

PHN GUIDELINE: SYPHILIS

I. DEFINITION:

Syphilis is a systemic, sexually transmitted disease (STD) caused by the *Treponema pallidum* bacterium. The three means of syphilis transmission are:

- Person to person via vaginal, anal, or oral sex through direct contact with a syphilis chancre.
- Person to person during foreplay, even when there is no penetrative sex (much less common).
- Pregnant mother with syphilis to fetus.

II. SIGNS AND SYMPTOMS:

If left untreated, the disease progresses through several stages during which the infected person may or may not be symptomatic.

A. Primary Syphilis

1. One or more chancres (usually firm, round, small, and painless) appear at the site of infection (most often the genital area) 10 to 90 days after infection.
2. The chancres heal on their own in 3-6 weeks.
3. Patient is highly infectious in the primary stage.
4. **The rapid plasma reagin test (RPR) may not yet be reactive** for a week after the appearance of a primary chancre. (May request Treponemal Pallidum Particle Agglutination test (TPPA) or repeat RPR in one week)

B. Secondary Syphilis

1. Rashes occur as the chancre(s) fades or a few weeks after the chancre heals.
2. Rashes typically appear on the palms of the hands, the soles of the feet, or on the face, but also may appear on other areas of the body.
3. Sometimes wart-like “growths” may appear on the genital area.
4. Rashes and syphilitic warts tend to clear up on their own within 2-6 weeks, but may take as long as 12 weeks.
5. May have lymphadenopathy, oral and/or genital mucous patches, hepatitis, optic neuritis, arthritis and peripheral neuropathy.
6. Patient is highly infectious in the secondary stage.

C. Early Latent Syphilis

1. Patient is seroreactive within one year of onset of infection, but has no symptoms.
2. Patient is potentially infectious.

D. Late Latent Syphilis

1. Patient is seroreactive more than 1 year after onset of infection, but has no symptoms.
2. Patient is not infectious in late latent stage.

E. Late (Tertiary) Syphilis:

1. Manifestations in the skin and bones (gummas), central nervous system, and cardiovascular system.
2. Patient is not infectious in late stage.

III. DIAGNOSIS:

- A. Dark-field examinations or direct fluorescent antibody tests of chancre tissue are the definitive methods for diagnosing primary and secondary syphilis.
- B. A presumptive diagnosis is possible with sequential serologic tests (e.g. VDRL, RPR), using the same testing method each time. A fourfold change in titer (e.g. from 1:8 to 1:32) is usually considered to be clinically significant. Confirmatory tests should be performed.
- C. Examine patient thoroughly and obtain sexual history, as many patients do not notice the signs and symptoms of syphilis because chancres can be hidden in the vagina, rectum, or mouth.
- D. Contact regional disease intervention specialists (DIS) for information and partner notification.

IV. COMPLICATIONS:

- A. Congenital Syphilis
- B. Neurosyphilis
- C. Cardiovascular Syphilis
- D. Late Benign Syphilis

V. MANAGEMENT PLAN:

- A. Treatment (see PHN ORDER: SYPHILIS)
- B. Client Education
 1. Medication
 - a. If giving benzathine penicillin
 - 1) Client to remain in the county health department in a common area for at least 20 minutes to observe for reaction.
 - 2) To eliminate the treponem, the penicillin blood level must be high and maintained for three weeks. If the blood level drops during the 3 weeks, the client may not be cured. Impress on client the importance of returning for injections when scheduled. Explain treatment will have to be restarted if even one day late for injection.

3) **Jarisch-Herxheimer reaction**

- a) Definition: An acute febrile reaction accompanied by headache, myalgia, and other symptoms that may occur within the first 24 hours after any therapy for syphilis
- b) During pregnancy may induce early labor or cause fetal distress among pregnant women. This concern should not prevent or delay therapy
- c) Common among clients with early syphilis
- d) Antipyretics may be recommended

b. If given doxycycline

- 1) Provide with written instructions
- 2) Discuss possible side effects
- 3) Emphasize importance of completing regimen

2. General

- a. All clients who have syphilis should be tested for HIV infection
- b. Stress importance of returning for follow-up treatment
- c. Client should return for repeat RPRs at 6, 12, & 24 months or as otherwise recommended by medical personnel
- d. For women:
 - 1) Emphasize the risks of syphilis during pregnancy
 - 2) If pregnant, return for follow-up serologic tests in the 3rd trimester

3. Disease Prevention

- a. Referring sex partner(s) for examination and treatment
- b. Avoiding sex until client and partner(s) are cured
- c. Return for evaluation should symptoms persist or recur
- d. Prevention measures (e.g. condoms) to prevent future infections
- e. Syphilis has been associated with an increased risk of acquiring HIV infection

C. Management of Sex Partner(s)

Sexual transmission of *T. pallidum* occurs only when mucocutaneous syphilitic lesions are present; such manifestations are uncommon after the first year of infection. However, persons sexually exposed to a client with syphilis in any stage should be evaluated clinically and serologically according to the following:

1. Time periods for identifying at-risk sex partner(s)

- a. Source client has **primary** syphilis:
3 months plus duration of symptoms for primary syphilis
- b. Source client has **secondary** syphilis:
6 months plus duration of symptoms for secondary syphilis
- c. Source client has **early latent** syphilis:
1 year from diagnosis

2. When to treat sex partner(s) presumptively
 - a. Source client has primary, secondary, or early latent (duration < 1 year) syphilis
 - 1) Sex partner(s) exposed within the preceding 90 days may be infected even if seronegative, and therefore should be **treated presumptively** (“epi treat”)
 - 2) Sex partner(s) exposed > 90 days before examination should be **treated presumptively if:**
 - a) Serologic test results are not available immediately and
 - b) The opportunity for follow-up is uncertain
 - b. Source client has syphilis of unknown duration and a high RPR titer (i.e., $\geq 1:32$) is considered to be infected with early syphilis. Exposed sex partners should be **treated presumptively**.
 - c. Source client has late syphilis:
Long-term sex partners should be evaluated clinically and serologically for syphilis and referred to a private physician for further evaluation if tests are reactive.

D. Consultation/Referral

1. Consultation
 - a. Notify the DNM of any complications
 - b. Consult with the Disease Intervention Specialist (DIS) assigned to your county health department who will:
 - 1) Assist in staging the client (important to selecting appropriate treatment regimen)
 - 2) Obtain serological and treatment history when applicable
 - 3) Interview client and notify or assist in notifying contacts who need evaluation/treatment
 - 4) Notify client to return for follow-up serology
2. Refer to private physician for evaluation and treatment
 - a. Pregnant women who have syphilis and are allergic to penicillin are referred to a physician for treatment
 - b. Clients with reactive serology and symptoms of neurosyphilis
 - c. Neonates and older children suspected of having congenital syphilis
 - d. Clients suspected of having tertiary (late) syphilis
3. HIV Infected
 - a. Client with HIV and syphilis are more likely to develop CNS disease.
 - b. Serological titers may be higher than expected.
 - c. Seroconversion may occur later than expected.

- E. Follow-Up (The PHN may obtain serology testing for diagnosis purposes and as noted below and as requested by Disease Intervention Specialist from HIV/STD Division for staging of the disease.)
1. Early syphilis (< 1 year duration)
 - a. **Primary and Secondary** syphilis
 - 1) RPR (quantitative) should be repeated at 6 months and again at 12 months (If HIV infected, repeat at 3, 6, 9, 12 and 24 months after therapy) or more often as necessary in consult with DIS
 - 2) Retreatment and evaluation required if (consult with DIS)
 - a) Signs/symptoms persist or recur
 - b) Client has a sustained fourfold (two dilutions) increase in RPR when compared to either the baseline titer or to a subsequent result (treatment failure or reinfected)
 - c) RPR fails to decline fourfold (two dilutions) by 6 months after therapy. Client should be reevaluated for HIV infection.
 - b. Latent syphilis
 - 1) RPR should be repeated at 6, 12, and 24 months
 - 2) Client should be evaluated for neurosyphilis and retreated appropriately if:
 - a) Titers increase fourfold (2 dilutions)
 - b) An initially high titer ($\geq 1:32$) fails to decline at least fourfold (two dilutions) within 12-24 months
 - c) Client develops signs or symptoms attributable to syphilis
 2. Tertiary syphilis
 - a. Refers to gumma and cardiovascular syphilis, but not to all neurosyphilis.
 - b. Clients who have symptomatic late syphilis should have a CSF examination before therapy is initiated.

REFERENCES:

Centers for Disease Control and Prevention, 2006 Guidelines for Treatment of Sexually Transmitted Diseases, MMWR, August 4, 2006, Vol. 55/No. RR-11.

Control of Communicable Diseases Manual, 18th Edition. Heymann, David L., M.D., Editor

Sexually Transmitted Infections and HIV. Clutterbuck, Dan

CDC.gov

PHN ORDER: SYPHILIS

I. LABORATORY TESTS:

A. Urethral Specimen (male) or Endocervical Specimen

1. *Chlamydia trachomatis*
2. *Neisseria gonorrhoeae*

B. Serology

1. RPR (Rapid Plasma Reagin) unless previously tested in past 30 days

NOTE: The PHN in collaboration with the DNM may follow the recommendations of the DIS for more frequent testing. (See PHN GUIDELINE: SYPHILIS, V. E.)

2. TPPA (Treponemal Pallidum Particle Agglutination test) in consultation with DNM and DIS.
3. HIV

C. Equivocal laboratory results require retesting if the client was not treated presumptively.

II. MEDICATION FOR SOURCE CLIENT AND CONTACT(S)

A. Primary and Secondary Syphilis

1. Recommended Regimen for non-penicillin allergic Adults (including pregnancy)

Benzathine penicillin G 2.4 million units IM in a single dose.

(Refer to PHN GUIDELINE: SYPHILIS for information regarding Jarisch-Herxheimer reaction.)

2. Penicillin-allergic and non-pregnant

Doxycycline 100 mg orally 2 times a day for 2 weeks

3. Penicillin-allergic and PREGNANT. Refer to private physician for treatments.

B. Latent Syphilis

1. **Early Latent** (acquired syphilis within the preceding year – see PHN GUIDELINE: SYPHILIS)

- a. Recommended regimen for non-penicillin allergic adults (including pregnancy)

Benzathine penicillin G 2.4 million units IM in a single dose.

(Refer to PHN GUIDELINE: SYPHILIS for information regarding Jarisch-

Herxheimer reaction.)

- b. Penicillin-allergic and nonpregnant

Doxycycline 100 mg orally 2 times a day for 2 weeks

- c. Penicillin-allergic and PREGNANT. Refer to private physician for treatment.

2. Late Latent Syphilis or Latent Syphilis of Unknown Duration

- a. Recommended regimens for non-penicillin allergic adults (including pregnancy)

Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals.

NOTE: If treatment is interrupted (late even one day), the whole 3 week course of treatment must be restarted.

(Refer to PHN GUIDELINE: SYPHILIS for information regarding Jarisch-Herxheimer reaction. Also see "Pregnancy, non-penicillin allergic" below regarding pregnancy.)

- b. Penicillin-allergic and non-pregnant

Doxycycline 100 mg orally 2 times a day for 4 weeks

- c. Penicillin-allergic and PREGNANT. Refer to private physician for treatment.

3. Tertiary Syphilis

- a. Non-penicillin allergic clients without evidence of neurosyphilis should be treated with the following regimen.

Recommended Regimen

Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM, at 1 week intervals.

Note: If treatment is interrupted (late even one day), the whole 3 week course of treatment must be restarted.

(Refer to PHN GUIDELINE: SYPHILIS for information regarding Jarisch-Herxheimer reaction.)

- b. Penicillin-allergic and non-pregnant

Clients allergic to penicillin should be treated according to treatment regimens recommended for late latent syphilis.

Doxycycline 100 mg orally 2 times a day for 4 weeks.

c. Penicillin-allergic and PREGNANT

Refer to private physician for treatment.

C. Neurosyphilis

Refer all clients suspected of having neurosyphilis to a private physician for careful evaluation and treatment.

D. Pregnancy, non-penicillin allergic

1. Treatment during pregnancy should be the penicillin regimen appropriate for the woman's stage of syphilis. Some experts recommend additional therapy. (A second dose of benzathine penicillin 2.4 million units IM may be administered one week after the initial dose for women who have primary, secondary, or early latent syphilis).
2. **There are no proven alternatives to penicillin during pregnancy.** A pregnant female with a history of penicillin allergy should be referred to a private physician for treatment with penicillin, after desensitization, if necessary.
3. Females treated for syphilis during the second half of pregnancy are at risk for premature labor or fetal distress, or both, if their treatment precipitates the Jarisch-Herxheimer reaction. Advise these women to contact their physician if they notice any change in fetal movements or have contractions. Stillbirth is a rare complication of treatment, but concern for this complication should not delay necessary treatment.

E. HIV Infection and positive syphilis test results

1. If a client is HIV positive and is a confirmed syphilis case, the recommendation is to treat times three with the penicillin regimen. If they are a contact and in the incubation period then we epi treat times one pending the results of the syphilis test.
2. HIV infected clients who are allergic to penicillin should be under the care of a private physician and hospitalized for desensitization to penicillin.

