STI Screening Guidelines: A Focus on Trichomonas, Chlamydia, and Gonorrhea

Jane R. Schwebke, MD
Professor of Medicine/Infectious Diseases
University of Alabama at Birmingham
Birmingham, AL

Identified or perceived conflict of interest has been resolved in accordance with ACCME guidelines.

Faculty Disclosure

Consulting Fees: Hologic, Talis
Contracted Research: BD Diagnostics, Hologic, Lupin, Mycovia Pharmaceuticals, Synexis
Ownership Interest: Talis

STI Screening Guidelines: A Focus on Trichomonas, Chlamydia, and Gonorrhea
Objectives

• Describe the recent surge in incidence rates for common, largely preventable STIs and the major population health challenge they represent
• Formulate clinical strategies to overcome current low screening rates for STIs in at-risk and general populations, using the most sensitive available laboratory molecular technology
• Apply counseling techniques in their medical practice that encourages physician/patient engagement in STI prevention discussions

Chlamydia Trachomatis
Chlamydia — Rates of Reported Cases by Sex, United States, 2000–2017

NOTE: Data collection for chlamydia began in 1984 and chlamydia was made nationally notifiable in 1995; however, chlamydia was not reportable in all 50 states and the District of Columbia until 2000. Refer to the National Notifiable Disease Surveillance System (NNDSS) website for more information: https://wwwn.cdc.gov/nndss/conditions/chlamydia–trachomatis-infection/.

Pelvic Inflammatory Disease—Hospitalizations of Women Aged 15–44 Years, United States, 2000–2009

NOTE: The relative standard errors for acute and unspecified pelvic inflammatory disease (PID) cases ranges from 8%–18%. The relative standard error for chronic PID cases ranges from 12%–28%. Data only available through 2009. SOURCE: 2009 National Hospital Discharge Survey [Internet]. Atlanta: Centers for Disease Control and Prevention. Available from: http://www.cdc.gov/nchs/nhds/about/nhds.htm.

STI Screening Guidelines: A Focus on Trichomonas, Chlamydia, and Gonorrhea
Provider Screening Compliance is Low
Percentage of sexually active females aged 16–24 years who were screened for *Chlamydia trachomatis* infection, by health plan type and year--- Healthcare Effectiveness and Data Information Set, United States--2009-2015

Division of STD Prevention, CDC

Neisseria Gonorrhoeae

STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea
Neisseria gonorrhoeae — Percentage of isolates with elevated azithromycin minimum inhibitory concentrations (MICs) ($\geq 2.0 \mu g/ml$), elevated ceftriaxone MICs ($\geq 0.125 \mu g/ml$), and elevated cefixime MICs ($\geq 0.25 \mu g/ml$), Gonococcal Isolate Surveillance Project (GISP), 2008–2017

Vaginitis/Vaginosis

*Trichomonas*

U.S. Estimates of Trichomoniasis Prevalence and Incidence

Estimated **prevalence** of sexually transmitted infections in the US (total 110,197,000)

Estimated **new** sexually transmitted infections in the US each year (total 19,738,800)

STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea
STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea
## M. genitalium Disease Associations

<table>
<thead>
<tr>
<th>Syndrome</th>
<th>Summary risk estimate</th>
<th>Studies accounting for CT (subset)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGU</td>
<td>5.5 (4.3 – 7.0)</td>
<td>-</td>
</tr>
<tr>
<td>Female Urethritis</td>
<td>2.2 (1.6 – 2.9)</td>
<td>2.1 (1.5 – 2.9)</td>
</tr>
<tr>
<td>Cervicitis</td>
<td>1.6 (1.4 – 2.0)</td>
<td>1.9 (1.4 – 2.8)</td>
</tr>
<tr>
<td>PID / Endometritis</td>
<td>1.9 (1.3 – 3.5)</td>
<td>2.0 (0.95 – 4.0)</td>
</tr>
<tr>
<td>Preterm Delivery</td>
<td>1.9 (1.2 – 2.9)</td>
<td>2.3 (1.1 – 5.0)</td>
</tr>
<tr>
<td>Spontaneous Abortion</td>
<td>1.8 (1.1 – 3.0)</td>
<td>2.3 (1.0 – 4.9)</td>
</tr>
<tr>
<td>Infertility</td>
<td>3.0 (1.3 – 6.7)</td>
<td>3.7 (1.7 – 8.1)</td>
</tr>
<tr>
<td>HIV</td>
<td>2.0 (1.4 – 2.8)</td>
<td>-</td>
</tr>
</tbody>
</table>

M. genitalium - Macrolide Resistance Mutations (MRMs)*

Worldwide, reported MG MRM prevalence ranges from 4%-100%, mostly in the 15%-60% range

MG MRM prevalence ranges from 44%-90% across U.S. sites

- Seattle, WA: 62% (hetero men)\(^1\), 69% (men w/urethritis)\(^2\), 94% (MSM)\(^3\)
- Los Angeles, CA: 80% (clinic attendees)\(^3\)
- Pittsburgh, PA: 58% (men w/urethritis)\(^2\)
- Durham & Greensboro, NC: 61% & 64% (men w/urethritis)\(^2\)
- Birmingham, AL: 44% (STD Clinic)\(^3\), 61% (hetero couples)\(^3\), 61% (men w/urethritis)\(^2\), 74% (HIV+ MSM)\(^3\)
- New Orleans, LA: 60% (men w/urethritis)\(^2\)

*MRMs in the 23S rRNA gene, typically A2071 and A2072 (E.coli numbering 2058 and 2059)


Some Slide Material Courtesy of Lisa Manhart

STI Screening Guidelines:
A Focus on Trichomonas, Chlamydia, and Gonorrhea