CHANGES IN THE 2010 STD TREATMENT GUIDELINES AND BEYOND…..

GALE R BURSTEIN, MD, MPH, FAAP, FSAHM
CLAUDIA BORZUTZKY, MD
MONICA DRAGOMAN, MD, MPH

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Gale R Burstein, MD, MPH

Claudia Borzutzky, MD

Monica Dragoman, MD, MPH

Gale R Burstein, MD, MPH is on the Speaker's Bureau and Consultant of Merck, Inc. and GlaxoSmithKline. Both companies manufacture HPV vaccines. Dr. Burstein will be discussing non-FDA approved gonorrhea and chlamydia laboratory tests.

Claudia Borzutzky, MD, and Monica Dragoman, MD have no relevant personal, financial or professional relationships to disclose.

CME/CNE Program Planners Disclosure

The following people have no relevant financial, professional or personal relationships to disclose:

Program Planner(s):

Robert Cohen, MD (CME Programs)

Melanie Steilen, RN, BSN, ACRN (CNE Programs)

Iris Stendig-Raskin, MSN, CRNP, WHNP-BC (CNE Programs)

Program Reviewer(s):

Robert Cohen, MD (CME Programs)

Iris Stendig-Raskin, MSN, CRNP, WHNP-BC (CNE Programs)

There are no commercial supporters of this activity.

Learning Objectives

1. Explain new CDC gonorrhea treatment recommendations
2. List recommended STD screening tests
3. Describe 2 vaginitis diagnostic tests
4. Describe 2 new recommended vaginitis treatment regimens

Please NOTE:

- During the presentation portion of the webinar, all participant phone lines will be muted.
- We have activated the on-line question/chat option for participants. On-line questions can be submitted at **any time** during the webinar session; questions will be answered at the completion of the presentation during Q&A.
- Once the formal Q&A portion commences, all participant phone lines will be un-muted and you will be able to ask questions.

CHANGES IN THE 2010 STD TREATMENT GUIDELINES AND BEYOND…..

Gale R Burstein, MD, MPH, FAAP, FSAHM

SUNY at Buffalo School of Medicine and Biomedical Sciences

Region II STD/HIV Prevention Training Center

STD Burden

- >19 million STD cases occur in USA each year
  - disproportionately among young people and racial and ethnic minority populations
- Estimated **$17 Billion** in annual direct medical costs of treating STDs and sequelae
- STDs can cause serious health problems
  - ectopic pregnancy, infertility, chronic pelvic pain
  - increased risk of HIV infection

CDC 2010 STD Treatment Guidelines

- Update the 2006 *Guidelines*
- Advise health-care providers on most effective STD treatment, screening, prevention and vaccination
- Recommendations developed in consultation with public and private sector professionals knowledgeable in STD management
  - AAP, SAHM, ACOG, AMA, represented
- CDC revises the *Guidelines* every ~ *3-4* years, using a scientific, evidence-based process

STD Treatment Guidelines

- More than just STD treatment
  - cutting edge diagnostics, screening, and prevention
- Living document
  - Continuously updated on line at: www.cdc.gov/std/treatment

eBook for iPhone, iPad, & iPod Touch at:

www.cdc.gov/std/2010-ebook.htm

CDC STD treatment guidelines

Changes that are important for clinicians who care for people at risk for STDs

http://www.cdc.gov/std/treatment/2010/default.htm

Chlamydia—Rates by State, United States and Outlying Areas, 2009

Guam
352

Puerto Rico
185

Virgin Islands
444

VT	191
NH	160
MA	297
RI	344
CT	346
NJ	276
DE	540
MD	422
DC	1,107

Rate per 100,000 population

≤300.0	(n = 10)
300.1–400.0	(n = 21)
>400.0	(n = 23)

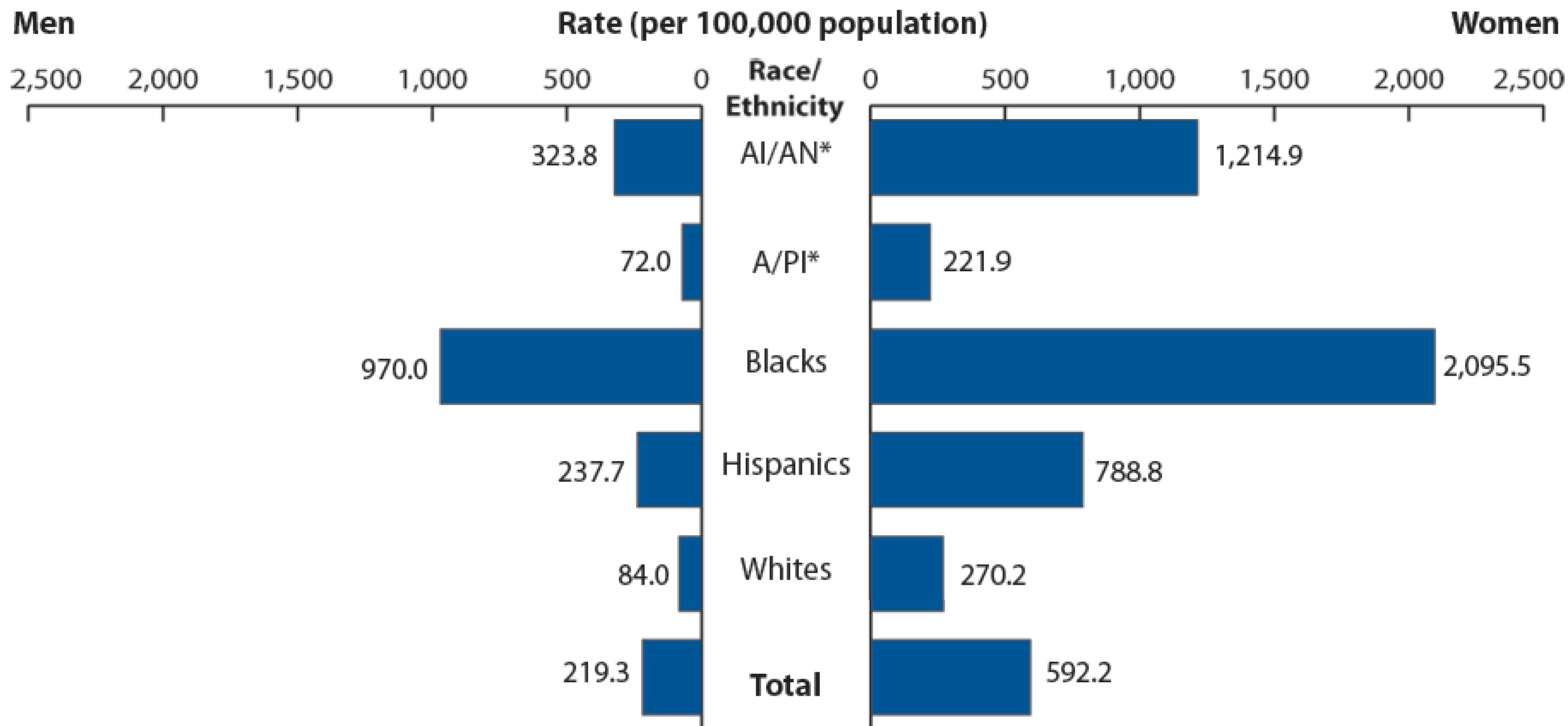
NOTE: The total rate of chlamydia for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 406.3 per 100,000 population.

Chlamydia—Rates by Age and Sex, United States, 2009

Rate (per 100,000 population)

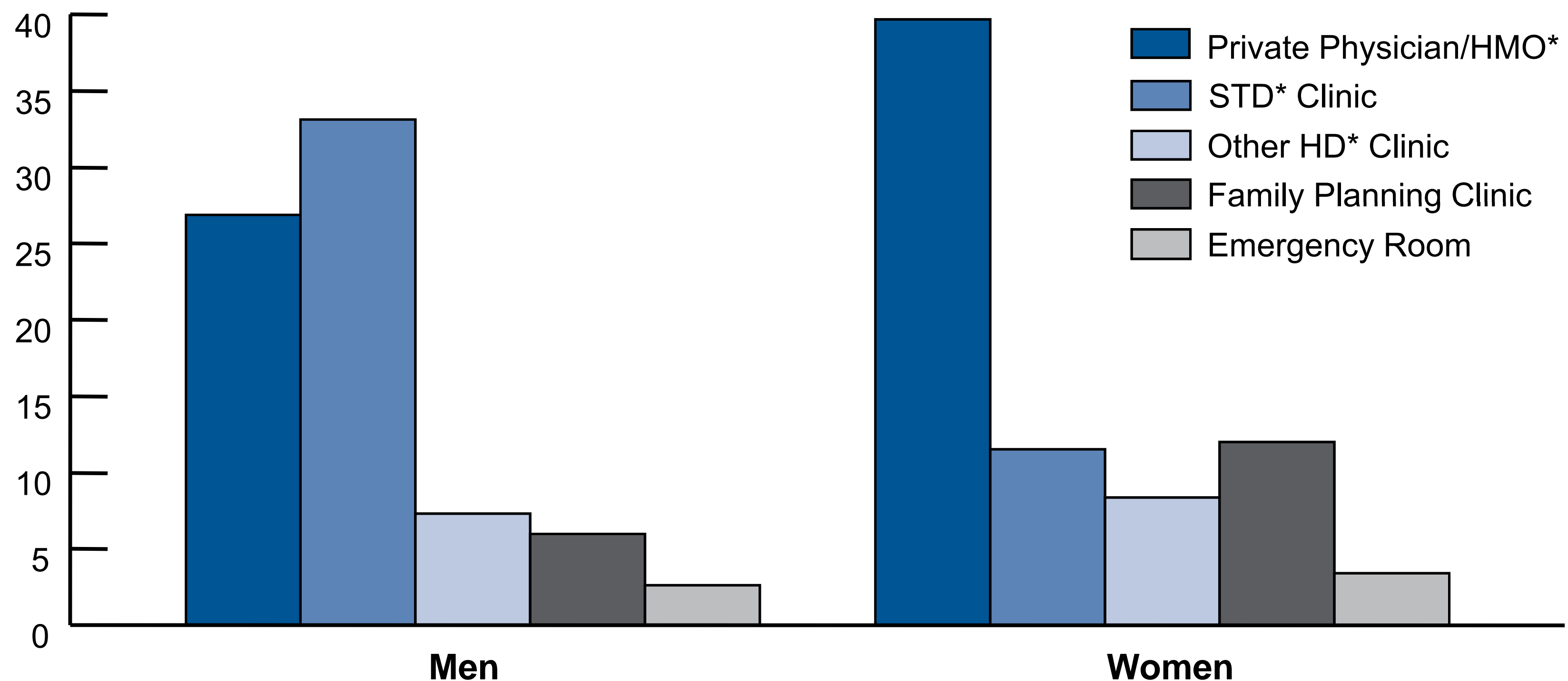
Men	Age	Women
13.8	10–14	127.9
735.5	15–19	3,329.3
1,120.6	20–24	3,273.9
573.3	25–29	1,234.0
286.0	30–34	511.7
141.3	35–39	205.8
81.9	40–44	88.4
36.0	45–54	32.0
11.0	55–64	9.1
2.9	65+	2.1
219.8	**Total**	593.4

Axis scale (both sides): 0, 760, 1,520, 2,280, 3,040, 3,800



www.cdc.gov/std/stats09/minorities.htm

Chlamydia—Percentage of Reported Cases by Sex and Selected Reporting Sources, United States, 2009



*HMO = health maintenance organization; STD = sexually transmitted disease; HD = health department.
NOTE: These categories represent 75.2% of cases with a known reporting source. Of all cases, 9.5% had a missing or unknown reporting source.

Gonorrhea—Rates by State, United States and Outlying Areas, 2009

34.9
29.4
63.2
8.3
7.2
66.4
12.5
13.9
57.2
50.0
54.5
23.5
42.8
77.2
89.4
128.3
120.4
44.1
55.2
109.8
156.2
204.0
92.4
154.7
246.4
147.0
107.2
127.5
160.8
139.2
89.6
141.3
113.9
26.2
100.3
150.4
185.7
81.4
87.2
10.9
144.3
49.0

Guam
33.5

Puerto Rico
5.8

Virgin Islands
104.7

VT	8.0
NH	8.6
MA	30.4
RI	30.6
CT	73.1
NJ	54.8
DE	111.2
MD	113.5
DC	432.7

Rate per 100,000 population

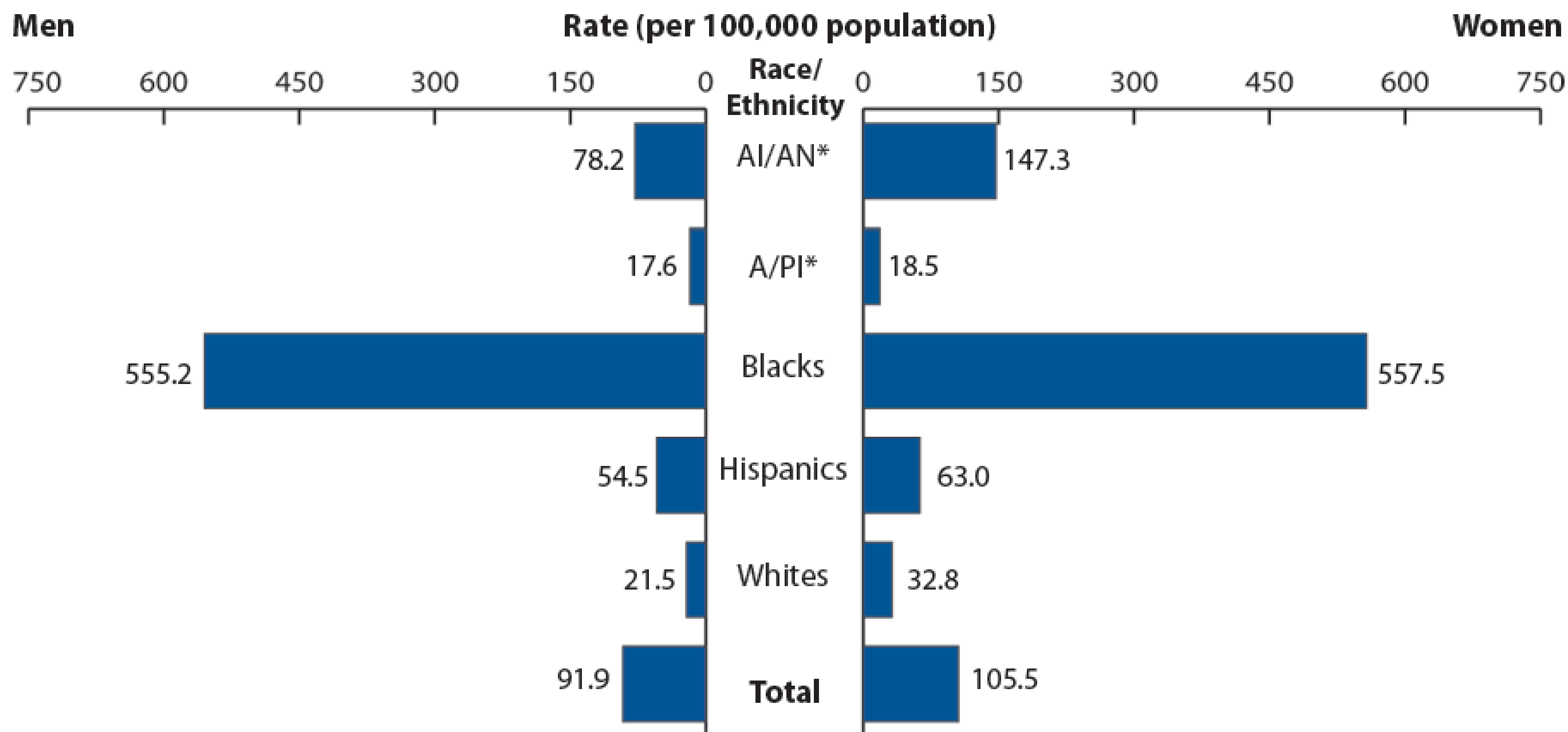
≤19.0 (n = 8)
19.1–100.0 (n = 24)
>100.0 (n = 22)

NOTE: The total rate of gonorrhea for the United States and outlying areas (Guam, Puerto Rico, and Virgin Islands) was 97.8 per 100,000 population.

Gonorrhea—Rates by Age and Sex, United States, 2009

Rate (per 100,000 population)

Men	Age	Women
5.0	10–14	25.3
250.0	15–19	568.8
407.5	20–24	555.3
238.9	25–29	229.4
145.0	30–34	106.2
85.6	35–39	47.6
60.8	40–44	22.9
33.6	45–54	8.7
11.4	55–64	2.1
2.7	65+	0.5
92.2	**Total**	105.7



http://www.cdc.gov/std/stats09/minorities.htm

Gonorrhea—Percentage of Reported Cases by Sex and Selected Reporting Sources, United States, 2009

Percentage

35
30
25
20
15
10
5
0

Men
Women

Private Physician/HMO*
STD* Clinic
Other HD* Clinic
Family Planning Clinic
Emergency Room

* HMO = health maintenance organization; STD = sexually transmitted disease; HD = health department.
NOTE: These categories represent 71.9% of cases with known reporting source. Of all cases, 10.3% had a missing or unknown reporting source.

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Adolescent Screening

- Annual *C. trachomatis* screen all sexually active females aged ≤25 yrs
- Annual *N. gonorrhoeae* screen all at risk sexually active females
  - Females aged <25 years are highest risk for gonorrhea infection
- Discuss HIV screening with all adolescents and encourage testing for those at risk

Adolescent Screening

- Routinely screening asymptomatic adolescents for certain STDs (e.g., syphilis, trichomoniasis, BV, HSV, HPV, HAV, and HBV) is not recommended
  - YMSM and pregnant adolescents might require more thorough evaluation
- Cervical cancer screening should begin at 21 yrs

Adolescent Screening: **What about males?!**

- Insufficient evidence to recommend routine chlamydia screening in young men
  - feasibility
  - efficacy
  - cost
- Consider screening adolescent/young adult males in clinical settings associated with high chlamydia prevalence
  - e.g., adolescent clinics, correctional facilities, STD clinics and young men who have sex with men (MSM).

Adolescent Prevention

- Encourage immunizations, including HPV, HAV and HBV
- Provide information on HIV infection, testing, transmission, and implications of infection to all adolescents as part of health care
- Integrate sexuality education into clinical practice
  - USPSTF recommends high-intensity STD prevention behavioral counseling for all sexually active adolescents.

Adolescent Healthcare Information Resources

Resources for adolescents and their parents/caregivers on issues such as:

- Sexual Health
- Drugs and Alcohol
- General Health and Wellness
- Sexually Transmitted Infections
- Communication
- Contraception
- Emotional Health

Websites for Health Information

Advocates for Youth:
http://www.advocatesforyouth.org/

Advocates for Youth envisions a society that views sexuality as normal and healthy and treats young people as a valuable resource.

The American Social Health Association:
http://www.iwannaknow.org

This is where you will find the facts, the support, and the resources to answer your questions, find referrals, join support groups, and get access to in-depth information about sexually transmitted infections (STIs).

Campaign for Our Children:
http://www.cfoc.org/

This website seeks to educate parents and guardians about teen risk-taking behaviors, including sexual activity. Provides sexuality education, tips about communication, resources and links.

The Center for Young Women's Health (CYWH)
http://www.youngwomenshealth.org/

CYWH is a collaboration at Children's Hospital Boston. The Center is an educational entity that exists to provide teen girls and young women with carefully researched health information.

Similar site for males at:
http://youngmenshealthsite.org/

Children Now:
http://www.talkingwithkids.org/

Provides information for parents/caregivers on how to talk to their children about sexuality, health, drugs/alcohol, the media, etc.

Columbia University's Health Promotion Program "Go Ask Alice" website for adolescents and young adults:
http://www.goaskalice.columbia.edu/

A health Q&A Internet resource. It provides readers with information and a range of thoughtful perspectives so that they can make responsible decisions concerning their health and well-being.

Rutgers, the State University of New Jersey, teen sexual health:
http://www.sexetc.org/

Information, Q&As, forums, videos, and daily live teen chats about sexual health.

MTV collaboration with Kaiser Family Foundation:
http://www.itsyoursexlife.com/

Here you will find reliable information about decision making, how to talking openly with your partner and how to stay healthy by using protection and getting tested regularly for HIV and other STDs. Also includes entertainment and special programming.

Planned Parenthood Teens:
http://www.teenwire.com/

Provides access to the complete array of sexual and reproductive health information, services, and advocacy.

Society of Obstetricians and Gynecologists of Canada:
www.sexualityandu.ca

Provides information on sexual health, contraception, sexual identity, etc. Different sections target teens and parent/caregivers.

Nemours teen health:
http://teenshealth.org/

A safe, private place for teens who need honest, accurate, doctor-approved information and advice about health, emotions, and life. Also helps parents keep their kids healthier through education

Wired Kids, Inc.
http://www.wiredkids.org/

A U.S. charity dedicated to protecting all Internet users, especially children, from cybercrime and abuse, such as bullying.

The American Academy of Pediatrics
http://www.healthychildren.org/English/Pages/default.aspx

Information for parents of teens and young adults as well as all the pediatric age groups.

Women Who Have Sex with Women

- Sexual identity, sexual behaviors, sexual practices, and risk behaviors of WSW are diverse.
  - Many self-identified WSW report had sex with ♂
- Adolescent WSW and females with both ♂ and ♀ partners may be ↑ risk for STDs and HIV
  - syphilis transmission between female sex partners
    - likely through oral sex
  - *C. trachomatis* may be more common
  - HPV transmission can occur from skin-to-skin or skin-to-mucosa contact during sex

Women Who Have Sex with Women

- Regardless of reported same sex behavior, providers should consider:
  - screening all females for chlamydia and syphilis as per recommendations
  - offering routine cervical CA screening and HPV vaccine as per guidelines

Men Who Have Sex with Men (MSM)

- Screen annually for:
  - HIV and syphilis (serologic)
  - Urethral CT/GC infections (first void urine)
  - Rectal CT/GC infections (if receptive anal sex)
  - Pharyngeal GC infections (if receptive oral sex)

- Screen every 3-6 months if have multiple or anonymous partners or sex with illicit drug use

EHR reminders to enhance sexual health services

- Chlamydia screening for females $\leq$ 25 years
- Chlamdyia and gonorrhea test of reinfections
- HPV immunizations for 11-12 yr olds and catch up through 26 years
  - Females and males
  - 2nd and 3rd doses
- HAV and HBV vaccinations

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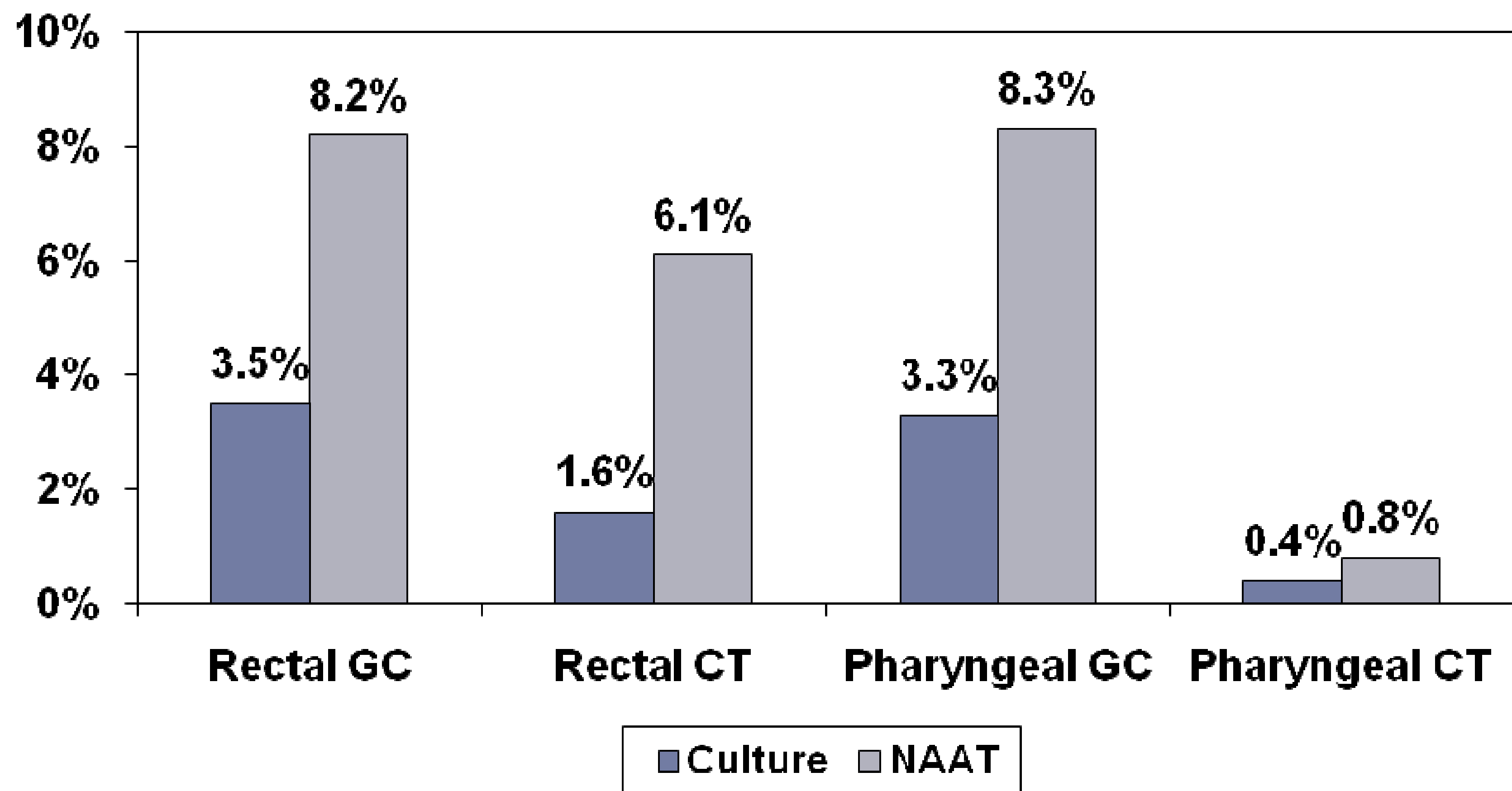
New Chlamydia and Gonorrhea Testing Options

- Nucleic acid amplification tests (NAATs) most sensitive tests to detect CT and CDC-recommended
  - All NAATs FDA-cleared for testing urine, cervical, and urethral specimens
  - Some FDA-cleared for testing provider- or patient-collected vaginal swabs
  - Rectal or oropharyngeal swab NAAT testing not FDA-cleared
    - some labs met requirements for GC and CT NAATs on rectal swab specimens and GC NAATs on oral swabs

NAAT vs Culture



Schachter J,et al. *Sex Transm Dis*. 2008;35:637-42.

How to order screen

Non-genital GC/CT NAATs can be done by clinical laboratory with CLIA approval

Gen-Probe APTIMA testing	QUEST diagnostics test codes	LabCorp diagnostics test codes
Pharyngeal	70051X	188698
Rectal	16506X	188672
Urine/Urethral	13363X	183194

Relevant CPT Billing Codes:
CT detection by NAAT: 87491
GC detection by NAAT: 87591

Gonorrhea treatment

Not good news….

Gonorrhea Treatment

- **DUAL THERAPY for gonorrhea treatment**
- Gonococcal antimicrobial resistance remains an issue in U.S.
- Penicillin, tetracycline or quinolones are no longer gonorrhea treatment options!!!
- CDC recommends **dual therapy** for gonoccocal infections at all anatomic sites
  - concerns about cephalosporin-resistant gonorrhea in U.S.

Treatment for Uncomplicated Gonorrhea Infection of the Cervix, Urethra or Rectum

Recommended Regimens

Ceftriaxone 250 mg IM in a single dose

OR, IF NOT AN OPTION

Cefixime 400 mg orally in a single dose

OR

Single-dose injectible **cephalosporin** regimens

PLUS

Azithromycin 1g orally in a single dose

OR

Doxycycline 100 mg orally twice a day for 7 days

Treatment for Uncomplicated Gonorrhea Infection of the Pharynx

Recommended Regimens

Ceftriaxone 250 mg IM in a single dose

PLUS

Azithromycin 1g orally in a single dose

OR

Doxycycline 100 mg orally twice a day for 7 days

Gonorrhea Treatment

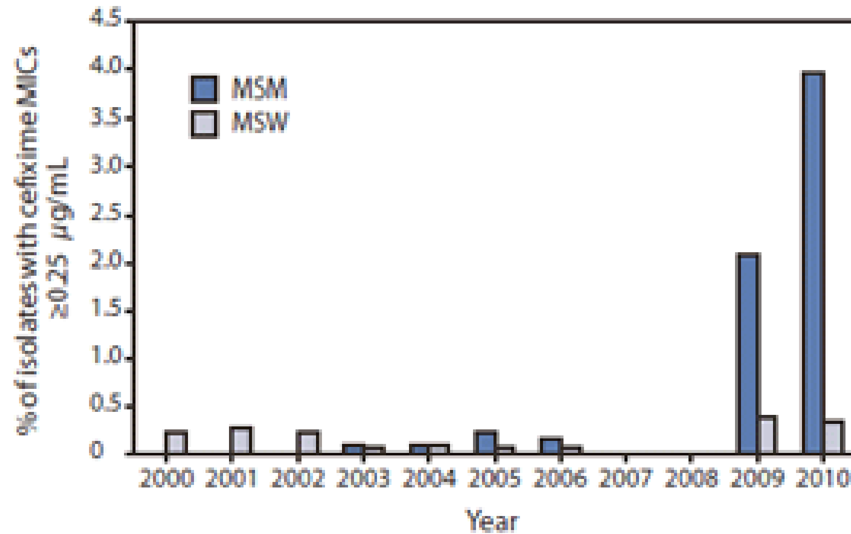
- Recommend tx with ceftriaxone IM over cefixime po when possible
  - Limited cefixime efficacy for pharyngeal infection
  - Consider Rx with Ceftriaxone if pt may also engage in oral sex and oral GC test not done
  - In published clinical trials, ceftriaxone cured 99% of uncomplicated urogenital, anorectal and pharyngeal infections
- Consider cefpodoxime 400 mg po x 1 if ceftriaxone and cefixime not an option

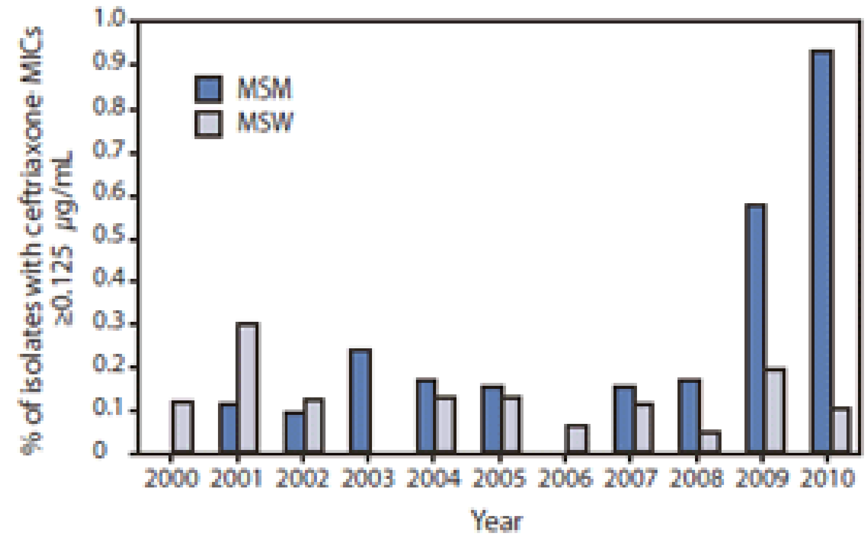
Ceftriaxone 250-mg dose for GC Rx

1) Increasingly wide geographic distribution of isolates with decreased in vitro cephalosporin susceptibility
2) Reports of ceftriaxone treatment failures
3) Improved efficacy of ceftriaxone 250 mg in pharyngeal infection (often unrecognized)
4) One consistent recommendation for treatment regardless of anatomic site

CDC. Cephalosporin Susceptibility Among *Neisseria gonorrhoeae* Isolates --- United States, 2000—2010. MMWR. 2011; 60(26);873-877.

Percent of gonorrhea isolates with cefixime MICs $\geq$0.25 ug/mL and ceftriaxone MICs $\geq$0.125 ug/mL, by sex of sex partner, GISP, U.S., 200-2010





www.cdc.gov/mmwr/preview/mmwrhtml/mm6026a2.htm?s_cid=mm6026a2_w

Gonorrhea treatment

- Eventual emergence of cephalosporin resistance appears likely
- Gonococcal resistance to cefixime might emerge in U.S. before ceftriaxone resistance
- **CDC recommends ceftriaxone 250 mg IM and azithromycin 1 g po**
  - Ceftriaxone is most effective cephalosporin for GC Tx
  - Azithro preferred over doxy for dual therapy with ceftriaxone
    - 2009--2010 isolates with decreased susceptibility to cefixime:
      - **none** exhibited decreased susceptibility to azithromycin
      - **all** of them exhibited tetracycline resistance

Azithromycin resistance

- In May, 2011 *N. gonorrhoeae* isolate from a young ♀ in Hawaii with high-level resistance to azithromycin
  - High MIC (MIC ≥1024 µg/ml)
  - 1st U.S. case of high-level azithro resistant-GC isolate
- CDC does **not** recommend azithro alone for *routine* GC Rx
- If cephalosporin-allergy
  - azithromycin 2 gram po x 1
  - test-of-cure (ideally with culture) one week after treatment
  - If culture testing is not available, a NAAT should be sent
    - if the result is positive, a confirmatory culture should be done
  - Contact health department or CDC!!!!

More to come…

- Discovery of a new ceftriaxone-resistant gonorrhea strain
- H041 GC strain found in pharynx of Japanese sex worker
  - 4 - 8 x more resistant to ceftriaxone
- Experts concerned that H041 GC strain will soon arrive in U.S.

If suspect GC Rx failure…

- Report to the local health department
- Consult with ID specialist and CDC regarding re-treatment
- Perform test-of-cure using culture
- Ensure partner treatment
- For further guidance, go to:

  www.cdc.gov/std/Gonorrhea/treatment.htm

Chlamydia treatment failures

- RCT of men with NGU
  - Adding tinidazole to NGU Tx regimen would result in higher cure rates
  - Compare doxycycline and azithromycin efficacy
- Results:
  - Adding tinidazole did not increase NGU cure rates
    - But effectively eradicated trichomonas
  - Chlamydia clearance rate was 95% for doxycycline arm vs. 77% for azithromycin arm (P = .011)

Schwebke JR, et al. Clin Infect Dis. 2011;52:163-70.

Follow up

Test of Reinfection

Partner Services

Test of Reinfection

- High CT, GC, and TV reinfection rates
  - treated persons resume sex with untreated partners or initiate sex with new partners
- Retest ♀ and ♂ for CT and/or GC ~3 months after treatment or whenever persons next present for medical care
- Consider retest ♀ for TV at 3 months after treatment
- Regardless if patients believe sex partners treated

Partner Management

- Advise pts to refer sex partners from 60 days preceding onset of Sx or Dx or last sex partner for evaluation, testing, and Tx
- If heterosexual pt concerned that sex partner(s) will not seek STD services, expedited partner therapy (EPT) can be considered

Expedited Partner Therapy (EPT)

- Treatment of sex partners without a prior health care provider exam or assessment
- Legally permissible CT in NYS
- EPT in NYS webinar from June 17, 2011
  - AAP/SAHM/PRCH/CDC/Region II STD/HIV PTC
  - Archive available at: https://www3.gotomeeting.com/register/852335009.

NYS EPT Eligibility criteria

- **Patient diagnosis:** Clinical or laboratory *Chlamydia trachomatis* (CT)
- **Ideal** (most appropriate) **patient candidates**:
  - Laboratory-confirmed CT diagnosis in index patient
  - Partners unlikely to seek timely clinical care
  - Heterosexual
    - risk of STD/HIV co-infection among partners
    - lack of study of EPT effectiveness in MSM partnerships
    - Encourage patient referral of sex partner for full STD evaluation and treatment

NOT EPT eligible if

- Cases where the patient's safety in doubt
  - Child abuse, sexual assault, or sexual abuse case
- Patient has gonorrhea or syphilis co-infection

Recommended EPT treatment

- **Recommended drug regimen:** Azithromycin 1 gram orally x 1

- **Number of doses:** Limited to number of sex partners in previous 60 days (or most recent sex partner)

- Can write Rx or dispense meds

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Vaginal Infection: Diagnostic Opportunities

- APTIMA *Trichomonas vaginalis* Assay (Gen-Probe Inc, San Diego, CA)

Specimen Type	Sensitivity % (95% CI)[1]	Specificity % (95% CI)[1]
Vaginal swab	100 (96.7-100)	99.0 (97.9-99.5)
Endocervical swab	100 (96.7-100)	99.4 (98.6-99.7)
PreservCyt solution	100 (96.0–100)	99.6 (98.8-99.9)
Female urine	95.2 (88.4-98.1)	98.9 (97.8-99.5)

[1] APTIMA *Trichomonas vaginalis* Assay [package insert], San Diego, CA: Gen-Probe; 2011.

  - Can perform GC/CT/TV on 1 specimen

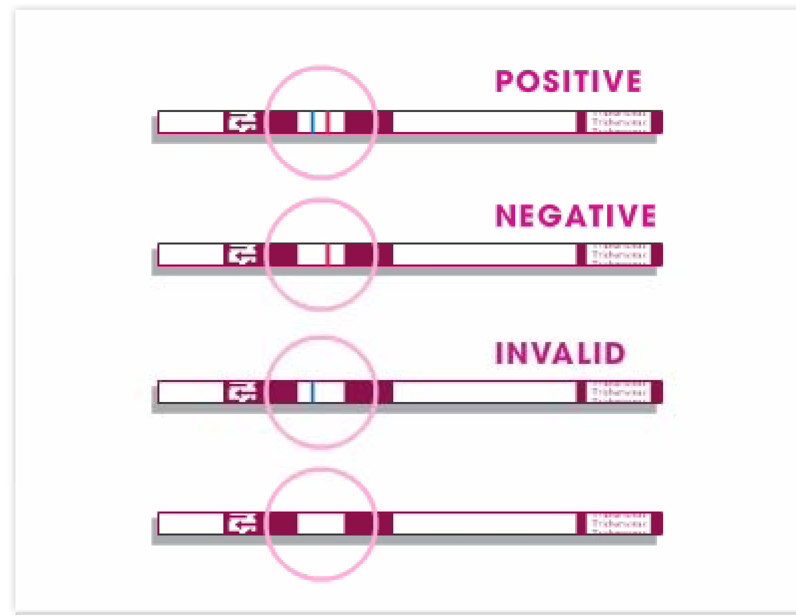
- Affirm™ VP III (Becton Dickenson, San Jose, CA)
  - *T. vaginalis*, *G. vaginalis*, and *C. albicans* nucleic acid probe test

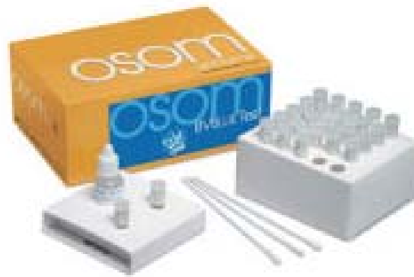
Vaginal Infection: Diagnostic Opportunities

- CLIA - waived, point of care, vaginal tests:
  - OSOM Trichomonas Rapid Test (Sekiui Diagnostics, Framingham, Massachusetts)
    - immunochromatographic capillary flow dipstick technology
  - OSOM BVBLUE Test (Sekiui Diagnostics, Framingham, Massachusetts)
    - detects elevated vaginal fluid sialidase activity, an enzyme produced by bacterial pathogens associated with BV including *Gardnerella, Bacteroides, Prevotella* and *Mobilincus*.
  - Both rapid test results available in 10 minutes

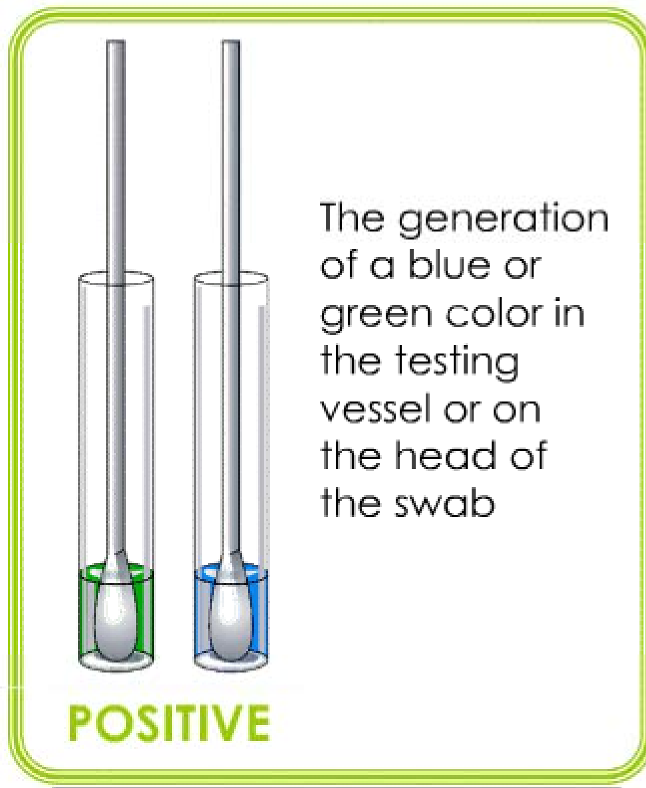
OSOM® Trichomonas Rapid Test

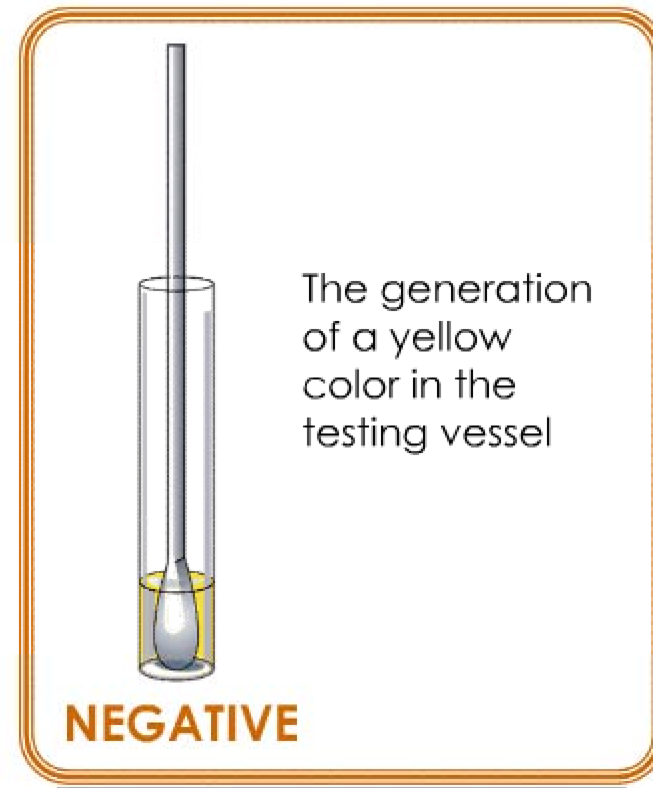
OSOM® Trichomonas Test





OSOM® BVBLUE® Test





Vaginal infection treatment

- Trichomonas
  - Metronidazole remains a great Rx option
    - Less $
  - Tinidazole 2 g orally once
- BV
  - Metronidazole and clindamycin remain a great Rx options
    - Less $
  - Alternative BV treatment regimens
    - Tinidazole 2 g orally once daily for 2 days
    - Tinidazole 1 g orally once daily for 5 days

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Pelvic Inflammatory Disease (PID)

- Alternative treatment including azithromycin
  - Azithromycin has demonstated **short term effectiveness** in one randomized trial in combination with ceftriaxone
  - Ceftriaxone 250 mg IM in a single dose PLUS azithromycin 1 g orally once a week for 2 weeks
  - Consider adding metronidazole to treat anaerobes and will also treat BV
- Regimens that include a quinolone no longer recommended for PID treatment

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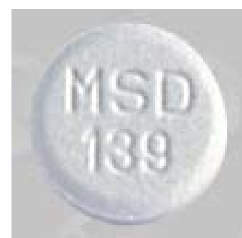
Scabies

- Ivermectin (Stromectol) 0.2mg/kg orally x 1 and repeat in 2 weeks
  - new first line scabies treatment option
  - not recommended for pregnant or lactating patients
  - safety in children wt < 15 kg not determined

3 mg



6 mg

Region II Infertility Prevention Project

RELATED LINKS

U.S. Preventive Services Task Force (USPSTF) Screening recommendations for Chlamydia infection

CDC Program Operations Guidelines for STD Prevention

CSPS IPP Performance Measures

Performance Measures Archives

Clinical & Program Guidelines

The Centers for Disease Control in collaboration with the Office of Population Affairs (OPA) of the Department of Health and Human Services (HHS), supports a national Infertility Prevention Program (IPP) that funds chlamydia and gonorrhea screening and treatment services for low-income, sexually active women attending family planning, STD, and other women's healthcare clinics. More information can be found at the CDC's IPP site.

Centers for Disease Control and Prevention (CDC) 2010 STD Guidelines
The Centers for Disease Control and Prevention (CDC) 2010 Guidelines for the Treatment of Sexually Transmitted Diseases were updated by CDC after consultation with a group of professionals knowledgeable in the field of STDs who met in Atlanta on April 18–30, 2009.

Changes in the 2010 STD Treatment Guidelines: What Adolescent Health Care Providers Should Know
This document was produced through a collaborative effort between the Society for Adolescent Health and Medicine, the American Academy of Pediatrics, the American College of Obstetrics and Gynecology, and CDC.

What Has Changed? Comparison of the 2006 and 2010 CDC STD Treatment Guidelines
This document is produced by Planned Parenthood Federation of America Clinical Services and enumerates some of the significant changes from 2006 STD Treatment Guidelines.

http://www.cicatelli.org/IPP/guidelines.htm

Region II STD/HIV Prevention Training Center

- www.nycptc.org
- CDC-funded training center located at NYC DOHMH
- Part of National Network of STD/HIV Prevention Training Centers: www.nnptc.org
- Offers low cost and free CME/CNE clinical live trainings, precepting, online trainings and print resources

STD TREATMENT GUIDELINES TABLE FOR ADULTS & ADOLESCENTS 2011

These recommendations for the treatment of STDs reflect the **2010 CDC STD Treatment Guidelines**. The focus is primarily on STDs encountered in outpatient practice. This table is intended as a source of clinical guidance and is not a comprehensive list of all effective regimens. For more information, please refer to the complete CDC document at http://www.cdc.gov/std/treatment/2010/.
The following are available resources in New York City: Call the NYCDOHMH at **212-788-4443** or go to http://www.nyc.gov/health/std to learn more about STDs and how to report infections; to request assistance with confidential notification of sexual partners of patients with syphilis or HIV infection; and to obtain additional information about NYC DOHMH clinical services. Health care providers can access the latest NYC public health information by joining NYC MED at http://www.nyc.gov/health/nycmed.

DOSING ABBREVIATIONS: d=day; qd=once each day; bid= twice daily; tid=three times a day; qid=four times a day; po=by mouth; IM=intramuscular injection; IV=intravenous; mg=milligram; g=gram; hs=hour of sleep; prn=as needed.

DISEASE	RECOMMENDED REGIMENS	ALTERNATIVE REGIMENS
CHLAMYDIA[1]		
Uncomplicated Genital/Rectal/Pharyngeal Infections	• Azithromycin 1g po x 1 or • Doxycycline[5] 100mg po bid x 7 d	• Erythromycin base 500mg po qid x 7 d or Erythromycin ethylsuccinate 800mg po qid x 7 d or • Ofloxacin[5] 300mg po bid x 7 d or • Levofloxacin[5] 500mg po qd x 7 d
Pregnant Women[2]	• Azithromycin 1g po x 1 or • Amoxicillin 500mg po tid x 7 d	• Erythromycin base 500mg po qid x 7 d or Erythromycin base 250mg po qid x 14 d or Erythromycin ethylsuccinate 800mg po qid x 7 d or Erythromycin ethylsuccinate 400mg po qid x 14 d
GONORRHEA[3,4] Ceftriaxone 250mg IM is the preferred treatment for adults and adolescents with uncomplicated gonorrhea infection and is the only recommended regimen for pharyngeal infections. Dual therapy with a regimen effective against *C. trachomatis* is routinely recommended, regardless of chlamydia test results.		
Uncomplicated Genital/Rectal Infections	• Ceftriaxone **250mg** IM x 1 **or, if not an option** Cefixime 400mg po x 1, or Other single-dose injectable cephalosporin[5] **PLUS** • Azithromycin 1g po x 1 or Doxycycline[5] 100mg po BID x 7 d	• Cefpodoxime 400mg po x 1 or Cefuroxime axetil 1g po x 1 or • Azithromycin 2g po x 1[6]
Pharyngeal Infections	• Ceftriaxone **250mg** IM x 1 **PLUS** • Azithromycin 1g po x 1 or Doxycycline[5] 100mg po BID x 7 d	
PELVIC INFLAMMATORY DISEASE **Oral regimens** (For parenteral regimens, see www.cdc.gov/std/treatment/2010/)	• Ceftriaxone 250 mg IM x 1 or • Cefoxitin 2g IM x 1 with Probenecid 1g po x 1 **PLUS** • Doxycycline[5] 100mg po BID x 14 d **with or without** • Metronidazole[7] 500mg po bid x 14 d	• Ofloxacin[5,8] 400mg po bid x 14 d or Levofloxacin[5,8] 500mg po qd x 14 d **with or without** Metronidazole[7] 500mg po bid x 14 d • Ceftriaxone 250mg IM x 1 **plus** Azithromycin 1g po q week x 2 **with or without** Metronidazole[7] 500mg po bid x 14 d
CERVICITIS[9]	• Azithromycin 1g po x 1 or Doxycycline[5] 100mg po bid x 7d	
NONGONOCOCCAL URETHRITIS	• Azithromycin 1g po x 1 Doxycycline 100mg po bid x 7 d	• Erythromycin base 500mg po qid x 7 d or Erythromycin ethylsuccinate 800mg po qid x 7 d or • Levofloxacin 500mg po qd x 7 d or Ofloxacin 300mg po bid x 7 d
RECURRENT AND PERSISTENT URETHRITIS[10]	• Metronidazole 2g po x 1 or Tinidazole 2g po x 1 **PLUS** • Azithromycin 1g po x 1 (if not used initially)	
ACUTE EPIDIDYMITIS	Likely due to gonorrhea or chlamydia[11]: • Ceftriaxone 250mg IM x 1 **PLUS** • Doxycycline 100mg po bid x 10 d Likely due to enteric organisms or with a negative GC culture or NAAT[11]: • Levofloxacin 500mg po qd x 10 d or Ofloxacin 300mg po bid x 10 d	For men at risk for both sexually transmitted and enteric organisms: • Ceftriaxone 250mg IM x 1 **plus** • Levofloxacin 500mg po qd x 10 d or Ofloxacin 300mg po bid x 10 d
TRICHOMONIASIS		
Non-pregnant women[12]	• Metronidazole 2g po x 1 or Tinidazole[13] 2g po x 1	• Metronidazole 500mg po bid x 7 d
Pregnant Women	• Metronidazole 2g po x 1	• Metronidazole 500mg po bid x 7 d
BACTERIAL VAGINOSIS		
Adults/Adolescents	• Metronidazole 500mg po bid x 7 d or Metronidazole gel 0.75%, one full applicator (5g) intra-vaginally qd x 5 d or Clindamycin cream[14] 2%, one full applicator (5g) intra-vaginally qhs x 7 d	• Tinidazole[13] 2g po qd x 2 d or Tinidazole[13] 1g po qd x 5 d or • Clindamycin 300mg po bid x 7 d or Clindamycin ovules 100mg intravaginally qhs x 3d
Pregnant Women	• Metronidazole 500mg po bid x 7 d or Metronidazole 250mg tid x 7 d or Clindamycin 300mg po bid x 7d	

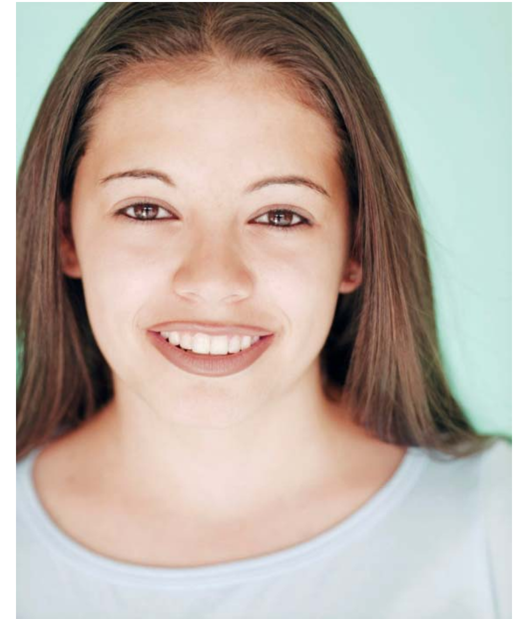
http://nycptc.org/x/2010_STD_Treatment_Guidelines_Summary_Chart.pdf

CASE DISCUSSION

CLAUDIA BORZUTZKY, MD
MONICA DRAGOMAN, MD, MPH

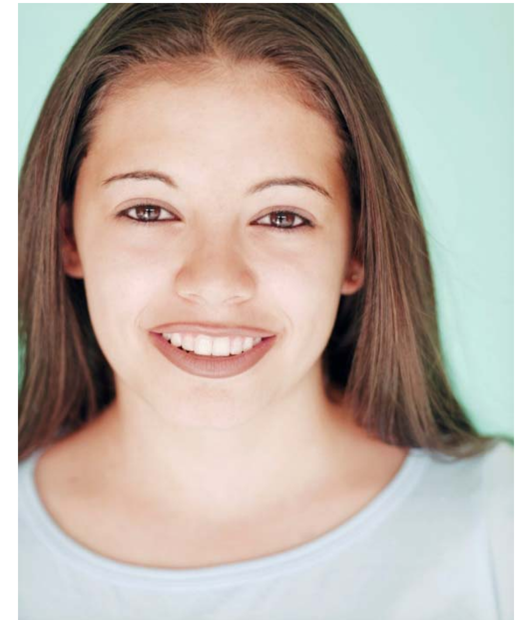
Case: Marty

- 18 year old female presents and requests to be “tested for everything”
- 3 male partners in the last 6 months
- Not aware of any STD contact
- Uses condoms “most of the time”



Physical Assessment

- Reports no physical complaints
- Denies:
  - Pelvic pain
  - Abdominal pain
  - Unusual discharge
  - Genital lesions
  - Dysuria



- What tests would you offer?
- Why?

Chlamydia Screening

- *C. trachomatis*
  - Routinely screen sexually active females ≤ 25 years
  - No routine screening for males
  - Consider screening sexually active young men in high prevalence settings
    - Adolescent clinics
    - STD clinics
    - Correctional facilities

Gonorrhea Screening

- *N. gonorrhoeae*
  - Routinely screen sexually active females at risk
    - <25 years
    - Previous GC infection
    - Presence of other STIs
    - New or multiple partners
    - Inconsistent condom use
    - Commercial sex work

HIV Screening

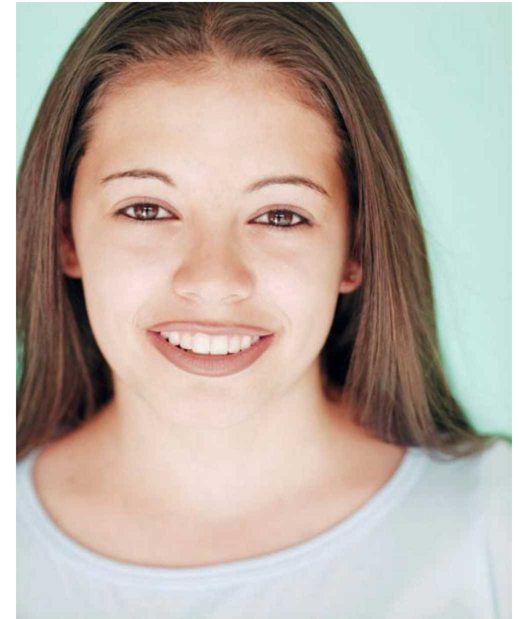
- HIV screening should be discussed with ALL adolescents
- Screening encouraged for sexually active adolescents and/or use injection drug users
- Some states mandate offering HIV testing
  - NY mandates offering testing for all persons 13-65

Additional Considerations

- Other universal screenings NOT recommended for asymptomatic patients
  - Syphillis
  - Trhichomoniasis
  - BV
  - HSV
  - HPV
  - Hepatitis A + B
- USPTF and ACOG recommend cervical cytology screening begin at age 21

Case: Marty

- Marty has a positive gonorrhea test
- Returns to the clinic for a follow-up visit and treatment
- Her chart notes she is allergic to amoxicillin
  - Reaction is a rash



- How would you proceed with treatment?

Gonorrhea Treatment

Per the new CDC STI Guidelines 2010:

- Ceftriaxone 250mg **and** Azithromycin 1 gram

- If ceftriaxone is not an option,
  - **Cefixime** 400 mg orally in a single dose
  - OR
  - Single-dose injectible **cephalosporin** regimens

    PLUS
  - **Azithromycin** 1g orally in a single dose

    OR
  - **Doxycycline** 100 mg orally twice a day for 7 days

Potential Allergic Reactions

- Reactions to **first generation** cephalosporins occur in 5-10% of persons with past penicillin allergy
  - No increased risk of cross reaction with second or third generation cephalosporin
- Use of cephalosporins contraindicated in those with history of cephalosporin allergy

Additional Screenings

- Does Marty's positive gonorrhea test lead you to screen for other infections?
- What would you consider before recommending additional screenings?
  - Number of partners
  - History of IV drug use or blood transfusion
  - History of lesions
- Would you recommend additional screenings if she had an MSM partner?

Test of Reinfection vs. Test of Cure

- Test of cure not necessary
- Test of reinfection recommended
  - 2-3 months
  - Or at next visit during following 12 months

Intrauterine Devices

- Would your management strategies change if Marty had an intrauterine device (IUD)?
- Does the IUD need to be removed before treatment?
- What is the risk for PID?

QUESTIONS?

Thank You!

- After this webinar, participants will receive an email with the Power Point slides and evaluation forms for general feedback and CEUs
- In order to receive a CME/CNE certificate or certificate of participation, you must complete and submit the evaluation forms within the timeline stated on the instructions
- Archived webinar audio recording will be available in two weeks at:

www.cicatelli.org/titlex/webinars.htm