NEW YORK STATE REPORTING REQUIREMENTS:

1. Medical providers must talk with HIV-infected individuals about their options for informing their sexual partners that they may have been exposed to HIV.

2. Physicians free, confidential HIV counseling and testing is available at hivguidelines.org.

3. Clinicians should not prescribe azithromycin to treat syphilis in patients with HIV infection. (AII)

4. Clinicians should use long-acting benzathine penicillin G as the preferred choice for penicillin therapy to treat penicillin-allergic patients who have neurosyphilis, other neurologic complications of syphilis, or syphilis infection, followed by penicillin therapy, rather than attempt alternate therapies if adherence to therapy or close follow-up cannot be ensured. (AIII)

5. Clinicians should inform patients with HIV infection about the risk of acquiring syphilis and other STIs from close physical contact with all sites of possible exposure, including the anus, cervix, vagina, urethra, tongue, oropharynx, or any other location where infectious lesions may be present. (AIII)

6. Patients with isolated otic or neutral syphilis may be affected by another etiology. (A)

7. Clinicians should perform a lumbar puncture in patients with HIV infection and CSF test results that are negative for syphilis; however, clinicians should advise the patient to consider neurosyphilis, if CSF findings consistent with syphilis are present. (AIII)

8. Patients with isolated otic or neutral syphilis may be affected by another etiology. (A)

9. Clinicians should include neurosyphilis in the differential diagnosis of all patients with HIV infection who are diagnosed with syphilis and follow-up with further neurologic evaluation, as recommended in Table 3: Recommendations for Treatment and Follow-up for Patients with HIV infection. (AII)

10. Clinicians should perform serologic screening for syphilis at least annually for all patients with HIV infection. (AII)

11. Because of the possibility of false-negative test results in primary syphilis, clinicians should presumptively treat patients at risk of syphilis who present with a lesion typical of a syphilitic chancre. (AIII)

12. Clinicians should use long-acting benzathine penicillin G as the preferred choice for penicillin therapy to treat penicillin-allergic patients who have neurosyphilis, other neurologic complications of syphilis, or syphilis infection, followed by penicillin therapy, rather than attempt alternate therapies if adherence to therapy or close follow-up cannot be ensured. (AIII)

13. Clinicians should obtain serologic screening for syphilis at least annually for all patients with HIV infection. (AII)

14. In response to the current epidemiology in NYS, clinicians should perform syphilis screening every 3 months (AIII) for all patients with HIV infection who are engaged in transactional sex with unknown or HIV-infected partners. (AII)

15. Clinicians should include neurosyphilis in the differential diagnosis of all patients with HIV infection who are diagnosed with syphilis and follow-up with further neurologic evaluation, as recommended in Table 3: Recommendations for Treatment and Follow-up for Patients with HIV infection. (AII)

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**KEY POINTS**

**Screening**
- STI screening should be performed every 3 months for persons at high risk regardless of the frequency of their HIV monitoring visits.

**Diagnosis**
- Because the chances of primary syphilis are usuallyainless and may go unnoticed by the patient, it is important that the clinician examine all skin and mucosal surfaces of patients during the annual comprehensive physical examination.
- Syphilis should be included as part of the differential diagnosis for patients presenting with oral, genital, cervical, or anol lesions; rash; eye disease or vision complaints; aortitis; or neurologic disease.
- Definitive diagnosis of syphilis is made either serologically or, if available, by identification of the causative organism.
- Serologic test results are negative in patients with incubating syphilis, and the sensitivity of serologic tests is approximately 80% during the early primary stage of syphilis (i.e., within the first 10 days after the lesion appears).

**Difficulties with interpreting syphilis serologies**
- All syphilis serologic tests may be falsely negative early in infection, including at the initial appearance of the syphilitic chancre.
- Serum samples containing large amounts of nontreponemal reagin rarely, but occasionally, demonstrate a false-negative reaction, known as a prozone reaction. When there is clinical suspicion of syphilis but the nontreponemal test result is negative, clinicians should order laboratory dilution and retesting of the sample.
- Treponemal tests rarely produce false-negative results; however, if clinical suspicion is high, an alternative treponemal test should be considered.

**Treatment**
- To avoid use of the incorrect pharmaceutical preparation of penicillin, clinicians should ensure that long-acting benzathine penicillin G (i.e., Bicillin LA and not Bicillin CR) is ordered.
- Treatment failure in a person with HIV infection warrants CSF examination and treatment based on test results.
- Early labor and fetal distress are associated with the Jarisch–Herxheimer reaction. Prompt medical care should be sought by women receiving syphilis treatment during their second half of pregnancy if they experience fever, contractions, or a decrease in fetal movements.

**Partner Exposure**
- When a patient with HIV infection is diagnosed with syphilis, the clinician should inform the patient about the implications of the diagnosis for his/her sex partner(s):
  - A new STI diagnosis signals that the patient was engaging in sexual behaviors that place sex partners at increased risk of acquiring HIV infection.
  - A sex partner may also have been exposed to syphilis and should be tested and evaluated for treatment.
  - The local health department may contact a sex partner confidentially about the potential exposure and treatment options.
  - Clinicians should provide patients with information and counseling about notifying partners, risk reduction, and safer sex practices.

**STANDARD TESTING AND TREATMENT OF SEX PARTNERS EXPOSED TO SYPHILIS** (adapted from CDC)

**Timing of Partner Exposure**

<table>
<thead>
<tr>
<th>Timing of Partner Exposure</th>
<th>Testing</th>
<th>Treatment</th>
<th>Key Points</th>
</tr>
</thead>
</table>
| Within 90 days of the patient’s diagnosis of primary, secondary, or early latent syphilis | Baseline testing | Presumptive 
(AII) | - After initial infection, the incubation period of syphilis can last from 3 weeks to 3 months; therefore, sex partners who were exposed within 90 days of a patient’s diagnosis of primary, secondary, or early latent syphilis may be infected (incubating infection) even if their serologic syphilis test is nonreactive. 
- Sex partners who were exposed within 90 days of a patient’s diagnosis of primary, secondary, or early latent syphilis should receive presumptive treatment. 
- Baseline syphilis testing of sex partners treated presumptively should still be performed to ensure that, if positive, other individuals who may have been exposed are notified and treated. |
| >90 days before a patient’s diagnosis of primary, secondary, or early latent syphilis | Baseline testing | Based on test results 
(AII) | - Sex partners may be treated presumptively if serologic test results are not available immediately and the opportunity for follow-up is unlikely. |

**SCREENING AND DIAGNOSTIC TESTS FOR SYphilis**

<table>
<thead>
<tr>
<th>Serologic Tests</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nontreponemal:</td>
<td>Nonspecific quantitative tests</td>
</tr>
<tr>
<td>- RPR</td>
<td>May be negative in 15% to 25% of cases presenting with primary chancre</td>
</tr>
<tr>
<td>- VDRL</td>
<td>Near 100% sensitivity during secondary syphilis</td>
</tr>
<tr>
<td>- ELISA</td>
<td>May be positive in the setting of medical conditions other than syphilis, including HIV infection; collagen vascular diseases; narcotic drug use; advanced age; pregnancy; chronic liver disease; some viral infections, such as Epstein–Barr virus; and other chronic inflammatory conditions</td>
</tr>
<tr>
<td>Treponemal:</td>
<td>More specific than nontreponemal tests</td>
</tr>
<tr>
<td>- FTA–Abs</td>
<td>Measure antibody to surface protein of T. pallidum (antibodies will persist; they do not afford protective immunity and cannot be used to diagnose subsequent episodes or to monitor response to therapy)</td>
</tr>
<tr>
<td>- TP–PA</td>
<td>Become reactive approximately 7 to 10 days after the appearance of the chancre</td>
</tr>
<tr>
<td>- ELISA</td>
<td>Rarely produce false–positive results</td>
</tr>
<tr>
<td>- EIA/CIA</td>
<td></td>
</tr>
</tbody>
</table>

**DIAGNOSTIC TESTS FOR SYPHILIS**

<table>
<thead>
<tr>
<th>Lesion-Based Tests</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFA</td>
<td>Performed on lesion exudate or tissue specimen</td>
</tr>
<tr>
<td>Darkfield microscopy</td>
<td>Performed on exudate from an ulcer base or a mucocutaneous lesion</td>
</tr>
<tr>
<td>Silver stain</td>
<td>Performed on biopsy specimens of suspicious lesions, such as palmar macular rash or gummatous lesions</td>
</tr>
<tr>
<td>PCR</td>
<td>Performed on specimens of lesions</td>
</tr>
</tbody>
</table>

**RECOMMENDATIONS FOR TREATMENT AND FOLLOW-UP OF SYphilis IN PATIENTS WITH HIV INFeCTION**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Treatment</th>
<th>Follow-Up</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary, secondary</td>
<td>2.4 million units IM benzathine penicillin per dose</td>
<td>6, 12, 18, 24 months post-treatment</td>
<td>CSF examination recommended in the presence of neurologic, ophthalmologic, or otic changes or evidence of treatment failure (b)</td>
</tr>
<tr>
<td>Early latent</td>
<td>1 dose</td>
<td>6, 12, 18, 24 months post-treatment</td>
<td></td>
</tr>
<tr>
<td>Late latent or unknown duration</td>
<td>2.4 million units IM benzathine penicillin per week</td>
<td>6, 12, 18, 24 months post-treatment</td>
<td>CSF examination recommended in the presence of neurologic, ophthalmologic, or otic changes or evidence of treatment failure (b)</td>
</tr>
<tr>
<td>Tertiary gummatous</td>
<td></td>
<td></td>
<td>CSF examination recommended</td>
</tr>
<tr>
<td>Tertiary cardiovascular</td>
<td></td>
<td></td>
<td>Some experts recommend parenteral therapy as for neurosyphilis</td>
</tr>
<tr>
<td>Neurosyphilis</td>
<td>Aqueous crystalline penicillin G 18 to 24 million units IV daily for 10 to 14 days</td>
<td>3, 6, 9, 12, 24 months post-treatment</td>
<td>CSF examination recommended in the presence of neurologic, ophthalmologic, or otic changes or evidence of treatment failure (b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Some experts recommend 2.4 million units IM benzathine after parenteral penicillin to have total duration of therapy equal to that of late latent syphilis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CSF abnormalities (elevated total protein and/or positive CSF VDRL) may persist for prolonged periods</td>
</tr>
</tbody>
</table>

**a.** The efficacy of non–penicillin regimens in patients with HIV infection is unknown. Penicillin–allergic patients should be desensitized if possible. Close clinical and serologic follow-up is necessary when non–penicillin regimens are used to treat syphilis in patients with HIV infection.

**b.** CSF examination yielding pleocytosis, increased total protein, or positive VDRL may be consistent with neurosyphilis.

**c.** There are no published data to inform a recommendation regarding serologic follow-up in patients treated for tertiary syphilis. Because tertiary syphilis is a late complication of syphilis, occurring after the first year of infection, this committee recommends that patients receive the serologic follow-up schedule for late, latent syphilis (6, 12, 18, 24 month post-treatment).

**d.** There are limited data addressing serologic follow-up of patients treated for neurosyphilis. Because neurosyphilis may occur during all stages of syphilis, this committee recommends serologic follow-up for HIV co-infected patients treated for neurosyphilis at 3, 6, 9, 12, and 24 months post-treatment.
STANDARD PROTOCOL FOR SYPHILIS SCREENING AND DIAGNOSIS

Result: Nontreponemal (+)

Assess for treatment

Result: Nontreponemal (-)

STOP*

*If clinical suspicion is high, additional testing is necessary (see text).

ALTERNATIVE, REVERSE ALGORITHM FOR SYPHILIS SCREENING AND DIAGNOSIS

EIA or CIA Testing

Result: EIA (+) or CIA (+)

Result: EIA (-) or CIA (-)

Nontreponemal testing (e.g., RPR or VDRL)

Result: Nontreponemal (+)

Assess for treatment

Result: Nontreponemal (-)

TP-PA Testing

Result: TP-PA (+)

Assess for treatment

Result: TP-PA (-)

STOP*

*Result may be false-negative; consider alternative treponemal test if clinical suspicion is high.