Los Angeles County
Sexually Transmitted Diseases
Screening and Vaccination
Recommendations for
HIV-infected Adults and Adolescents

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Los Angeles County Department of Public Health
Division of HIV and STD Programs
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Overview

- LAC STD and HIV Morbidity
- STD/HIV Interaction
- STD Screening Recommendations
- Vaccination Recommendations
LAC STD and HIV Morbidity
Los Angeles County
STD Morbidity

• Has one of the highest incidences of HIV and STIs in the United States and California

• Annual Incidence per 100,000 population, LAC
  – 12.9 HIV/AIDS
  – 8.7 P&S Syphilis
  – 421.6 Chlamydia
  – 96.1 Gonorrhea
HIV/STD Co-morbidity Pattern Among HIV Cases Reported for PS: LAC, 2011

Total HIV/AIDS = 2,805
Total Early Syphilis = 1,267 (45%)
Total Chlamydia = 593 (21%)
Total Gonorrhea = 508 (18%)
STD/HIV Interaction
Sexual Transmission of HIV

- Accounts for 75-85% of HIV infections worldwide
- Heterosexual transmission is the major cause in developing nations, and is the most rapidly increasing subset of US AIDS cases
- Increases in rectal gonorrhea and syphilis seen in men who have sex with men (MSMs) has led to the concern about increasing HIV transmission among MSM
Sexual Transmission of HIV
Risks of Specific Sexual Behaviors

• Magnitude of risk depends on choice of partner, sex act and condom use, and is difficult to estimate for specific situations

• Estimated per-act risk of transmission is low:
  – Receptive oral intercourse: ~0.01%
  – Penile-vaginal intercourse: female ~ 0.1%, male ~ 0.5%
  – Receptive anal intercourse: ~1%

• Cofactors appear important in transmission
Co-factors Increasing Risk of HIV Transmission

- Increased viral load
  - Recent HIV infection
  - Late stage HIV infection
  - Lack of antiretrovirals (HIV meds)

- STDs

- Menstruation

- Type of sexual act
Four priority strategies:

1. Make voluntary HIV testing a routine part of medical care
2. Expand HIV testing outside medical settings
3. Prevent new infections by working with persons diagnosed with HIV and their partners
4. Further decrease perinatal HIV transmission
STD Screening Recommendations for HIV-infected Adults and Adolescents
STD Screening for HIV-infected Men

<table>
<thead>
<tr>
<th>STD</th>
<th>Site</th>
<th>Type of Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syphilis</td>
<td>blood</td>
<td>oral, anal</td>
</tr>
<tr>
<td>GC/CT</td>
<td>urethra/urine</td>
<td>insertive</td>
</tr>
<tr>
<td>GC/CT</td>
<td>rectum</td>
<td>receptive anal</td>
</tr>
<tr>
<td>GC</td>
<td>pharynx</td>
<td>receptive oral</td>
</tr>
</tbody>
</table>

**FREQUENCY:** At least at the initial visit then annually or more frequently based on risk
How common are CT and GC infections among MSM seeking STD testing?

Kent, CK et al, Clin Infect Dis 2005;41:67–74
Majority of Rectal Infections in MSM are Asymptomatic

Rectal Infections
- Chlamydia: 86% asymptomatic, 4% symptomatic (n=316)
- Gonorrhea: 84% asymptomatic, 6% symptomatic (n=264)

Urethral Infections
- Chlamydia: 42% symptomatic, 58% asymptomatic (n=315)
- Gonorrhea: 90% symptomatic, 10% asymptomatic (n=364)

Kent, CK et al, Clin Infect Dis July 2005
Proportion of CT and GC infections among MSM not identified if screening only urine/urethral sites:

- **Chlamydia**:
  - Identified: 47%
  - Not Identified: 53%

- **Gonorrhea**:
  - Identified: 64%
  - Not Identified: 36%
STD Screening: Requires asking

"Whoa—way too much information."

Ask Screen Intervene

www.nnptc.org/online_training/asi
NAAT: Novel Specimen Collection

- Non-invasive screening
- Urine and self-obtained swabs
- High patient acceptability
- Screening in non-clinical settings
- Pharyngeal and rectal available (not FDA approved)
Performance Estimates\(^1\)
of Chlamydia and Gonorrhea Tests

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Sensitivity</th>
<th>Specificity</th>
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<tbody>
<tr>
<td>CT Culture</td>
<td>40-70%</td>
<td>&gt; 99%</td>
</tr>
<tr>
<td>GC Culture</td>
<td>45-85%</td>
<td>&gt; 99%</td>
</tr>
<tr>
<td>DFA</td>
<td>50-70%</td>
<td>95-99%</td>
</tr>
<tr>
<td>EIA</td>
<td>60-70%</td>
<td>95-99%</td>
</tr>
<tr>
<td>NAP/NAPSA</td>
<td>60-75%</td>
<td>97-99%</td>
</tr>
<tr>
<td>NAATs*</td>
<td>95-98%</td>
<td>&gt;99%</td>
</tr>
<tr>
<td>Roche Amplicor (PCR)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GenProbe Aptima (TMA)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-D ProbeTec (SDA)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Able to use urine and vaginal swabs
** FDA-cleared for LBP

\(^1\)Performance estimates vary widely due to difference in statistical analysis
### STD Screening for HIV-infected Women

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<td>receptive anal</td>
</tr>
<tr>
<td>GC</td>
<td>pharynx</td>
<td>receptive oral</td>
</tr>
<tr>
<td>Trichomonas</td>
<td>vagina/cervix/urine vaginal</td>
<td>vaginal</td>
</tr>
</tbody>
</table>

**FREQUENCY:** At least at the initial visit then annually or more frequently based on risk
Trichomoniasis Screening in HIV-infected Women

- High prevalence of *Trichomonas vaginalis* (TV) among HIV-positive women
- Screening recommended at entry into care then annually
- TV treatment reduces vaginal HIV shedding and potential complication of upper genital tract infections
New Testing Options for Trich

- Microscopy is inferior to new options, including:
  - Rapid antigen testing
  - APTIMA TMA Trichomonas (FDA approved 4/11)
    - Nucleic Acid Amplification Test
    - Utilizes same technology as APTIMA Combo 2 (for CT/GC)
    - May use same specimen type as used with APTIMA Combo 2 (i.e. vaginal swab, endocervical swab, urine)

- Huppert CID 2007

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<tr>
<th>Test</th>
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</thead>
<tbody>
<tr>
<td>APTIMA TMA</td>
<td>98.2%</td>
<td>98%</td>
</tr>
<tr>
<td>OSOM</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td>Culture</td>
<td>83%</td>
<td>100%</td>
</tr>
<tr>
<td>Wet prep</td>
<td>56%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3. Differences in test sensitivity stratified by the presence or absence of vaginal symptoms.

<table>
<thead>
<tr>
<th>Test method</th>
<th>All patients (n = 330)</th>
<th>Vaginal symptoms present (n = 210)</th>
<th>Vaginal symptoms absent (n = 120)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet mount</td>
<td>50.8 (37.7–63.9)</td>
<td>57.5 (40.8–72.9)</td>
<td>38.1 (18.1–61.6)</td>
</tr>
<tr>
<td>Culture</td>
<td>75.4 (62.7–85.5)</td>
<td>77.5 (61.5–89.1)</td>
<td>71.4 (47.8–88.7)</td>
</tr>
<tr>
<td>Rapid test</td>
<td>82.0 (70.0–90.6)</td>
<td>92.5 (79.6–98.4)</td>
<td>61.9 (38.4–81.9)</td>
</tr>
<tr>
<td>TMA</td>
<td>98.4 (91.2–99.9)</td>
<td>97.5 (86.9–99.9)</td>
<td>100 (83.8–100)</td>
</tr>
</tbody>
</table>

**NOTE.** The comparator was any test result positive for *Trichomonas vaginalis* infection. TMA, transcription-mediated amplification.
Commercially Available Point of Care TV Tests

**Affirm VP III**
- Detects *Gardnerella*, Trich, *Candida*
- DNA hybridization, colorimetric test
- Moderate complexity test
- Results in 45 minutes
- Sensitivity/specificity
  - *Gardnerella*: 84%, 96%
  - Trich: 80%, 98%
  - *Candida*: 78%, 96%

**OSOM Trichomonas Rapid Test**
- Detects *T. vaginalis* antigen
- Color immunochromatographic capillary flow test; “dipstick”
- CLIA waived
- Results in 10 minutes
- Sensitivity/specificity
  - Vaginal swab: 83%, 98%
  - Saline from wet mount: 75%, 98%

Gaydos. Rapid Tests for STDs. Current Infectious Dis Reports 2006
Other Screening Recommendations for All HIV-infected Patients

- **Hepatitis C infection:**
  - HCV antibody
  - HCV RNA for confirmation if antibody positive

- **Hepatitis B infection:**
  - HBsAg
  - Antibody to HBsAg
  - Antibody to hepatitis B total core antigen
  - If HBsAg positive, HBV DNA PCR testing to confirm chronic infection
Vaccination Recommendations
Vaccine-Preventable STDs

• HPV:
  – Higher rate of cervical and anal carcinomas in HIV-infected
  – Vaccination recommended for females & males \( \leq 25 \)

• Hepatitis B:
  – Sexual transmission accounts for most new infections, and are especially common among unvaccinated MSM.
  – Vaccination recommended for unexposed/uninfected

• Hepatitis A: Vaccination recommended for MSM, IDU, those at increased sexual risk, and those with chronic liver disease, including persons with HBV and HCV with evidence of chronic liver disease
LAC STD Resources

• Check out the website http://lapublichealth.org/std/index.htm

• STD Nursing Unit Record Search/Consultation: 213-744-3106
  – (Services include, syphilis case record search, lab/disease/treatment consultation, referrals. Staffed M-F 8am-5pm)

• STD/Hotline (for patients): 1-800-758-0880
  – Counselors available from 7am-5pm M-F.
  – Automated 24 hours a day, 7 days a week to provide: information for STD clinics and HIV testing locations, and to order free condom delivery (10 condoms/pkg/request).
References:


THANK YOU!
Questions?

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