Talking to Your Patients About Sex & Sexually Transmitted Diseases

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NH Division of Public Health Services
April 22, 2015
Discuss how to take a sexual history

Review of Chlamydia and Gonorrhea
- Clinical syndromes
- Epidemiology
- Screening
- Treatment

Highlight some key changes in the upcoming 2014 STD treatment guidelines (Gonorrhea)

Highlight available resources
Sexually Transmitted Diseases Treatment Guidelines, 2010
Stages of Prevention

- **Primary Prevention** – Changing sexual behavior before infection occurs via education and counselling

- **Secondary/Tertiary Prevention** – Evaluation & screening to detect clinical/subclinical disease before transmission & progression to worse outcomes
Before you can Intervene, you have to Ask!

- Non-judgmental
- Compassion/empathy
- Respect
- Use a common understandable language
- Use open-ended questions
Key: Make it Routine

- Good organization
- Use your medical record or EMR
- Template the question(s) into your work-flow
- Ask at every appointment or at least every “annual exam”
- Ask even if you already “know” the answer
  - Catholic Nun
  - 89 y.o. patient
  - “No interest in sex for years” patient
EMR Note Template

Annual Physical Exam

Name: Phony Baloney
MRN: 000987654321
Date: April 22, 2015
Age: 25
Sex: Male

CC:

HPI:

ROS:

FHx:
Mother:
Father:

SHx:
Marriage:
Travel:
Tobacco:
EtOH:
Illegal/IVDU:
Sexual History:
What to Ask: the Five P’s

- Partners
- Prevention of Pregnancy
- Protection from STDs
- Practices
- Past History of STDs
CDC 2010 STD Treatment Guidelines

Suggested Questions for asking about the “Five P’s”:

1. Partners
   - “Do you have sex with men, women, or both?”
   - “In the past 2 months, how many partners have you had sex with?”
   - “In the past 12 months, how many partners have you had sex with?”
   - “Is it possible that any of your sex partners in the past 12 months had sex with someone else while they were still in a sexual relationship with you?”

2. Prevention of pregnancy
   - “What are you doing to prevent pregnancy?”

3. Protection from STDs
   - “What do you do to protect yourself from STDs and HIV?”
4. Practices

- “To understand your risks for STDs, I need to understand the kind of sex you have had recently.”
- “Have you had vaginal sex, meaning ‘penis in vagina sex’?” If yes, “Do you use condoms: never, sometimes, or always?”
- “Have you had anal sex, meaning ‘penis in rectum/anus sex’?” If yes, “Do you use condoms: never, sometimes, or always?”
- “Have you had oral sex, meaning ‘mouth on penis/vagina’?”

For condom answers:

- If “never”: “Why don’t you use condoms?”
- If “sometimes”: “In what situations (or with whom) do you not use condoms?”

5. Past history of STDs

- “Have you ever had an STD?”
- “Have any of your partners had an STD?”

Additional questions to identify HIV and viral hepatitis risk include:

- “Have you or any of your partners ever injected drugs?”
- “Have any of your partners exchanged money or drugs for sex?”
- “Is there anything else about your sexual practices that I need to know about?”
Issues

- Questions can be awkward to ask (it’s not the way normal people talk)
- The flow feels interruptive to the normal conversation & dialogue of the visit
- Too many questions, no time to ask
- Providers think patients will be uncomfortable
- Providers feel uncomfortable
Potential Solutions

- Change the wording of the questions
- Change the order of the questions
- You don’t need to ask all the questions listed, it’s a guide
- Patient’s generally aren’t too uncomfortable, especially if you make it routine and develop a flow for how you ask
Five P’s Re-organized

- Start with a Lead-in statement
- Past History of STDs
- Partners
- Prevention of Pregnancy
- Protection from STDs
- Practices
- Past History of STDs
- Prevention of Pregnancy
Five P’s Re-organized

- Start with a Lead-in statement
- Past History of STDs
- Partners
- Practices
- Protection from STDs
- Prevention of Pregnancy
Five P’s Re-organized

Start with a Lead-in statement
1. Past History of STDs
2. Partners
3. Practices
4. Protection from STDs
5. Prevention of Pregnancy (?)
Conversation Flow & Progression

Lead-in: “I’m going to ask you several questions about your sexual health and practices. This is important because...”

#1: “Do you have any history of sexually transmitted infections”
   “Have you ever been checked for STDs?”

#2: “Are you currently sexually active?”
   “How many partners have you had in the last 12 months?
   “Men, women, or both?”
Conversational Flow & Progression

#3: “What kind of sex do you have? Anal, vaginal, or oral sex?”
   ...if reports anal sex: “Are you the “top” (anal insertive) or the “bottom” (anal receptive)?”
   ...if reports oral sex: “what kind of oral sex...mouth to penis, mouth to vagina, both?”

#4: “Do you use condoms?”
   “How do you protect yourself from STDs?”

#5: “What are you doing to prevent pregnancy?”
Annual Physical Exam

Name: Phony Baloney
MRN: 000987654321
Date: April 22, 2015
Age: 25
Sex: Male

CC:

HPI:

ROS:

FHx:  |  
Mother:  
Father:  

SHx:  
Marriage: single
Travel: No recent travel
Tobacco: quit 10 years ago, previously smoked ½ ppd for 20 years
EtOH: 2-4 beers/week
Illegal/IVDU: denies, never
Sexual Activity: no h/o STDs, never checked for STDs, currently sexually active with 1 female partner, reports 3 female partners in last year, denies MSM. Reports both vaginal and oral sex. Does not use Condoms nor any other form of protection.
Counseling and Prevention

- Abstinence or reduce the # of partners
- Vaccination (HPV, Hep A/B)
- Male condoms (latex & non-latex synthetic vs. natural “lambskin”)
- Female condoms
- PEP
- PrEP
Screening for STDs

- HIV (all adults and adolescents from 13-64 years of age should be screened at least once)
- Chlamydia
- Gonorrhea
- Syphilis (pregnant and MSM)
- Hepatitis B and C (pregnant and MSM)
- HPV (cervical cancer screening recs)
Chlamydia trachomatis
Non-motile, obligate intracellular bacteria

Extra-cellular infectious form: Elementary Body (EB)
- Spore-like structure
- Metabolically Inert

EB attaches to epithelial cells and enters via receptor mediated endocytosis

Intracellular replication (Reticulate Body)

Releases EB to transmit infection
Multiple Chlamydial Species

- *C. trachomatis* (Serovars A-C)
- *C. trachomatis* (Serovars D-K)
- *C. trachomatis* (Serovars L1, L2, L3)
- *C. pneumoniae*
- *C. psittaci*
Serovars of *Chlamydia trachomatis*

- **Serovars A – C:** Ocular trachoma (leading cause of preventable blindness worldwide)
- **Serovars D – K:** Urogenital disease & Conjunctivitis
- **Serovars L1, L2, L3:** Lymphogranuloma venereum (LGV)
  - Painful inguinal/femoral lymphadenopathy
  - Self-limited painless genital ulcer
  - Proctocolitis (sometimes hemorrhagic)
Clinical Syndromes

- Conjunctivitis
- Urethritis
- Cervicitis
- Epididymitis
- Pharyngitis (rare)
- Proctocolitis
- Reactive arthritis
- Long-term complications: PID, ectopic pregnancy, infertility
Chlamydia Rates in the U.S.

NOTE: As of January 2000, all 50 states and the District of Columbia have regulations that require the reporting of chlamydia cases.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
Chlamydia Rates in the U.S. by Race/Ethnicity

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
2013 Chlamydia Rates in the U.S. by Age/Sex

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
2013 Chlamydia Cases in the U.S. by Age, Sex, & Sexual Behavior

* Only includes patients tested for chlamydia
† MSM = men who have sex with men; MSW = men who have sex with women only.

NOTE: Six jurisdictions (Birmingham, Chicago, Denver, Hartford/New Haven, New Orleans, and Richmond) contributed data from January through June 2013 and the remaining jurisdictions (Baltimore, Los Angeles, New York City, Philadelphia, San Francisco and Seattle) contributed data for all of 2013.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
Chlamydia Rates in the U.S. by Region

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
2013 Chlamydia Rates by State

NOTE: The total rate of reported cases of chlamydia for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 443.5 per 100,000 population.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
# 2013 Chlamydia Cases Ranked by State

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Cases</th>
<th>Rate per 100,000 Population</th>
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<td>Alaska</td>
<td>5,774</td>
<td>789.4</td>
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<td>2</td>
<td>Louisiana</td>
<td>28,739</td>
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<td>3</td>
<td>Alabama</td>
<td>29,464</td>
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<td>4</td>
<td>New Mexico</td>
<td>12,249</td>
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<td>5</td>
<td>Mississippi</td>
<td>17,464</td>
<td>585.1</td>
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<td>6</td>
<td>Delaware</td>
<td>5,213</td>
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<td>South Carolina</td>
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<td>U.S. TOTAL</td>
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<td>Colorado</td>
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<td>35</td>
<td>Kentucky</td>
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<td>Kansas</td>
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<td>40</td>
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<td>41</td>
<td>Connecticut</td>
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<td>42</td>
<td>Massachusetts</td>
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<tr>
<td>43</td>
<td>Minnesota</td>
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<td>44</td>
<td>Wyoming</td>
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<td>347.8</td>
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<tr>
<td>45</td>
<td>Idaho</td>
<td>5,428</td>
<td>340.2</td>
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<td>46</td>
<td>New Jersey</td>
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<tr>
<td>50</td>
<td>Maine</td>
<td>3,238</td>
<td>258.7</td>
</tr>
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</table>

* States were ranked by rate, then by case count, then in alphabetical order, with rates shown rounded to the nearest tenth.
* Total includes cases reported by the District of Columbia with 4,114 cases and a rate of 1,014.4, but excludes outlying areas (Guam with 937 cases and rate of 585.9, Puerto Rico with 5,969 cases and rate of 162.8, and Virgin Islands with 775 cases and rate of 736.2).
Yearly NH Chlamydia Rates by Sex

Data source: Sexually Transmitted Disease Management Information System (STDMIS). Data is complete as of October 10, 2014.
Yearly NH Chlamydia Rates by Age Group

Data source: Sexually Transmitted Disease Management Information System (STDMIS). Data is complete as of October 10, 2014.
Yearly NH Chlamydia Rates by County/City

Data source: Sexually Transmitted Disease Management Information System (STDMIS). Data is complete as of October 10, 2014.
Screening: CDC guidelines

- Annual screening of ALL sexually active women < 25 years of age
- Screen older women with risk factors (multiple partners, new partners, inconsistent condom use, other STDs, sex workers, drug use)
- Screen ALL pregnant women during the first prenatal visit
  - Pregnant women < 25 years of age and those at high risk should be screened again during the third trimester
- Women ≤ 35, men < 30 in correctional facilities
- MSM if sexual activity in the preceding year – urethral & rectal (oropharyngeal not recommended)
Screening: USPSTF

- The United States Prevention Services Task Force (USPSTF) recommends screening for chlamydia in all sexually active women age 24 years and younger and in older women who are at increased risk for infection (grade B).
- Applies to all sexually active adolescents and adults, including pregnant women.
- Screening interval: based on sexual history that reveals new or persistent risk factors since last negative test.

USPSTF Website: http://www.uspreventiveservicestaskforce.org
Screening Summary

- Take a Sexual History because it impacts who you screen and how
- Screen of any sexually active female less than 25 years of age annually
- Screen any older sexually active women with risk factors (multiple partners, new sex partners, inconsistent condom use, other STDs, sex workers, drug use)
- Screen certain populations: MSM, women/men in correctional facilities, pregnant women
Nucleic Acid Amplification Test (NAAT)

- Urine (first-catch) or swab (urethra, endocervix, vagina, rectal, oropharyngeal) for a NAAT
- Note: Rectal and oropharyngeal swabs are not FDA-approved for NAAT
- Higher sensitivity than Culture (90+% range)
- High Specificity (99%)

Mandell et al. Principles and Practice of Infectious Disease. 7th ed.
# Treatment of urogenital, rectal, & pharyngeal infections

## Recommended Regimens

- **Azithromycin** 1 g orally in a single dose
  - OR
- **Doxycycline** 100 mg orally twice a day for 7 days *

## Alternative Regimens

- **Erythromycin** base 500 mg orally four times a day for 7 days
  - OR
- **Erythromycin** ethylsuccinate 800 mg orally four times a day for 7 days
  - OR
- **Levofloxacin** 500 mg orally once daily for 7 days *
  - OR
- **Ofloxacin** 300 mg orally twice a day for 7 days *

* Contraindicated in pregnancy
Note about Chlamydia Proctitis

- Serovar L1 – L3 (LGV) vs. Serovar D – K (genital tract Chlamydia)
- Treatment is different:

**Treatment for Lymphogranuloma Venereum**

<table>
<thead>
<tr>
<th><strong>Recommended Regimen</strong></th>
<th>Doxycycline 100 mg orally twice a day for 21 days</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative Regimen</strong></td>
<td>Erythromycin base 500 mg orally four times a day for 21 days</td>
</tr>
</tbody>
</table>
Follow-up: Partner Notification

- Abstain from sexual intercourse until 7 days after initiating treatment
- Partner referral for evaluation, testing, treatment if there was sexual contact in the 60 days prior to patient symptoms/diagnosis
- Most recent sexual partner should be evaluated and treated even if outside of 60 day window
Follow-up: Testing

- Repeat testing in pregnant women 3-4 weeks after treatment
- No “test-of-cure” needed in others unless compliance is in question, symptoms persist, or concern for re-infection
- Re-test at 3 months given high risk of re-infection and associated complications (not a “test-of-cure”)
Neisseria Gonorrhea
Background

- Non-motile gram negative diplococci
- 2nd most commonly reported bacterial STD
- Usually symptomatic urethral infections in men
- CDC Gonococcal Isolate Surveillance Project (GISP): Monitored antibiotic susceptibilities since 1986

CDC Public Image Library:
http://phil.cdc.gov/phil/details.asp
Clinical Syndromes

- Conjunctivitis
- Urethritis
- Cervicitis
- Epididymitis
- Pharyngitis
- Proctocolitis

Long-term complications: PID, ectopic pregnancy, infertility

Disseminated Gonococcal infection (arthritis, dermatitis, bacteremia)
Gonorrhea Rates in the U.S.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
Gonorrhea Rates in the U.S. by Race/Ethnicity

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
2013 Gonorrhea Rates in the U.S. by Age/Sex

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
2013 Gonorrhea Cases in the U.S. by Age, Sex, & Sexual Behavior

*Only includes patients tested for gonorrhea.
†MSM = men who have sex with men; MSW = men who have sex with women only.

**NOTE:** Six jurisdictions (Birmingham, Chicago, Denver, Hartford/New Haven, New Orleans, and Richmond) contributed data from January through June 2013 and the remaining jurisdictions (Baltimore, Los Angeles, New York City, Philadelphia, San Francisco and Seattle) contributed data for all of 2013.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
2013 Gonorrhea Cases in the U.S. by Sexual Behavior and Surveillance Site

* MSM = men who have sex with men; MSW = men who have sex with women only.
† Estimate based on weighted analysis of data obtained from interviews (n=3,121) conducted among a random sample of reported gonorrhea cases during January to June 2013.
‡ California data excludes San Francisco County (shown separately).

NOTE: See STD Surveillance Network (SSuN) in the Appendix for SSuN methods and jurisdictions included in each project area.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
Gonorrhea Rates in the U.S. by Region

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
2013 Gonorrhea Rates by State

NOTE: The total rate of reported cases of gonorrhea for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 104.5 per 100,000 population.

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
Yearly NH Gonorrhea Rates by Sex

Rate per 100,000

Data source: Sexually Transmitted Disease Management Information System (STDMIS). 2010-2013 data is complete as of October 10, 2014. 2014 data is considered provision and not yet validated. 2014 data is complete as of 3/31/2015.
Yearly NH Gonorrhea Cases by Sex

Data source: Sexually Transmitted Disease Management Information System (STDMIS). 2010-2013 data is complete as of October 10, 2014. 2014 data is considered provision and not yet validated. 2014 data is complete as of 3/31/2015.
Data source: Sexually Transmitted Disease Management Information System (STDMIS). 2010-2013 data is complete as of October 10, 2014. 2014 data is considered provision and not yet validated. 2014 data is complete as of 3/31/2015
Yearly NH Gonorrhea Rates by County

Data source: Sexually Transmitted Disease Management Information System (STDMIS). 2013 data is complete as of October 10, 2014. 2014 data is considered provision and not yet validated. 2014 data is complete as of 3/31/2015.
Yearly NH Gonorrhea Cases by County

Data source: Sexually Transmitted Disease Management Information System (STDMIS). 2013 data is complete as of October 10, 2014. 2014 data is considered provision and not yet validated. 2014 data is complete as of 3/31/2015
Yearly NH Gonorrhea infections by sexual practice

Data source: Sexually Transmitted Disease Management Information System (STDMIS). 2010-2013 data is complete as of October 10, 2014. 2014 data is considered provision and not yet validated. 2014 data is complete as of 3/31/2015.
Screening: CDC Guidelines

- Annual screening of sexually active women at risk for infection (< 25 years of age at highest risk, previous infection, other STDs, new or multiple sex partners, sex workers, drug use)
- Screen pregnant women at risk during the first prenatal visit, and re-test in 3rd trimester if positive/treated in first trimester
- Women ≤ 35, men < 30 in correctional facilities
- MSM if sexual activity in the preceding year – urethral, rectal, & oropharyngeal
Screening: USPSTF

The USPSTF recommends screening for gonorrhea in all sexually active women age 24 years and younger and in older women who are at increased risk for infection (Grade B)

Applies to all sexually active adolescents and adults, including pregnant women

Interval: based on sexual history that reveals new or persistent risk factors since last negative test

USPSTF Website: http://www.uspreventiveservicestaskforce.org
Screening Summary

- Take a Sexual History because it impacts who you screen and how
- Screen of any sexually active female less than 25 years of age annually
- Screen any older sexually active women with risk factors (multiple partners, new sex partners, inconsistent condom use, previous Gonorrhea infection, other STDs, sex workers, drug use)
- Screen certain populations: MSM, women/men in correctional facilities, pregnant women
Testing

Gram stain of male urethral discharge showing PMNs with intracellular gram-negative diplococci is diagnostic in symptomatic men.

Gram stain not diagnostic in asymptomatic.

Urine (first catch) or swab (urethra, endocervix, vagina, rectal, oropharyngeal) for a NAAT.

Note: Rectal and oropharyngeal swabs are not FDA-approved for NAAT.

NAAT more sensitive than culture in rectal and pharyngeal swabs.
Update to CDC’s Sexually Transmitted Diseases Treatment Guidelines, 2010: Oral Cephalosporins No Longer a Recommended Treatment for Gonococcal Infections

**FIGURE.** Percentage of urethral *Neisseria gonorrhoeae* isolates (n = 32,794) with elevated cefixime MICs (≥0.25 μg/mL) and ceftriaxone MICs (≥0.125 μg/mL) — Gonococcal Isolate Surveillance Project, United States, 2006–August 2011

- Abbreviation: MICs = minimum inhibitory concentrations.
- † January–August 2011.
Update to CDC’s *Sexually Transmitted Diseases Treatment Guidelines, 2010*: Oral Cephalosporins No Longer a Recommended Treatment for Gonococcal Infections

**Uncomplicated gonococcal infections of the cervix, urethra, and rectum**

**Recommended regimen**
Ceftriaxone 250 mg in a single intramuscular dose

Azithromycin 1 g orally in a single dose

or doxycycline 100 mg orally twice daily for 7 days*

**Alternative regimens**
If ceftriaxone is not available:
Cefixime 400 mg in a single oral dose

Azithromycin 1 g orally in a single dose

or doxycycline 100 mg orally twice daily for 7 days*

Test-of-cure in 1 week

If the patient has severe cephalosporin allergy:
Azithromycin 2 g in a single oral dose

Test-of-cure in 1 week

**Uncomplicated gonococcal infections of the pharynx**

**Recommended regimen**
Ceftriaxone 250 mg in a single intramuscular dose

Azithromycin 1 g orally in a single dose

or doxycycline 100 mg orally twice daily for 7 days*

*Because of the high prevalence of tetracycline resistance among Gonococcal Isolate Surveillance Project isolates, particularly those with elevated minimum inhibitory concentrations to cefixime, the use of azithromycin as the second antimicrobial is preferred.

Dual Therapy to treat possible Chlamydia (even if NAAT is negative), and for double coverage of Gonorrhea
2014 CDC STD Treatment Guidelines
http://www.cdc.gov/std/treatment/update.htm

Uncomplicated gonococcal infections of the cervix, urethra, and rectum

Recommended regimen
Ceftriaxone 250 mg in a single intramuscular dose
PLUS
Azithromycin 1 g orally in a single dose
or doxycycline 100 mg orally twice daily for 7 days*

Alternative regimens
If ceftriaxone is not available:
Cefixime 400 mg in a single oral dose
PLUS
Azithromycin 1 g orally in a single dose
(or doxycycline 100 mg orally twice daily for 7 days*)

If an Azithromycin allergy exists

If the patient has severe cephalosporin allergy:

? Azithromycin + Gemifloxacin.
Consult an ID expert

Uncomplicated gonococcal infections of the pharynx

Recommended regimen
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PLUS
Azithromycin 1 g orally in a single dose
or doxycycline 100 mg orally twice daily for 7 days*

*Because of the high prevalence of tetracycline resistance among Gonococcal Isolate Surveillance Project isolates, particularly those with elevated minimum inhibitory concentrations to cefixime, the use of azithromycin as the second antimicrobial is preferred.
No test of cure if rectal/genital treated with a recommended or alternative regimen

Test-of-cure is recommended 14 days after treatment of pharyngeal Gonorrhea with an alternative regimen
Update to CDC’s Sexually Transmitted Diseases Treatment Guidelines, 2010:
Oral Cephalosporins No Longer a Recommended Treatment for
Gonococcal Infections

Uncomplicated gonococcal infections of the cervix, urethra, and rectum

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Test-of-cure in 1 week

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Uncomplicated gonococcal infections of the pharynx

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*Because of the high prevalence of tetracycline resistance among Gonococcal Isolate Surveillance Project isolates, particularly those with elevated minimum inhibitory concentrations to cefixime, the use of azithromycin as the second antimicrobial is preferred.

Dual Therapy to treat possible Chlamydia (even if NAAT is negative), and for double coverage of Gonorrhea
Treatment failure after Recommended Therapy

- Obtain culture for antimicrobial sensitivity testing
- Consult an ID expert and/or CDC
- Report resistance within 24 hours
- Test-of-cure 1 week after re-treatment (culture preferred over NAAT, A positive NAAT should lead to culture)
Follow-up testing

- Abstain from sexual intercourse until after treatment and symptoms resolved
- Partner referral for evaluation, testing, treatment – if there was sexual contact in the 60 days prior to patient symptoms/diagnosis
- Most recent sexual partner should be evaluated and treated even if outside of 60 day window
- Repeat testing in pregnant women 3-4 weeks after treatment
- Re-test at 3 months given high risk of re-infection and associated complications (not a “test-of-cure”)
Neisseria Gonorrhea Resistance
ANTIBIOTIC RESISTANCE THREATS in the United States, 2013
Executive Summary

Antibiotic Resistance Threats in the United States, 2013 is a snapshot of the complex problem of antibiotic resistance today and the potentially catastrophic consequences of inaction. The overriding purpose of this report is to increase awareness of the threat that antibiotic resistance poses and to encourage immediate action to address the threat.
<table>
<thead>
<tr>
<th>HAZARD LEVEL</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>URGENT</td>
<td>These are high-consequence antibiotic-resistant threats because of significant risks identified across several criteria. These threats may not be currently widespread but have the potential to become so and require urgent public health attention to identify infections and to limit transmission.</td>
</tr>
<tr>
<td>SERIOUS</td>
<td>These are significant antibiotic-resistant threats. For varying reasons (e.g., low or declining domestic incidence or reasonable availability of therapeutic agents), they are not considered urgent, but these threats will worsen and may become urgent without ongoing public health monitoring and prevention activities.</td>
</tr>
<tr>
<td>CONCERNING</td>
<td>These are bacteria for which the threat of antibiotic resistance is low, and/or there are multiple therapeutic options for resistant infections. These bacterial pathogens cause severe illness. Threats in this category require monitoring and in some cases rapid incident or outbreak response.</td>
</tr>
</tbody>
</table>

Urgent Threats
- Clostridium difficile
- Carbapenem-resistant Enterobacteriaceae (CRE)
- Drug-resistant Neisseria gonorrhoeae

Serious Threats
- Multidrug-resistant Acinetobacter
- Drug-resistant Campylobacter
- Fluconazole-resistant Candida (a fungus)
- Extended spectrum β-lactamase producing Enterobacteriaceae (ESBLs)
- Vancomycin-resistant Enterococcus (VRE)
- Multidrug-resistant Pseudomonas aeruginosa
- Drug-resistant Non-typhoidal Salmonella
- Drug-resistant Salmonella Typhi
- Drug-resistant Shigella
- Methicillin-resistant Staphylococcus aureus (MRSA)
- Drug-resistant Streptococcus pneumoniae
- Drug-resistant tuberculosis

Concerning Threats
- Vancomycin-resistant Staphylococcus aureus (VRSA)
- Erythromycin-resistant Group A Streptococcus
- Clindamycin-resistant Group B Streptococcus
7 Factors in Assessing Threats

- Clinical impact
- Economic impact
- Incidence
- 10-year projection of incidence
- Transmissibility
- Availability of effective antibiotics
- Barriers to prevention

Is Neisseria gonorrhoeae Initiating a Future Era of Untreatable Gonorrhea?: Detailed Characterization of the First Strain with High-Level Resistance to Ceftriaxone\(^\dagger\) (H041 Strain)

Makoto Ohnishi,\(^1\) Daniel Golparian,\(^2\) Ken Shimuta,\(^1\) Takeshi Saika,\(^3\) Shinji Hoshina,\(^4\) Kazuhiro Iwasaku,\(^5\) Shu-ichi Nakayama,\(^1\) Jo Kitawaki,\(^5\) and Magnus Unemo\(^2\)*

*National Institute of Infectious Diseases, Tokyo, Japan; Swedish Reference Laboratory for Pathogenic Neisseria, Department of Laboratory Medicine, Microbiology, Örebro University Hospital, Örebro, Sweden; Mitsubishi Chemical Medience Corporation, Tokyo, Japan; Hoshina Clinic, Kyoto, Japan; and the Kyoto Prefectural University of Medicine, Kyoto, Japan.

Source: The Gonococcal Isolate Surveillance Project (GISP).

Prevalence of *N. gonorrhoeae* isolates with reduced cefixime (MICs ≥ 0.25μg/ml) and ceftriaxone (MICs ≥ 0.125μg/ml) susceptibility, U.S. 2006–2011

Abbreviations: MICs = minimum inhibitory concentrations
*Cefixime susceptibility not tested during 2007–2008

Source: The Gonococcal Isolate Surveillance Project (GISP).

Gonorrhea Isolates with Elevated Cefixime MICs ($\geq 0.25$ µg/mL), Gonococcal Isolate Surveillance Project (GISP)


CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
Gonorrhea Isolates with Elevated Ceftriaxone MICs ($\geq 0.125 \, \mu g/mL$),
Gonococcal Isolate Surveillance Project (GISP)

CDC. Sexually Transmitted Disease Surveillance, 2013. Website:
http://www.cdc.gov/std/stats13/default.htm
Antibiotics Used to Treat Gonorrhea, Gonococcal Isolate Surveillance Project (GISP)

**NOTE:** For 2013, “Other” includes no therapy (0.9%), azithromycin 2 g (1.7%), and other less frequently used drugs (<0.1%).

CDC. Sexually Transmitted Disease Surveillance, 2013. Website: http://www.cdc.gov/std/stats13/default.htm
Conclusion

- Take a sexual history. The more you practice and make it routine, the easier it will become.
- Your sexual history will define where/how you screen
- Screen for Chlamydia and Gonorrhea all sexually active women at higher risk
- Screen certain populations as well (MSM, Correctional facilities, pregnant women)
- NAAT is the preferred method – First catch urine, endocervix, vagina, rectal, pharyngeal
Conclusion

- Treat according to guidelines – stay up to date on Gonorrhea treatment guidelines, which are changing due to decreasing susceptibility
- Antibiotic stewardship is everyone’s responsibility
- Try the CDC STD treatment app
Resources

- Search for: “STD Treatment (or Tx)”
- Don’t search for “STD CDC”

STD Treatment Guidelines App

The STD Treatment (Tx) Guide app is an easy-to-use reference that helps health care providers identify and treat patients for STDs. STD TX Guide combines information from the STD Treatment Guidelines as well as MMWR updates, and features a streamlined interface so providers can access treatment and diagnostic information. The free app is available for Apple and Android devices.

Topics covered include:
- Diagnosis and treatment of 21 STDs and sexual assault.
- Access to the full STD Treatment Guidelines.
- "A Guide to Taking a Sexual History."

Download

iPhone, iPad or iPod touch
Available on the App Store

Android devices
Available on Google play

There is no charge for this app.
Sexually Transmitted Diseases (STDs)

Treatment

STD Treatment Guidelines App
A quick reference guide for health care providers to help identify and treat sexually transmitted diseases (STDs).

2010 STD Treatment Guidelines
Recommendations for treating persons who have or are at risk for sexually transmitted diseases, updated December 2010.

Updating the STD Treatment Guidelines
The 2010 STD Treatment Guidelines will soon be updated. The peer review plan and other pre-release information can be found here.

Expedited Partner Therapy
Providing prescriptions or medications to the patient to take to his/her partner without the health care provider first examining the partner.

Additional Resources
General STD treatment updates and resources, including Dear Colleague Letters, podcasts, and scientific articles.
Sexually Transmitted Diseases (STDs)

Training

STD Prevention Courses
STD clinical management courses, behavioral intervention training, courses for STD program staff, and more.

Continuing Education Online
STD overview for non-clinicians, STD curriculum self-study modules, Hepatitis web study, and other online training.

Webinars
Web-based seminars for clinicians, physicians, and public health practitioners.

Features

STD Picture Cards
Printable flashcards illustrating symptoms of STDs.

STD Clinical Slides
Slides depicting symptoms of STDs. Available as slide shows or as individual graphics.

Additional Resources
STD 101, clinical slides, picture cards, ready to use curriculum for clinical and health educators, and more.
References

- CDC STD Treatment Guidelines, 2010
- CDC Updated 2012 Gonorrhea Treatment Guidelines
  [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6131a3.htm?s_cid=mm6131a3_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6131a3.htm?s_cid=mm6131a3_w)
- CDC STD Surveillance Report, 2013
- CDC Screening Guidelines Overview
- US Preventative Services Taskforce
- DPHS 2009-2013 STD/HIV Surveillance Data Report
Thank You

Questions?