Updates in Syphilis Screening
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Objectives

- Identify changes from previous USPTF Syphilis recommendations
  - Who to screen
  - How to screen
  - How to treat
- Comprehend the evidence supporting the new recommendations
- Local rates of infection
Updated Recommendation

- Most recent update is 2009 Reaffirmation Recommendation Statement
- Not significantly different from 2004 guidelines
Updated Recommendation

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- Not significantly different from 2004 guidelines
Rates across the nation 2014

Delaware ranks 19th across the nation
African Americans – In Delaware 8.7x greater than rates reported in whites
Hispanics – In Delaware, 3.8x rates in whites
Screening for persons at increased risk

- No new direct evidence
- Adequate evidence that screening tests accurately detect syphilis infection

Level A Recommendation
Screen persons at increased risk

- Benefits of screening outweigh the potential harms

exposure to antibiotics
Persons at Increased Risk

- Commercial sex workers
- Persons who exchange sex for drugs
- Those with other sexually transmitted diseases (STDs) including HIV
- Contacts of persons with active syphilis
- High prevalence groups

- Optimal frequency for such testing has not been determined and is left to clinical discretion
High Prevalence Groups

• Urban area outbreaks among men who have sex with men
  – High rate of coinfection with HIV
• Persons in Adult Correctional Facilities
  – Women’s facilities median rate 8.7% (2.1-22.2%)
  – Men’s facilities median rate 2.7% (0.3-10.7%)
Syphilis in those with HIV

Cases

- MSW+
- Women
- MSM+

HIV-
HIV+
Screening of pregnant women

- Observational evidence that it decreases proportion of infants with clinical manifestations of syphilis infection

Level A Recommendation
Screen persons at increased risk

- One new study that met criteria included from China looked at over 400,000 women in screening program decreased incidence by over 50%
Pregnant women

• Screen at first prenatal visit
• For women in high risk groups, repeat serologic testing may be necessary in third trimester and at delivery, AAP and ACOG also support this
• Follow up serologic tests should be obtained in those treated
Congenital Syphilis in the US

Delaware had 1 case in 2013
Delaware rate of 8.8 per 100,000 live births
slightly above US average of 8.7 per 100,000 live births
Screening of asymptomatic persons NOT at increased risk

Level D Recommendation
Do not screen asymptomatic individuals not at increased risk

- Low incidence of syphilis infection in the general population
- Low yield of such screening
- Screening may result in harms
  - False positives produce unnecessary anxiety and exposure to antibiotics
  - Harms outweigh the benefits

Each individual should be evaluated for increased risk based on individual factors and local prevalence
## Testing

<table>
<thead>
<tr>
<th>Test</th>
<th>Primary Syphilis</th>
<th>Secondary Syphilis</th>
<th>Latent Syphilis</th>
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</thead>
<tbody>
<tr>
<td>Non Treponemal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venereal Disease Research Lab (VDRL)/</td>
<td>78-86% sensitivity</td>
<td>100% sensitivity</td>
<td>95-98% sensitivity</td>
</tr>
<tr>
<td>Rapid Plasma Reagin (RPR)</td>
<td>85-99% specificity</td>
<td>85-99% specificity</td>
<td>85-99% specificity</td>
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<tr>
<td>Treponemal</td>
<td></td>
<td></td>
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<tr>
<td>Fluorescent Treponemal Antibody Absorbed</td>
<td>84% sensitivity</td>
<td>100% sensitivity</td>
<td>100% sensitivity</td>
</tr>
<tr>
<td>(FTA-ABS)</td>
<td>96% specificity</td>
<td>96% specificity</td>
<td>96% specificity</td>
</tr>
</tbody>
</table>
New Testing

- Immunochromatographic Strip (ICS) – prototype tested on 353 patients more sensitive than RPR
- Line immunosassay (LIA) – new confirmatory test, one study sensitivity 100% and specificity 99.3%, n=531, p=.02
- Enzyme-linked immunosorbent assay (ELISA) – evaluated in 441 samples, compare to FTA-ABS sensitivity 100% in primary, secondary and latent syphilis
- RPR card and rapid syphilis test (RST) – 1300 women at clinics in Africa similar sensitivity and specificity, but RST easier to read
Treatment

• **Penicillin G**
  – Recommended for treatment of Syphilis at all stages
  – Remains primary treatment in Pregnancy, and only treatment by CDC guidelines

• **Doxycycline**
  – Recommended for those allergic to Penicillin

• **Azithromycin**
  – Several small studies support use in early-stage syphilis

• **Ceftriaxone**
  – It has been considered an alternative to PCN but no well designed trials to support it
Summary

• Screen individuals from high risk groups
• Screen pregnant women in first trimester and again in 3\textsuperscript{rd} trimester and at delivery in high risk groups
• Non treponemal tests (VDRL or RPR) for screening and treponemal tests (FTA-ABS) remains standard of care for testing
• Penicillin remains the mainstay of treatment, especially in pregnant women
• Doxycycline may be used for non-pregnant persons with allergy to penicillin
References


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