New Guidelines for Detection and Treatment of Sexually Transmitted Infections

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CDC Surveillance Report: Case Rates 2014-15

- Chlamydia: 5.9% (1,526,658 cases)
  - 10.5% increase among men; 3.8% increase among women
- Gonorrhea: 12.8% (395,216 cases)
  - 18.3% increase among men; 6.8% increase among women
- P & S syphilis: 19% (23,872 cases)
  - Increases seen in MSM, MSW, women
  - MSM accounted for 81.7% of P&S cases
- Congenital syphilis: (487 cases)
  - Increased from 2013-2015 with a 6% increase in 2015
  - Increase primarily attributable to an increase in the West

CDC 2015: Top Updates

1. Recommendations for GC/CT diagnostic tests
2. CT/ GC screening recommendations
3. New-ish chlamydia treatment
4. Changes to GC recommended/alternative therapy
5. Partner management guidelines
6. HPV vaccine and Primary HPV screening
7. Trichomonas screening, diagnosis, and treatment

Disclosure

- I am a litigation consultant to a law firm contracted with Bayer Healthcare relating to the Mirena IUD
(1) NAAT Vaginal Swab Is Preferred Specimen Source

- Sensitivity is equal or greater to cervical swabs or urine
- Self-collection option well accepted among women of all ages
- Less specimen processing than with urine
- Check with your lab regarding specimen handling
- In asymptomatic heterosexuals who engage in oral or anal sex, sample single site most likely infected
- NAAT test (and CPT code) is the same, regardless of site

(2) STD Screening for Women

- Sexually active adolescents and through age 24
  - Routine chlamydia and gonorrhea screening
  - Other STDs based on risk
- Women 25 years of age and over
  - STD screening and testing based on risk
- Pregnant women
  - Chlamydia
  - Gonorrhea (<25 years of age or risky behaviors)
  - HIV
  - Syphilis serology
  - Hepatitis B sAg, Hepatitis C (if high risk)

Routine Screening: Chlamydia and GC

- USPSTF (2014)
  - All sexually active non-pregnant women ≤ 24 [B]
  - Older women who are at increased risk [B]
  - Men: [I] No recommendation
- CA STD Control Branch
  - If practice-site prevalence (PSP) is...
    - Chlamydia ≥ 3%
    - Gonorrhea ≥ 1%

Increased Risk for Ct/ GC

- Previous or concurrent STI
- New or multiple sex partners
- A sex partner with concurrent partners
- A sex partner with an STI
- Inconsistent condom use among persons who are not in mutually monogamous relationships
- Exchanging sex for money or drugs
Targeted Ct, GC Screening:
Risk Factors

Ct and GC screening in women 25 years and older, and PSP is low (Ct is <3% and GC is <1%)
- History of GC, chlamydia, or PID in the past 2 years
- More than 1 sexual partner in the past year
- New sexual partner within 90 days
- Reason to believe that a sex partner has had other partners in the past year

Are the Wrong Women Screened for Ct?

- 20-50% of women in target age range are not screened
- Yet, in many systems, screening rates for women over age 25 are equal to women 25 and younger

So what??

- Ct rates in women over 25 are <1%; decline with age
  - Chlamydia infects the columnar epithelium of the cervical ectropion; recedes with aging
- As prevalence decreases, positive predictive value declines

Chlamydia—Rates by Age and Sex, United States, 2010

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Men Rate (per 100,000 population)</th>
<th>Women Rate (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>774.3</td>
<td>3,170.0</td>
</tr>
<tr>
<td>20-24</td>
<td>1,187.0</td>
<td>5,107.0</td>
</tr>
<tr>
<td>25-29</td>
<td>980.0</td>
<td>3,407.9</td>
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<tr>
<td>30-34</td>
<td>308.0</td>
<td>535.9</td>
</tr>
<tr>
<td>35-39</td>
<td>132.9</td>
<td>236.1</td>
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<tr>
<td>40-44</td>
<td>61.7</td>
<td>104.7</td>
</tr>
<tr>
<td>45-54</td>
<td>33.8</td>
<td>66.7</td>
</tr>
<tr>
<td>55-64</td>
<td>24.3</td>
<td>50.3</td>
</tr>
<tr>
<td>65+</td>
<td>14.4</td>
<td>26.1</td>
</tr>
<tr>
<td>Total</td>
<td>233.1</td>
<td>815.8</td>
</tr>
</tbody>
</table>

strategies for improving ct screening

Provider Level

- Screening procedures clear to all office staff
- Unlink Chlamydia screening from pelvic exam
- Practice “opportunistic prevention”
  - Screen at problem-oriented visits if necessary
- “Automate” office work flow
  - Kit on chart or exam room prep table in advance based on age or risk behaviors
**Contact Testing for STI Exposure**

- Test asymptomatic persons with high risk sexual exposure (new or multiple sexual partners) for
  - Gonorrhea
  - Chlamydia
  - Syphilis
  - HIV
- Maybe: HSV-2 serology
- No contact testing for
  - HSV (culture), HPV (DNA)
  - HBC, HBV (strategy for HBV is vaccination)

**CDC 2015: Screening for Hepatitis B**

- Have you previously been vaccinated for Hepatitis B?
  - Yes...no further evaluation
  - No...offer HBV vaccination if HB risk factors
- If HB vaccine is offered, pre-vaccination HB serology
  - Is not cost effective in low prevalence groups
  - Is cost effective in high prevalence adult populations
    - IDU, MSM, sexual contacts of chronic carriers, persons from endemic countries
  - If screened, give 1st dose of vaccine at same time

**CDC 2015: Screening for Hepatitis C**

- Sexual transmission is very uncommon
- Candidates for targeted screening
  - Blood transfusion from a donor later positive for hep C
  - Injected illegal drugs, even if experimented a few times many years ago
  - Transfusion or organ transplant before 7/1992
  - Recipient of clotting factor(s) made before 1987
  - Ever been on long-term kidney dialysis
  - Evidence of liver disease (e.g., abnormal LFTs)

**Recommendations for Identification of Chronic Hep C Virus Infection, Persons Born 1945–1965**

- Adult born during 1945–1965 should receive one-time testing for HCV without prior ascertainment of HCV risk, and
- All persons identified with HCV infection should receive a brief alcohol screening and intervention, followed by referral to appropriate care services for HCV infection
Treatment of GC + Chlamydia (Ct)

- Positive GC or Ct screening test
- Sexual partner with person with known GC or Ct
- Presumptive therapy of mucopurulent cervicitis or urethritis (treat both partners)
- Pelvic inflammatory disease (treat both partners)

Lower Genital Tract Chlamydia

- Preferred treatment
  - Azithromycin 1 gm orally, directly observed
  - Doxycycline 100 mg PO BID for 7 days
- Alternative treatment
  - Doxycycline (delayed release) 200 mg QD x 7 days
  - Ofloxacin 300 mg PO BID for 7 days
  - Levofloxacin 500 mg PO QD for 7 days
  - Erythromycin base or EES QID for 7 days

(4) Gonorrhea Dual Therapy

Uncomplicated Genital, Rectal, or Pharyngeal Infections

- Ceftriaxone 250 mg IM in a single dose
- Azithromycin 1 g orally (preferred) or Doxycycline 100 mg BID x 7 days
- Regardless of CT test result
- Move doxycycline from recommended to alternative for dual therapy

Gonorrhea Treatment Alternatives

Anogenital Infections

Alternative cephalosporins

- Cefixime 400 mg orally once
- Dual treatment with azithromycin 1 g (preferred) or doxycycline 100 mg BID x 7 days, regardless of CT

IN CASE OF SEVERE ALLERGY:

- Gentamicin 240 mg IM + azithromycin 2 g PO
- OR
- Gemifloxacin 320 mg orally + azithromycin 2 g PO
**Test of Cure After Ct or GC Treatment**

- Not after high efficacy, single dose treatment
- Exceptions...perform test of cure
  - Pregnancy
  - Noncompliant with therapy
  - Persistent symptoms despite therapy
  - Suspect early reinfection after adequate therapy
  - Pharyngeal GC treated with an alternative regimen
  - Multi-day antibiotics with high failure rate
- Avoid non-culture tests within 3 weeks of treatment

**Check List: Management of Ct and GC**

- Ensure timely and appropriate treatment
  - Within 14 days of specimen collection
- Test for other STDs
  - GC, syphilis, HIV
- Patient education and counseling
- Report case to the local health department
- Schedule follow-up test in 3 months
- Ensure that sex partners are treated
  - All partners in the past 2 months

**Ct & GC Screening Post-Treatment**

- Re-screening: women treated for chlamydia, GC or trichomonas should be re-screened in **3 months**
  - In young women, past infection is strong predictor of repeat infection
    - 20% will have a new infection(s) by an untreated partner or new partner within 12 months
  - Short time to repeat positive test
  - 4x risk of PID, 2x risk of ectopic pregnancy

**Partner Management: WHO?**

- Treat ALL sexual partners within 2 months of positive gonorrhea or chlamydia test
  - Ask regardless of marital/relationship status
  - If last sexual contact was longer than 2 months ago, treat most recent partner
Partner Management: HOW?

- Traditional approaches
  - Patient notification of partner
  - Provider notification of partner
  - Health department referral
- Preferred approach
  - Expedited Partner Therapy (EPT)
    - 2015 CDC STD Treatment Guidelines
    - ACOG Committee Opinion #506, ObGyn, Sept 2011

Expedited Partner Treatment (EPT)

- Bring Your Own Partner (“BYOP”)
  - Bring her partner(s) at the time of her treatment
- Patient-delivered partner therapy (“PDPT”)
  1. Provide patient with drugs intended for partners
  2. Prescribe extra doses in the index patients’ name
  3. Write prescriptions in the partners’ names
  - Ideally with written instructions for the partner(s)

Legal Status of Expedited Partner Therapy

2016: www.cdc.gov/std/ept

(5) Partner Management

- Clinical evaluation first-line option
- Concurrent patient-partner therapy (BYOP) may be effective for patients with one partner
- Offer PDPT routinely to heterosexual patients with CT/GC if partner cannot be promptly treated
  - Dual therapy (cefixime 400 mg + azithromycin 1 g) is crucial if PDPT is offered
Routine STD Screening: HIV Serology

  - Screen all individuals once between 13-64 years old
  - Only if practice-site prevalence (PSP) is at least 0.1%
  - Repeat annually or more often if “known risk”
  - Many labs switching to 4th generation HIV antigen/antibody test (e.g., Abbott “Architect” test), with “Multispot” confirmatory test

Syphilis Screening

- USPSTF (2016): Persons at increased risk for syphilis [A]
  - MSM (61% of syphilis diagnoses)
  - Men and women living with HIV
  - History of incarceration
  - History of commercial sex work
  - Certain racial/ethnic groups (AA > Hispanic > white)
  - Being a male younger than 29 years
  - Regional variations (hot spots)

Genital Herpes

- Increasing proportion of anogenital infections are HSV-1
  - Young females and MSM
- Type specific PCR is the preferred GUD diagnostic test
- IgM testing not useful
- Type specific serologic tests
  - HerpeSelect HSV-2 ELISA may be false + at low index values (1.2-3.5) confirm with Biokit or Western Blot
  - HerpeSelect HSV-1 ELISA insensitive for HSV-1 (80%)
- No change in recommended therapy

6) HPV Vaccines

- Bivalent: GSK Cervarix®
  - Types 16, 18
  - Prevents cervical cancer
  - FDA-approved for females 10-25
  - 3-dose series; $365

- Quadrivalent: Merck Gardasil®
  - Types 6, 11, 16, 18
  - Prevents warts, cervical & anal cancer
  - FDA-approved for females and males 9-26
  - 3-dose series; $375

- Nonavalent: Merck Gardasil 9
  - Types 6, 11, 16, 18, 31, 33, 45, 52, 58
  - FDA approved Dec 2013
Interchangeability of 9v and 4v HPV Vaccine

- If vaccination providers do not know or do not have available the HPV vaccine product previously administered, or are in settings transitioning to 9vHPV... any HPV vaccine product may be used to continue and complete the series for females

MMWR, March 27, 2015; 64(11);300-304

7) Trichomonas

- Screening recommended for HIV+ women at least annually
- New recommendations
  - Consider screening women in corrections or STD clinics
  - Consider screening high risk women (those with an STD or with new/multiple sex partners)
  - Use of NAATs and other highly sensitive/specific tests is recommended for detecting Trich (vaginal swabs or urine)
  - Retest women 3 months after treatment
    - NAAT can be done as soon as 2 weeks after treatment

Trichomoniasis: Treatment Failure

First treatment failure, re-treat with
  - Metronidazole 500 mg PO BID x 7 days
If repeat failure, treat with
  - Metronidazole 2 g PO x 5 days
  - Tinidazole 2 g PO x 5 days

Susceptibility testing: send isolate to CDC: 404-718-4141

The New York Times

Zika Virus Causes Birth Defects, Health Officials Confirm

“Never before in history has there been a situation where a bite from a mosquito can result in a devastating malformation”

Dr. Thomas R. Frieden, CDC
**ZIKV Effects In Pregnancy**

- Initially thought that first trimester exposure was 'danger zone'  
  - (ie, time of neuro-development with microcephaly, intracranial calcifications)
- Now concern throughout pregnancy  
  - Eye problems, neurological disorders  
  - Premature birth  
- Disruptive and destructive  
  - Interferes with neural stem cells of brain tissue

**What Is Microcephaly?**

- Head smaller than expected  
  - Abnormal brain development  
- Seizures  
- Developmental & Intellectual disability  
- Problems with movement and balance  
- Feeding problems  
- Hearing loss  
- Vision problems

**ZIKV: Implications for Women’s Health**

- **Primary prevention**  
  - Avoid mosquito-borne transmission  
  - Avoid sexual horizontal transmission
- **Secondary prevention**  
  - Avoid unintended pregnancy, esp in high risk situations...travel, partner travel, US endemic  
  - Delay pregnancy after exposure or illness
- **Tertiary prevention**  
  - Option of elective abortion if infected while pregnant  
  - Monitoring for fetal congenital anomalies

**Screening Questions: ZIKV Exposure**

- Have you recently travelled to an endemic area?  
  - If yes, symptoms of ZIKV infection?  
- Has your partner travelled to an endemic area?  
  - If yes, are you/your partner using condoms?  
- Are you considering travel to an endemic area in the near future? If yes...  
  - Are you planning to become pregnant before then or while you are there?  
  - If yes: don’t travel  
  - If you do, use effective contraception AND condoms

Source: CDC, 2016
Here's Really Where Zika Mosquitoes are Likely in the U.S.  
Orange: in two years.  Red: > 3 years

Sexual Transmission Recommendations

- Messages for men! (testes are a reservoir)
- Symptomatic illness
  - Women: wait 8 weeks after onset of symptoms
  - Men: wait 6 MONTHS before causing pregnancy
- Exposure and **no symptoms**
  - Women and men should both wait 8 weeks to conceive
### Suggested Timeframe to Wait Before Trying to Become Pregnant

<table>
<thead>
<tr>
<th>Possible exposure via recent travel or sex without a condom with a partner infected with Zika</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wait at least 8 weeks after sxst start or last possible exposure</td>
<td>Wait at least 6 months after sxst start or last exposure</td>
<td></td>
</tr>
</tbody>
</table>

People living in or frequently traveling to areas with Zika

<table>
<thead>
<tr>
<th>Positive Zika test</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wait at least 8 weeks after symptoms start</td>
<td>Wait at least 6 months after symptoms start</td>
<td></td>
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</table>

No testing performed or negative test: talk with doctor or healthcare provider

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**Estimated northern range for:**
- *Aedes albopictus*
- *Aedes aegypti*

**Uninsured Women of Reproductive Age**

<table>
<thead>
<tr>
<th>% of women aged 15-44 who were uninsured, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-10</td>
</tr>
<tr>
<td>11-14</td>
</tr>
<tr>
<td>15-19</td>
</tr>
<tr>
<td>20-27</td>
</tr>
</tbody>
</table>

**Hostility to Abortion Rights**

- As of January 2016
  - Hostile
  - Extremely Hostile
www.hhs.gov/opa

- Zika Toolkit for Healthcare Providers
- Zika Toolkit Webinar for Healthcare Providers

- The free app is available for Apple devices (Apple Store)
- An Android app will be available this summer

STD Clinical Consultation Network (STDCCN)

- Provides STD clinical consultation services within 1-3 business days, depending on urgency, to healthcare providers nationally
- Your consultation request is linked to your regional PTC's expert faculty
- Just a click away! www.STDCCN.org
Need Advice From An STD Expert? Contact Us!

STD Clinical Consultation Network
www.stdccn.org

In: CA, NV, AZ, HI, NM
1 (855) STD-AtoZ
1 (855) 783-2869

Reproductive Infectious Disease Resources

- Reproductive Infectious Disease Pager (24/7)
  - (415) 443-8726
- National Perinatal HIV Hotline (24/7)
  - (888) 448-8765
- Repro ID HIV listserv
  - Clinical cases, patient referrals, networking
  - Sponsored by UCSF National Clinicians’ Consultation Center, IDSOG, UCSF Fellowship in Repro Infectious Disease
  - Contact Shannon Weber at: sweber@nccc.ucsf.edu

Reproductive Infectious Disease Resources