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POLICY: The Texas Department of Criminal Justice (TDCJ) will identify, test, and manage all inmates with suspected or confirmed syphilis with a uniform testing and management program.

PROCEDURES:

I. Indications for Serologic Tests for Syphilis (STS/RPR)
   A. Admission screening for all incoming inmates.
   B. Any inmate exhibiting suspicious signs or symptoms of syphilis.
   C. Any inmate with a history of sexual contact with a confirmed case of syphilis during incarceration OR prior to incarceration.
   D. Any current sexually transmitted infection (STI).

II. Serologic Tests for Syphilis
   A. There are two types of tests for syphilis: nontreponemal antibody tests and treponemal antibody tests.

   1. Nontreponemal tests include RPR (Rapid Plasma Reagin) and VDRL (Veneral Disease Research Laboratory) tests. RPR tests are reported as “nonreactive” or “reactive” at dilutions of 1:1, 1:2, 1:4, 1:8, etc.

      a. A four-fold (or two dilution) increase in titer (e.g., from 1:2 to 1:8) signifies new infection or treatment failure.

      b. These tests, in time, usually revert to “negative” after successful treatment of primary and secondary syphilis. A four-fold (or two dilution decrease in titer e.g., from 1:8 to 1:2) signifies successful treatment.

      c. These tests may remain reactive, however, at a varying low dilution (e.g., 1:1, 1:2) even after completion of successful therapy. This is called serofast serology.
2. Treponemal antibody tests include the TP-PA (*Treponema pallidum* - Particle Agglutination), FTA-ABS (Fluorescent Treponemal Antibody Absorption Test), enzyme immunoassay (EIA), and chemiluminescence immunoassays (CIA).

   a. Treponemal tests detect antibody directed toward pathogenic members of the genus Treponema.

   b. The TP-PA and the FTA-ABS usually do not revert to nonreactivity after successful treatment of syphilis. Once reactive, they almost always stay reactive and should not be repeated. Treponemal antibody tests are confirmatory tests and are inappropriate for screening. They are not quantitative and cannot be used for following response to therapy or progression of disease.

III. Reverse Sequence Syphilis Screening

**A.** Recent studies have demonstrated that reverse sequence syphilis screening (see attachment) may detect more cases of early or latent syphilis compared to the traditional screening algorithm. As such, many laboratories have adopted this method of testing. This method begins with a treponemal assay, EIA/CIA, due to the high sensitivity of this test. It must be noted that this is only a screening test and the diagnosis of syphilis may not be based on this result alone. All positive/reactive results must be reflexly tested with a nontreponemal test (i.e., RPR). For negative EIA/CIA, clinicians may retest in three months if there is a high index of suspicion for syphilis.

**B.** If the RPR is positive/reactive, the algorithm stops here, and past or present syphilis is likely. If the TP-PA is positive/reactive, syphilis either past or present is likely. Continue to section IV of this policy. If the RPR is negative/nonreactive, a confirmatory treponemal test (i.e., TP-PA) must be ordered.
C. If the TP-PA is positive/reactive, syphilis either past or present is likely. Continue to section IV of this policy. If the TP-PA is negative/nonreactive, syphilis is unlikely. However, clinical judgement should be used and if a high index of suspicion remains for syphilis, the RPR may be repeated in several weeks not to exceed 3 months.

IV. Interpretation and Follow-up of Nontreponemal (i.e., RPR) Serologic Tests for Syphilis

A. **Primary syphilis** nontreponemal tests usually reach a titer of at least 1:4. During the first few days of primary syphilis, i.e., onset of primary lesion (< 7 days), the RPR and/or TP-PA may be nonreactive. In this scenario, the case should be confirmed through the use of dark-field microscopy. If this procedure cannot be performed, i.e., the equipment is not available, the inmate should be presumptively treated and the RPR/TP-PA should be repeated in one week. Following treatment, RPR titer may rise slightly but usually reverts to nonreactive within six to 12 months following treatment.

B. **Secondary or early latent syphilis** titers are usually 1:32 or higher. After successful treatment, the titer usually reverts to nonreactive within 18 months. Seventy – five percent or more will be nonreactive within two years.

C. **Latent syphilis: early latent**, or syphilis of less than one year duration, and **late latent** syphilis of greater than one year duration, are asymptomatic. After successful treatment of latent syphilis, titers usually decrease at least four-fold (e.g., from 1:32 to 1:8). A stable or rising titer during the two years of observation after treatment suggests treatment failure, re-infection, or a diagnostic error.

D. **Symptomatic late syphilis** (i.e., neurosyphilis, cardiovascular syphilis or gummatous disease) should be considered in anyone with longstanding untreated syphilis.
E. In any treatment situation, failure of the highest titer to decrease four-fold within one year suggests a treatment failure and warrants re-evaluation of the case and retreatment.

F. Although many patients have a nonreactive nontreponemal test within two years after successful treatment, in some, the titer may remain persistently positive at a low level (but with a four-fold fall from the highest titer). This condition is called serofast. Serofast titers are generally 1:4 or lower. Although higher serofast titers may occur, the possibility of persistent infection or re-infection should be carefully considered before dismissing a result as serofast. A diagnosis of serofast must not be made unless the patient has a documented history of previous treatment with a documented four-fold or greater drop in titer after treatment.

G. A spinal fluid examination should be considered for patients with any one of the following criteria:

- Neurologic or ophthalmic signs or symptoms
- Other evidence of tertiary disease (aortitis, gumma, iritis)
- Treatment failure
- HIV infection with late latent syphilis or syphilis of unknown duration
- Non-penicillin therapy planned, unless duration of infection is known to be < one year.

If a CSF examination is performed and the results show abnormalities consistent with CNS syphilis, the patient should be treated for neurosyphilis.

H. All patients with syphilis or a history of syphilis must be offered counseling and testing for HIV infection.

I. Syphilis testing in patients with HIV infection.

When clinical findings suggest syphilis, but serologic tests are negative, other tests should be used to determine if syphilis is present. These tests include dark-field microscopy and direct fluorescent antibody for $T$. 
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*pallidum* (DFA-TP), staining of lesion exudate or examination of biopsy tissue using DFA-TP or Steiner stain.

V. **Treatment**

Patients who have untreated syphilis in any stage **must** be treated. Treatment should follow the current guidelines promulgated by the Centers for Disease Control and Prevention (CDC). The guidelines for syphilis treatment are:

A. **Primary, secondary, or early latent syphilis (less than one year’s duration):** Benzathine penicillin G (Bicillin L-A), 2.4 million units IM in one dose.

B. **Late latent syphilis (indeterminate length or of more than one year’s duration):** Bicillin L-A 7.2 million units total, administered as 2.4 million units IM given one week apart for three consecutive weeks.

C. **Neurosyphilis and other forms of tertiary syphilis.** Inpatient therapy recommended; see *STD Treatment Guidelines* for regimen or contact Office of Public Health for guidance.

D. See *STD Treatment Guidelines* for **special considerations** and alternative regimens (including treatment of pregnant and penicillin-allergic persons). Contact the Office of Public Health for guidance in the management of patients with special consideration.
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#### Summary of Recommended Treatment and Follow-Up+

<table>
<thead>
<tr>
<th>Stage</th>
<th>Treatment</th>
<th>Treatment Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Serology</strong></td>
</tr>
<tr>
<td><strong>Primary &amp; Secondary</strong></td>
<td>Bicillin L-A 2.4 mil units IM x 1 dose</td>
<td>HIV negative: 6 and 12 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIV positive: 3, 6, 9, 12, and 24 months</td>
</tr>
<tr>
<td>RPR- negative contact of Primary, Secondary</td>
<td>Bicillin L-A 2.4 million units IM x 1</td>
<td>None</td>
</tr>
<tr>
<td>or Early Latent case:</td>
<td>dose</td>
<td></td>
</tr>
<tr>
<td><strong>Latent</strong></td>
<td></td>
<td><strong>HIV negative:</strong> 6, 12 and 24 Months</td>
</tr>
<tr>
<td>a) Early (&lt;one year duration)</td>
<td>2.4 million units IM x 1 dose</td>
<td>HIV positive: 6, 12, 18, and 24 months</td>
</tr>
<tr>
<td>b) Late (≥ 1 year, or unknown duration)</td>
<td>Bicillin L-A 2.4 mil units IM once a</td>
<td>HIV positive: 6, 12, 18, and 24 months</td>
</tr>
<tr>
<td></td>
<td>week x 3 weeks (7.2 mil units total)</td>
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</tbody>
</table>

Treatment is the same for both HIV positive and HIV negative patients but serologic follow up is more frequent in HIV positive patients. Serological follow-up post treatment must occur according to the schedule under the Serology column, at a minimum. Patients may be discharged from follow-up at the end of the follow-up period if they have had a sustained four-fold or greater drop in titer.
I. Contacts

A. All inmates with a case of syphilis meeting the criteria referenced in Section III: A – C, Interpretation and Follow-Up of serologic Tests for Syphilis are to be interviewed by the Infection Control Nurse (ICN). This interview will include risk reduction/disease comprehension counseling and contact elicitation. All interview information is to be recorded on the appropriate forms: HSM-85 (Syphilis Monitoring record) and HSM-89 (Contact Information Guide).

B. Contacts of all reported cases of syphilis are to be documented on the Contact Information Guide, HSM-89 (Attachment B). This sheet(s) is to be forwarded, in a sealed envelope stamped “confidential” to the Office of Public Health in conjunction with the HSM-85, Syphilis Monitoring Record. The Contact Information Guide is not to be placed in the medical record of the inmate.

1. The critical period for contact elicitation for early syphilis cases is as follows:

   a) Primary – 90 days prior to the onset of symptoms and/or reactive RPR/TP-PA;
   b) Secondary – six months prior to the onset of symptoms and/or reactive RPR/TP-PA;
   c) Early Latent – one year prior to the reactive RPR/TP-PA;
   d) Late Latent/Syphilis of Unknown Duration – one year prior to the reactive RPR/TP-PA.

2. Contact elicitation should include contacts within TDCJ as well as contacts prior to entry into TDCJ during the critical period in which the history suggests the patient was infectious.

3. TDCJ inmates identified as contacts within the time frames listed in V.B.1, above, must be tested for syphilis.

4. Contacts of primary, secondary and early latent syphilis cases whose last exposure was within 90 days prior to testing should be given prophylactic treatment as indicated in the table above, even if the RPR is nonreactive.

5. Contacts identified according to VI.B.1, above, must be treated for syphilis if their RPR is reactive and they have not already received treatment, even if
they have no other signs or symptoms of syphilis. In general they should receive the treatment for early latent syphilis, as the maximum time frame for contact elicitation is one year, indicating their exposure was within the past year.

C. State and Local Health Departments have legal authority to investigate cases of infectious disease. Unit medical staff may be contacted by State/Local Health Department staff (Disease Intervention Specialists, or DIS workers) to schedule interviews with inmates diagnosed with syphilis. Unit staff shall refer State/Local Health Department staff to the TDCJ Health Services Division, Office of Public Health (OPH) for scheduling of these visits. Information released for the purpose of these investigations will also be released through OPH. Any concerns related to this activity should be directed to TDCJ Health Services Division, Office of Public Health Director.

VI. Reporting

A. A **HSM-85, Syphilis Monitoring Record** (Attachment A), must be initiated on all persons who have a reactive RPR. Diagnosis must include the disease stage (Primary, Secondary, Early Latent, Late Latent, etc.). A copy must be sent to the Office of Public Health.

B. Initial positive RPR titers of 1:16 or greater must be reported to the Office of Public Health on the day the results are received by the unit, or the next working day if received outside of regular work hours. In addition, all cases of primary or secondary syphilis must be reported to the Office of Public Health the same day the diagnosis is made. Reports may be faxed to 936-437-3572 (secure fax) or sent by email. If using the EHR email, the report should be sent as an administrative email not a patient related email.

C. Initial positive RPR titers less than 1:16 must be reported to the Office of Public Health within seven days of receipt. Reports may be faxed or sent by EMR email.

D. The date and dosage of each dose of medication must be reported within seven days of completion of treatment, and each follow-up RPR must be reported to the Office of Public Health within seven days. The reports may be submitted to the Office of Public Health by email or EHR email giving the
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inmate name and TDCJ number, date, and dosage of medication administered and/or RPR titer (depending on what information is being updated) or by mailing or faxing an updated HSM -85.

References:

The CDC Guidelines may change from time to time. For the latest version, check the CDC web site:  http://www.cdc.gov/std/