the STD Surveillance Unit with questions or concerns regarding reporting. Call the division's main office at 304-558-2195 or send an email to wvstd@wv.gov.

Local Health Responsibilities

1. Education and Outreach

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a. Educate providers about the importance of screening pregnant women and other high-risk populations for syphilis.
b. Educate the public about syphilis signs, symptoms, and risk factors.
c. Collaborate with state program staff to organize outreach and education events in high-impact areas/settings.

2. STD Testing and Treatment
   a. Follow and promote all testing and treatment guidelines recommended by the CDC: www.cdc.gov/std/treatment-guidelines/syphilis.
   b. Collect a sexual history for each patient accessing STD Clinical Services.
   c. Stage Syphilis based on information provided by the patient, and treat appropriately per the Syphilis Staging and Treatment Algorithm.
   d. Order HIV testing to accompany Syphilis testing whenever possible.
3. Collaborate with BPH
   a. Prioritize patients/partners that DIS refer to the LHD for STD clinic appointments.
   b. Offer preventative (prophylactic) treatment to patients that have been exposed to a known case and/or have signs/symptoms of Syphilis after collecting laboratory samples.
   c. Promote BPH reporting requirements among providers.
   d. Refer providers to STD Surveillance or DIS staff for STD information when necessary.
   e. Contact the STD Surveillance Unit for patient titer and treatment history, if needed.
   f. Contact OLS with laboratory-specific questions at 304-558-3530, please visit website at: dhhr.wv.gov/ols/Pages/default.aspx.

DIS Responsibilities

1. Prioritize syphilis cases/investigations based on most current Syphilis Reactor Grid.
2. Contact the patient and encourage them to seek treatment (refer to LHD when necessary).
3. Educate the patient and answer any questions they may have pertaining to STDs and partner services.
4. Interview the patient for all partners/contacts, with the timeframe based on Syphilis staging.
5. Provide partner notification to named contacts.
6. Refer partners to LHD for testing and/or treatment.
7. Complete required fields in case and partner(s) investigations in the West Virginia Electronic Disease Surveillance System (WVEDSS) and submit to the DIS Supervisor.
8. A case may be considered lost to follow-up (LTFU) two weeks after the case was identified and after the DIS has documented at least:
   a. Two phone call attempts
   b. One letter

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c. One field visit

BPH Responsibilities

1. Initiate prompt and complete reporting of syphilis cases to the CDC via WVEDSS, REDCap, or another approved method.
2. Contact ordering providers on cases that require further surveillance or field follow-up to ensure adequate reporting of CDC core variables.
   a. This includes collecting both baby and birth parent clinical information on any suspected CS case that may meet case definition.
3. Assign new syphilis cases/investigations to DIS for field follow-up that meet current case definition criteria.
   a. Previous syphilis cases may also be assigned to DIS on a case-by-case basis to promote adequate treatment, offer additional partner services, etc.
4. Provide technical expertise and consultation regarding surveillance, investigation, control measures, and prevention of syphilis.
5. Notify the CDC of suspected outbreaks identified in West Virginia and assist LHDs in obtaining the knowledge and resources necessary for investigations of a syphilis outbreak.
6. Summarize surveillance data for syphilis on an annual basis.
7. Offer laboratory testing of syphilis through OLS at no cost for patients and their partners.
8. Maintain Interstate Communications Control Records (ICCR) process for exchanging case and partner information with other states and jurisdictions.
9. Collaborate with DHHR's Office of Vital Statistics to do birth match analysis on birth and stillbirth data.

Disease Control Objectives

1. Identify all syphilis cases.
2. Stage all syphilis cases.
3. Investigate all syphilis cases.
4. Treat all cases of syphilis according to the recommended CDC guidelines to prevent further spread of the disease.
5. Identify and respond to outbreaks of syphilis in a timely fashion so that appropriate control measures can be applied.

Disease Prevention Objectives

1. Reduce the incidence of syphilis through education and outreach.
2. Adequately treat all patients and contacts according to current CDC recommendations.
3. Obtain identifying and locating information about all partners/contacts and ensure confidential notification.

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Disease Surveillance Objectives

1. Determine the incidence of syphilis in West Virginia including:
   a. Early syphilis (ES) rates, and
   b. Congenital syphilis (CS) rates.
2. Detect outbreaks of syphilis in West Virginia.

Public Health Significance

Syphilis rates dropped to a historic low in 2000 but have increased almost every year in the United States since then. In West Virginia, significant increases in cases were reported from 2012-2015, and then sharply increased again from 2017-2021. Historically, the majority of cases occurred among men who have sex with men (MSM). The new resurgence has broadened in terms of risk factors, and now people who use drugs (PWUD) make up the majority of new Syphilis cases. This includes women of childbearing age, which has contributed to the 650% increase in CS cases reported from 2017-2021.

Clinical Description

Signs and symptoms of syphilis in adults are divided into four stages.

1. *Primary*: During the first (primary) stage of syphilis, a chancre (sore) develops 9-90 days at the site of inoculation. It is usually a single sore, but there may be multiple. The sore is generally firm, round, and painless. Because the sore is painless, it can easily go unnoticed, especially when internal (inside mouth, anus, vagina, etc.). The sore lasts 3 to 6 weeks and heals regardless of whether or not the patient receives treatment.
2. *Secondary*: During the secondary stage, the patient may have skin rashes and/or sores in the mouth, vagina, or anus (also called Mucous Patches or Condyloma lata). This stage usually starts with a rash on one or more areas of the body. The rash can show up when the primary sore is healing or several weeks after the sore has healed. The rash can look like rough, red, or reddish-brown spots on the palms of the hands and/or the bottoms of the feet (known as palmar/plantar rash). Or the rash may present only on the trunk of the body. The rash usually does not itch, and it is sometimes so faint that it is not noticeable. Some patients have no rash and can show other symptoms including fever, swollen lymph glands, sore throat, patchy hair loss (alopecia), headaches, weight loss, muscle aches, and fatigue (feeling very tired). The symptoms from this stage will go away whether or not the patient receives treatment.
3. *Latent*: The latent stage of syphilis begins when all of the symptoms from earlier stages disappear. Early latent syphilis is defined as the latent stage of syphilis occurring within the

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first year of infection. Without treatment, syphilis can be present in the body for years which is known as late latent (at least one year post infection).

4. *Tertiary*: Most people with untreated Syphilis do not develop late-stage tertiary syphilis. But, when it does occur, it is very serious and would manifest 10–30 years after the infection began. Tertiary syphilis can lead to life-threatening medical conditions, such as cardiovascular disease, gummatous disease of skin or other organs, and/or late neurological complications.

Neurosyphilis (NS) can occur at any point/stage of syphilis infection when spirochetes invade neural tissue. Clinical signs and symptoms to look for include difficulty with balance and coordinating muscle movements, paralysis (not able to move certain parts of the body), persistent headache, and sudden or unexplained changes in mental state and/or dementia.

Similarly, spirochetes can spread to the eye (ocular syphilis) or the ear (otosyphilis) at any stage of infection. Signs and symptoms can include eye pain and/or redness, changes in vision (or blindness), hearing loss, ringing/buzzing/roaring/hissing in the ears ("tinnitus"), and dizziness or vertigo.

Congenital syphilis (CS) among newborns can have many different clinical manifestations. It can cause stillbirth, birth defects, or later disability in children. Upon delivery, newborns should be screened for snuffles, rash or lesions, hepatosplenomegaly, and/or long bone deformities. As the child ages, the pediatrician should screen for late CS manifestations such as saber shins, Hutchinson's teeth, deafness, corneal inflammation, palatal perforation, and/or Clutton's joints.

Etiologic Agent

Syphilis is a systemic disease caused by the bacterium *Treponema pallidum.*

Reservoir

Humans are the only known host.

Mode of Transmission

Any sexually active person can get syphilis through unprotected vaginal, anal, or oral sex. A person can also get syphilis just by having direct/intimate contact with someone with active signs or symptoms of syphilis (such as the chancre/sore or lesion which can spread the bacteria).

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Syphilis can also be spread from an infected mother to her unborn baby. To protect the unborn baby and prevent a case of CS, the pregnant person should be tested for syphilis during pregnancy and receive immediate treatment if they are infected.

Incubation Period

The time between exposure to syphilis and onset of symptoms is usually 3 to 6 weeks, but this can vary. Because syphilis sores can be hidden in the vagina, anus, mouth, or under the foreskin of the penis, it may not be obvious that someone has syphilis.

Period of Communicability

All persons who have early-stage signs and symptoms of syphilis are infectious. Spreading the bacteria during late stages of syphilis is not common.

Case Definition

Syphilis is a complex sexually transmitted infection (STI) that has a highly variable clinical course. Adherence to the following surveillance case definitions will facilitate understanding the epidemiology of this disease based on six subtypes:

1. Primary Syphilis
    a. Clinical Description: a stage of *T. pallidum* infection characterized by one or more ulcerative lesions (chancre), which can differ considerably in clinical appearance.
    b. Laboratory Criteria
        i. Confirmatory:
            1. demonstration of *T. pallidum* by darkfield microscopy in a clinical specimen not obtained from the oropharynx and not potentially contaminated by stool, **OR**
            2. demonstration of *T. pallidum* by polymerase chain reaction (PCR) or equivalent direct molecular methods in any clinical specimen.
        ii. Supportive:
            1. reactive nontreponemal serological test (by Venereal Disease Research Laboratory [VDRL], rapid plasma reagin [RPR], or equivalent serologic methods), **OR**
            2. reactive treponemal serologic test (*T. pallidum* particle agglutination [TPPA], enzyme immunoassay [EIA], chemiluminescence immunoassay [CIA], or equivalent serologic methods).
    c. Case Classification
        i. **Probable**: meets the clinical and supportive laboratory criteria.
        ii. **Confirmed**: meets clinical and confirmatory laboratory criteria.

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2. Secondary Syphilis
   a. Clinical Description: a stage of *T. pallidum* infection characterized by localized or diffuse mucocutaneous lesions (rash such as non-pruritic macular, maculopapular, papular, or pustular lesions), often with generalized lymphadenopathy. Other signs can include mucous patches, condyloma lata, and alopecia. The primary ulcerative lesion (chancre) may still be present.
   b. Laboratory Criteria
      i. *Confirmatory*:
         1. demonstration of *T. pallidum* by darkfield microscopy in a clinical specimen not obtained from the oropharynx and not potentially contaminated by stool, **OR**
         2. demonstration of *T. pallidum* by polymerase chain reaction (PCR) or equivalent direct molecular methods in any clinical specimen.
      ii. *Supportive*:
         1. reactive nontreponemal serological test (by Venereal Disease Research Laboratory [VDRL], rapid plasma reagin [RPR], or equivalent serologic methods), **AND**
         2. reactive treponemal serologic test (*T. pallidum* particle agglutination [TPPA], enzyme immunoassay [EIA], chemiluminescence immunoassay [CIA], or equivalent serologic methods).
   c. Case Classification
      i. **Probable**: meets clinical and supportive laboratory criteria.
      ii. **Confirmed**: meets clinical and confirmatory laboratory criteria.
3. Early (non-primary and non-secondary) Syphilis
   a. Clinical Description: a stage of *T. pallidum* infection which has occurred within the previous 12 months, but there are no signs or symptoms of primary or secondary syphilis.
   b. Supportive Laboratory Criteria: 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 more than two weeks).
   c. Epidemiological Criteria
      i. 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 less than 12 months).
      ii. Only sexual contact (sexual debut) was within the previous 12 months.
   d. **Probable** Case Classification
      i. A person with no clinical signs or symptoms of primary or secondary syphilis who has one of the following:

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1. no prior history of syphilis, and a current reactive nontreponemal test (VDRL, RPR, or equivalent), and a current reactive treponemal test (TPPA, EIA, CIA, or equivalent), **OR**
2. a prior history of syphilis and meets supportive laboratory criteria.

ii. **AND** evidence of having acquired the infection within the previous 12 months based on one or more of the following:

1. documented seroconversion or fourfold 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 more than two weeks), **OR**
2. documented seroconversion of a treponemal test during previous 12 months, **OR**
3. history of symptoms consistent with primary and secondary syphilis in the previous 12 months, **OR**
4. meets epidemiologic criteria.

4. Late (or unknown duration) Syphilis
   a. Clinical Description: a stage of *T. pallidum* infection which has occurred greater than 12 months previously or in which there is insufficient evidence to conclude that infection was acquired during the last 12 months.
   b. **Probable** Case Classification
      i. A person with no clinical signs or symptoms of primary or secondary syphilis who meet one of the following:
         1. no prior history of syphilis, and a current reactive nontreponemal test (VDRL, RPR, or equivalent), and a current reactive treponemal test (TPPA, EIA, CIA, or equivalent), **OR**
         2. 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 more than two weeks), **OR**
         3. clinical signs or symptoms and laboratory results that meet the likely or verified criteria for neurologic, ocular, otic, or late clinical manifestations* of syphilis.
      ii. **AND** who has no evidence of having acquired the infection within the last 12 months (per Early non-primary non-secondary syphilis cases).
5. Congenital Syphilis
   a. Clinical Description: a condition caused by in utero infection of *T. pallidum* which has a wide spectrum of severity from non-apparent infection to severe cases that are clinically apparent at birth.

i. An infant or child (aged less than 2 years) may have signs such as hepatosplenomegaly, rash, condyloma lata, snuffles, jaundice (non-viral hepatitis), pseudoparalysis anemia, or edema (nephrotic syndrome and/or malnutrition).
ii. An older child may have stigmata such as interstitial keratitis, nerve deafness, anterior bowing of shins, frontal bossing, mulberry molars, Hutchinson teeth, saddle nose, rhagades, or Clutton joints.

b. Laboratory Criteria: Demonstration of a of *T. pallidum* by
i. Darkfield microscopy of lesions, body fluids, or neural nasal discharge, **OR**
ii. Polymerase chain reaction (PCR) or equivalent molecular methods of lesions, neonatal nasal discharge, placenta, umbilical cord, or autopsy material, **OR**
iii. Immunohistochemistry (IHC) or special stains (such as silver staining) of specimens from lesions, placenta, umbilical cord, or autopsy material.

c. Case Classification
i. **Probable**:
1. A condition affecting an infant whose mother had untreated or inadequately treated (non-completion of penicillin-based regimen appropriate for stage of infection that is initiated at least 30 days prior to delivery) syphilis at the time of delivery, regardless of signs in the infant **OR**
2. An infant or child who has a reactive nontreponemal test for syphilis (VDRL, RPR, or equivalent) **AND** any of the following:
a. evidence of CS on a physical examination (per clinical description above)
b. evidence of CS on radiographs of long bones
c. reactive cerebrospinal fluid (CSF) VDRL test
d. elevated CSF leukocyte (white blood cell [WBC]) count or protein in a non-traumatic lumbar puncture such as:
i. WBC count >15 WBC/mm3 or CSF protein >120 mg/dl during the first 30 days of life, **OR**
ii. WBC count >5 WBC/mm3 or CSF protein >40 mg/dl after the first 30 days of life (regardless of CSF serology).

ii. **Confirmed**: A case that meets laboratory criteria.

6. Syphilitic Stillbirth
a. Clinical Description: a fetal death that occurs after a 20-week gestation or in which the fetus weighs >500g and the mother had untreated or inadequately treated (non-completion of penicillin-based regimen appropriate for stage of infection that is initiated at least 30 days prior to delivery) syphilis at the time of delivery.

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***Clinical Manifestations** of syphilis can be collected and reported on cases, which may be used to influence staging and/or treatment of the six subtypes previously mentioned.

1. Neurologic Manifestations: can occur at any stage of syphilis.
    a. Clinical Description: infection of the central nervous system with *T. pallidum*, as evidenced by manifestations including meningitis, meningovascular syphilis, general paresis, dementia, and tabes dorsalis.
    b. Classification of Neurosyphilis
        i. Possible:
            1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
            2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
            3. clinical signs/symptoms that are consistent with Neurosyphilis without other known causes for these clinical abnormalities.
        ii. Likely:
            1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
            2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
            3. clinical signs/symptoms that are consistent with Neurosyphilis without other known causes for these clinical abnormalities AND
            4. elevated cerebrospinal fluid (CSF) protein (>50 mg/dL2) or leukocyte count (>5 WBC/mm3 CSF) in the absence of other known causes of these abnormalities.
        iii. Verified:
            1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
            2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
            3. clinical signs/symptoms that are consistent with Neurosyphilis without other known causes for these clinical abnormalities AND
            4. reactive VDRL in CSF in the absence of grossly bloody contamination of the CSF.
2. Ocular Manifestations: can occur at any stage of syphilis.
    a. Clinical Description: infection of the 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.
    b. Classification of Ocular Syphilis
        i. Possible:
            1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
            2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
            3. clinical signs/symptoms consistent with ocular syphilis without other known causes for these clinical abnormalities.
        ii. Likely:

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1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
3. clinical signs/symptoms consistent with ocular syphilis without other known causes for these clinical abnormalities AND
4. findings on exam by an ophthalmologist that are consistent with ocular syphilis in the absence of other known causes for these abnormalities.

iii. Verified:

1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
3. clinical signs/symptoms consistent with ocular syphilis without other known causes for these clinical abnormalities AND
4. demonstration of *T. pallidum* in aqueous or vitreous fluid by darkfield microscopy, or by polymerase chain reaction (PCR) or equivalent direct molecular methods.

3. Otic Manifestations: can occur at any stage of syphilis.
   a. Clinical Description: infection of the cochleovestibular system with *T. pallidum*, as evidenced by manifestations including sensorineural hearing loss, tinnitus, and vertigo.
   b. Classification of Otosyphilis
      i. Possible:
         1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
         2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
         3. clinical signs/symptoms consistent with otosyphilis without other known causes for these clinical abnormalities.

      ii. Likely:
         1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
         2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
         3. clinical signs/symptoms consistent with otosyphilis without other known causes for these clinical abnormalities AND
         4. findings on exam by an otolaryngologist that are consistent with otosyphilis in the absence of other known causes for these abnormalities.

      iii. Verified:
         1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
         2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
         3. clinical signs/symptoms consistent with otosyphilis without other known causes for these clinical abnormalities AND
         4. demonstration of *T. pallidum* in inner ear fluid by darkfield microscopy, or by polymerase chain reaction (PCR) or equivalent direct molecular methods.

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4. Late Clinical Manifestations: usually develop only after a period of 15-30 years of untreated infection and is also known as tertiary syphilis.
   a. Clinical Description: may include inflammatory lesions of the cardiovascular system, skin, bone, or other tissue. Certain neurologic manifestations are also late clinical manifestations of syphilis, and other structures (e.g., the upper and lower respiratory tracts, mouth, eye, abdominal organs, reproductive organs, lymph nodes, and skeletal muscle) may be involved.
   b. Classification of Tertiary Syphilis
      i. Likely:
         1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
         2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
         3. 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/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 <u>likely</u> neurologic manifestations of syphilis.
      ii. Verified:
         1. reactive nontreponemal test (VDRL, RPR, or equivalent) AND
         2. reactive treponemal test (TPPA, EIA, CIA, or equivalent) AND
         3. 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, <u>in combination with</u> either demonstration of *T. pallidum* in late lesions by special stains or equivalent methods, or by polymerase chain reaction (PCR) or equivalent methods, or demonstration of pathologic changes that are consistent with *T. pallidum* infection on histologic examination of late lesions **OR** clinical signs/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 <u>verified</u> neurologic manifestations of syphilis.

<u>Prevention Interventions</u>

There is currently no preventive vaccine for syphilis. The only way to completely avoid syphilis is to not have sex (abstinence). But for those who are sexually active, the best preventive strategies include:

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1. Mutual monogamy, or a limited number of sex partners.
2. Get tested at least annually (or more often, based on risk factors) and encourage partners to test.
3. Use latex or polyurethane condoms correctly and consistently.
4. Use a condom-safe lubricant (water-based or silicon-based).

Treatment

Treatment should be administered according to the most current CDC STD Treatment Guidelines: www.cdc.gov/std/treatment/default.htm.

The STD Surveillance Unit also has a Syphilis Staging and Treatment Algorithm available to help determine treatment based on the stage of infection: oeps.wv.gov/syphilis/Documents/LHD/Syphilis_Staging_and_Treatment_Algorithm.pdf.

References

CDC 2021 STD Treatment Guidelines: www.cdc.gov/std/treatment-guidelines/default.htm
CDC 2018 Syphilis (*Treponema pallidum*) Case Definition: ndc.services.cdc.gov/case-definitions/syphilis-2018
CDC Syphilis Fact Sheet: www.cdc.gov/std/syphilis/STDFact-Syphilis.htm
CDC STD Surveillance: www.cdc.gov/std/stats
CDC Syphilis Guidelines During Pregnancy: www.cdc.gov/std/treatment-guidelines/syphilis-pregnancy.htm
DHHR STD Surveillance: oeps.wv.gov/std/pages/default.aspx
DHHR Syphilis Page: oeps.wv.gov/syphilis/pages/default.aspx#data
CDC Program Operations Guidelines for STD Prevention: www.cdc.gov/std/program/overview.pdf

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