SYPHILIS Treatment: Adults

<table>
<thead>
<tr>
<th>Stage</th>
<th>Clinical Manifestations</th>
<th>Preferred Treatment</th>
<th>Alternative Treatment Non-pregnant only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>Chancre, regional lymphadenopathy</td>
<td>Benzathine Penicillin G 2.4 million units IM in a single dose</td>
<td>• Doxycycline 100 mg bid for 14 days</td>
</tr>
<tr>
<td></td>
<td>Rash, fever, malaise, lymphadenopathy, mucus lesions, condyloma lata, alopecia, meningitis, headaches, uveitis, retinitis</td>
<td>HIV positive client see STI Guidelines</td>
<td>• Ceftriaxone in exceptional circumstances</td>
</tr>
<tr>
<td>Secondary</td>
<td>Asymptomatic</td>
<td>Benzathine Penicillin G 2.4 million units IM weekly for 3 successive weeks</td>
<td>• Consider penicillin desensitization</td>
</tr>
<tr>
<td>Early Latent (&lt; 1 year duration)</td>
<td></td>
<td>• Doxycycline 100 mg bid for 28 days</td>
<td>• Ceftriaxone 1g IM or IV daily for 10 days in exceptional circumstances</td>
</tr>
<tr>
<td>Late Latent (&gt; 1 yr or unknown duration)</td>
<td>Asymptomatic</td>
<td>Benzathine Penicillin G 2.4 million units IM weekly for 3 successive weeks</td>
<td>• Strongly consider penicillin desensitization, followed by treatment with penicillin</td>
</tr>
<tr>
<td>Tertiary not involving the CNS</td>
<td>Cardiovascular Syphilis: Aortic aneurysm, aortic regurgitation, coronary artery ostial stenosis</td>
<td>• Ceftriaxone 2g IV/IM once daily for 10-14 days</td>
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</tr>
<tr>
<td>Neurosyphilis</td>
<td>Gumma: Tissue destruction of any organ, manifestations depend on site involved</td>
<td>Penicillin G 3-4 million units IV q 4 hours for 10-14 days</td>
<td>•</td>
</tr>
<tr>
<td>Congenital or In pregnancy</td>
<td>Ranges from asymptomatic to symptomatic with headaches, vertigo, personality changes, dementia, ataxia, Argyll Robertson pupil.</td>
<td>Penicillin G 3-4 million units IV q 4 hours for 10-14 days</td>
<td>•</td>
</tr>
</tbody>
</table>

Benzathine penicillin G may be ordered from Simcoe Muskoka District Health Unit, call 721-7520 or 1-877-721-7520 ext 8376.

Recommended Post Treatment Serology Schedule

<table>
<thead>
<tr>
<th>Stage</th>
<th>1, 3, 6, 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary, secondary, early latent, congenital</td>
<td>1, 3, 6, 12 months</td>
</tr>
<tr>
<td>Late latent, tertiary</td>
<td>12 and 24 months</td>
</tr>
<tr>
<td>Neurosyphilis</td>
<td>6, 12 and 24 months</td>
</tr>
<tr>
<td>If HIV infected</td>
<td>1, 3, 6, 12 &amp; 24 months and yearly thereafter</td>
</tr>
<tr>
<td>Babies born to mothers with reactive syphilis serology</td>
<td>see STI Guidelines, syphilis chapter Table 8 a and b</td>
</tr>
<tr>
<td>Congenital</td>
<td>see STI Guidelines, syphilis chapter Table 8 b</td>
</tr>
</tbody>
</table>

Adequate Post Treatment Serologic Response

<table>
<thead>
<tr>
<th>Stage</th>
<th>4-fold drop at 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>• 4-fold drop at 6 months</td>
</tr>
<tr>
<td>Secondary</td>
<td>• 8-fold drop at 12 months</td>
</tr>
<tr>
<td>Early Latent</td>
<td>• 4-fold drop at 12 months</td>
</tr>
</tbody>
</table>

*2-tube drop=four-fold drop, eg, change from 1:32 dilutions to 1:8 dilutions

Inadequate serologic response or rising titre, refer to STI Guidelines, Table 7.

Summary
A diagnosis of syphilis should never be based on the result of a single blood specimen. Investigation, diagnosis and treatment depend on:
• Clinical judgement
• Interpretation of serological test results
• Other evidence necessary for proper diagnosis such as history, symptoms, sexual risks

Notes
• Syphilis, as with other STIs, increases the risk of acquisition and transmission of HIV.
• Screen for other STIs: Chlamydia, gonorrhea, HIV, hepatitis B.
• Immunization against hepatitis B is recommended in non-immune, non-immunized individuals.
• Reporting is required. Phone the Communicable Disease Program, SMDHU at 721-7520 or 1-877-721-7520 x 8632.

For more information refer to the Canadian Guidelines on Sexually Transmitted Infections, Public Health Agency of Canada, are available in full detail at www.publichealth.gc.ca/sti
Serological Tests are used for:
- Patients with history/clinical signs consistent with syphilis, or are contacts
- Screening at-risk asymptomatic individuals
- Assessment of stage of syphilis infection
- Monitoring therapeutic response to treatment
- Standard prenatal screen
- Anyone with any other STI
- Detecting or excluding current or past infection in HIV patients
- Immigration screening
- Screening blood and organ tissue donors

**Assessment of risk factors:**
- Contact with known case of syphilis
- Men who have sex with men
- Commercial sex work/street involvement
- Previous STI including HIV
- Multiple sex partners
- Person originating from a syphilis-endemic area or sex (oral, vaginal, anal) with a person from a syphilis-endemic area
- IDUs
- Sex partners of any of the above

**Taking a clinical history:**
- History of a painless indurated chancre (genital area or mouth)
- A high proportion fail to recall primary chancre
- History of a non-pruritic maculopapular eruption, lymphadenopathy, fever, malaise
- Has client ever been given injectable penicillin or is aware of previous treatment or testing for syphilis
- Is client from a syphilis-endemic area?

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**Syphilis Serology Result Interpretation Flowchart**

**CMIA**
- Reactive CMIA and Reactive RPR and Reactive Confirmatory Test
  - Positive syphilis result
    - Contact local health unit
    - Assess risk factors*
    - Take clinical history**
    - Determine staging of disease
    - Determine treatment
    - Provide treatment

- Reactive CMIA and Reactive RPR and Non-reactive Confirmatory Test
  - Early infection?
    - Previous treated infection?
    - Untreated infection?
      - Assess risk factors*
      - Take clinical history**

- Reactive CMIA and Non-reactive RPR and Reactive Confirmatory Test
  - Usually treated syphilis
    - Late latent of unknown duration with no history of confirmed treatment
    - Early infection (primary syphilis)?
    - People from countries endemic for yaws (eg. Caribbean), pinta (eg. central America) or bejel?
      - Assess risk factors*
      - Take clinical history**

- Reactive CMIA and Non-reactive RPR and Non-reactive Confirmatory Test

- Repeat serology in one month for comparison.
  - If same, no further follow-up required
  - FALSE POSITIVE

- Repeat serology post treatment as recommended

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**Syphilis Screen**
- CMIA - Chemiluminescent Microparticle Immunoassay (serum) Reported as T.pallidum (IgG/IgM) CMIA.
- VDRL - Venereal Disease Research Laboratory (CSF)
- Quantitative Test
  - RPR - Rapid Plasma Reagin Test. Detects total IgG/IgM antibody to syphilis (T. pallidum). Automatically done by lab if CMIA is reactive.
- Confirmatory Test
  - TPPA - Treponema pallidum particle agglutination. Automatically done by lab if CMIA is reactive.

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Source: Ontario Public Health Laboratory

Adapted with permission from Wellington-Dufferin-Guelph Public Health — Rev. Oct. 2017