Adolescent STD Treatment and Guidelines
Katherine Hsu, MD
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SESSION OBJECTIVES

• Explain the changes in the 2014 STD Treatment Guidelines, inclusive of updates to epidemiology, diagnosis, treatment, and management for STIs (e.g. syphilis, gonorrhea, chlamydia, HSV, HPV and trichomonas).
• Discuss STI/HIV screening and prevention issues relevant to special populations, i.e. adolescents/young adults, MSM, and WSW.
• Discuss changes in the partner notification and treatment process (Expedited Partner Therapy) as they pertain to STI cases.
Skills Building and Clinical Pearls: Challenging Cases in STI Management

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Northeast Regional Nurse Practitioner Conference
Newton, MA
May 2015

*No commercial disclosures or conflicts of interest

Disclosures

- In the past 12 months, I have NOT had significant financial interests or other relationships with manufacturer(s) of product(s) or provider(s) of service(s) that will be discussed in this presentation.
- This presentation will include discussion of pharmaceuticals or devices that have not been approved by the FDA.
  - “Off-label” use of extra-genital (rectal and pharyngeal) nucleic acid amplification tests (NAATs) for gonorrhea and chlamydia

CDC STD Treatment Guidelines Development

- Evidence-based on principal outcomes of STD therapy
  1. Microbiologic eradication
  2. Alleviation of signs & sx
  3. Prevention of sequelae
  4. Prevention of transmission
- Recommended regimens preferred over alternative regimens
- Alphabetized unless there is a priority of choice
- Reviewed April 2013; published 2015
- www.cdc.gov/std/treatment
  - Pocket guides, teaching slides, charts, app

Language in yellow highlighted boxes reflects changes discussed at consultation meeting; actual language may differ

What do YOU want to hear about most?

1. PID management
2. Syphilis testing in pregnancy
3. Recurrent vaginal discharge
4. Recurrent genital lesions
5. Persistent urethritis
6. STI screening for MSM
7. Genital ulcer management
8. Go with speaker’s choice!

There are second chances in life …

1. PID management
2. Syphilis testing in pregnancy
3. Recurrent vaginal discharge
4. Recurrent genital lesions
5. Persistent urethritis
6. STI screening for MSM
7. Genital ulcer management
8. Go with speaker’s choice!

Cases

1. 17 year old female with PID
2. 28 year old female, pregnant with positive syphilis testing
3. 24 year old female, recurrent vaginal discharge
4. 20 year old female, recurrent genital lesions
5. 20 year old male, persistent dysuria + discharge
6. 24 year old male who has male partners
7. 17 year old female, first time genital ulcers

Resources and End Slides
Case 1

What antibiotic regimen would you choose?

A. Admit for parenteral antibiotic regimen
B. Ceftriaxone 250 mg IM X 1 + Doxycycline 100 mg PO BID X 14 days +/- metronidazole
C. Azithromycin 500 mg PO X 1-2 doses, followed by 250 mg PO qd X 12-14 days +/- metronidazole
D. Levofloxacin 500 mg PO qd+ metronidazole X 14d

KL

- HPI: 17 year old woman with mild abdominal pain. No other symptoms
- PMHx: KL has a history of severe hives to amoxicillin at age 8 and a severe rash to cephalexin at age 12
- Social: No tobacco; drugs; one sex partner in the last 3 months; reports vaginal, active oral, and receptive anal exposures
- PE: T=38.1°C; mild hypogastric tenderness with deep palpation; purulent discharge from the endocervix; cervical motion tenderness.
- Labs: Amsel’s criteria: negative; NAATs are pending

PID

DRAFT 2015 CDC STD TREATMENT GUIDELINES

- Until treatment regimens that do not cover anaerobic microbes have been demonstrated to prevent long-term sequelae (e.g., infertility and ectopic pregnancy) as successfully as the regimens that are effective against these microbes, the use of regimens with anaerobic activity should be considered.
- Alternate outpatient PID regimens:
  - Azithromycin 500 mg IV for 1-2 doses, followed by 250 orally daily for 12-14 days +/- metronidazole
  - Azithromycin 1 g orally once a week for 2 weeks in combination with ceftriaxone 250 mg IM single dose +/- metronidazole
  - Levofloxacin 500 mg orally once daily, ofloxacin 400 mg twice daily for 14 days, or moxifloxacin 400 mg orally once daily, with metronidazole (500 mg orally twice daily for 14 days) can be considered BUT get GC culture before you start. If GC is quinolone resistant, adding azithromycin 2 g orally as a single dose to a quinolone based PID regimen is recommended

KL

- KL was treated with levofloxacin 500 mg PO once daily + metronidazole X 14d
- Follow-up at 72 hours demonstrated complete resolution of her signs and symptoms
- NAATs results (testing performed by commercial lab):
  - Neisseria gonorrhoeae: negative
  - Chlamydia trachomatis: positive

How would you manage her partner?

1. Encourage KL to bring him in with them when they return for treatment
2. Give KL extra medication to give to her partner
3. Give KL a prescription for her partner
4. Counsel patient about need to self-refer her partner for treatment
5. Call Health Department for assistance with partner services
Chlamydia, Gonorrhea, and EPT

- EPT is supported by the CDC and permissible in at least 35 states
- Standard partner treatment for chlamydia infection is one oral dose of 1g of the antibiotic azithromycin
- Standard partner treatment for gonorrhea is one oral dose of 1g of the antibiotic azithromycin PLUS one oral dose of 400 mg of cefixime
- EPT has been shown to be safe and effective in the treatment of sex partners
- Most states with long-standing EPT programs also have had no reports of adverse events

When should she come back for re-screening?

A. 1 month
B. 3 months
C. 1 year
D. Not sure

Repeat Testing after an STD infection

- Current CDC STD screening guidelines for GC and CT recommend screening persons at-risk, including those with a prior STD
- Among sex workers with baseline GC, CT or trichomonas infection, the adjusted HR for any of these at follow up was 2.6 (95% CI 2.1-3.1) (Turner 2010)
- Project RESPECT in US STD clinic patients:
  - 25.8% of women had 1 or more new infections with CT, GC, or Trich at one year of follow up.
  - 14.7% of men had a new GC or CT infection.
  - Conclusion: patients with GC/CT or trich infections should return at 3 months because they are at high risk for new infections (Peterman 2006)
Repeat Screening after an STD infection

Proposed:
- Women with CT, GC or trich should be rescreened at 3 months after treatment.
- Men with CT or GC should be rescreened at 3 months after treatment.
- Patients diagnosed with syphilis should undergo follow up serologic serology per current recommendations.
- HIV testing should also be considered in all patients with a prior STD history.

Which of the following diagnostics would you obtain?

A. Vaginal swab for gonorrhea and chlamydia NAAT
B. Vaginal swab for gonorrhea and chlamydia NAAT and oral swab for gonorrhea culture
C. Vaginal swab for gonorrhea and chlamydia NAAT, oral swab for gonorrhea NAAT, and rectal swab for gonorrhea and chlamydia NAAT
D. No further testing

Performance of NAATs for Diagnosis of Pharyngeal and Rectal Gonorrhea

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<th>% Sensitivity rGC</th>
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<th>% Specificity rGC</th>
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<tr>
<td>Culture</td>
<td>65%</td>
<td>72%</td>
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Chlamydia and Gonorrhea Nucleic Acid Amplification Testing

…still not FDA-cleared for rectal or pharyngeal specimens but now the preferred testing method over culture
But …

- Validation procedures can be done by labs to allow use of a non-FDA-cleared test or application
  - Test panel of known positive & negative samples against the cleared test technology to demonstrate good performance
- Many public health laboratories and at least two national commercial labs currently provide gc/chl NAAT for rectal/pharyngeal specimens
  - Quest and LabCorp are two national commercial labs that perform extragenital testing

Case 2

Case History

A 28 y.o. woman who is 24 weeks pregnant

- Routine syphilis screening performed with EIA (Trep-Chek) at her primary care physician’s office
- EIA is reactive
- No history of STD; 4 lifetime male partners, 1 partner had genital herpes (not her current one) but never heard she had or was exposed to syphilis
- Exam is normal

Which of the following does your clinic use for syphilis screening?

1. RPR
2. Syphilis IgG or other EIA test
3. Why are the ABCs of STDs so confusing?

What next????

1. Check serum RPR or VDRL
2. Treat for syphilis
3. Check partner’s serum EIA and treat her only if he’s reactive too
4. Ignore it - probably a false +
Causes of False Positive Syphilis Testing

- Non-treponemal tests
  - Viral infections
    - Infectious mononucleosis
  - Hepatitis
  - Varicella
  - Measles
  - Lymphoma
  - TB
  - Malaria
  - Endocarditis
  - Connective tissue disease
  - Pregnancy
  - Abuse of injection drugs

- Treponemal tests
  - Other spirochetal illnesses (e.g., Lyme, leptospirosis, rat-bite fever, relapsing fever, yaws, pinta)
    - But note, VDRL is non-reactive in Lyme!!!!

Newer Treponemal Screening Tests

- Enzyme immunoassays (EIA)
  - Trep-Sure IgM/IgG, CAPTIA Syphilis G (Trinity Biotech)
    - wild type treponemal antigens

- Chemiluminescence immunoassays (CIA)
  - LIAISON IgM/IgG (Diasorin) – recombinant TpN17

- Microbead immunoassays (MBIA)
  - BioPlex 2200 Syphilis IgM and IgG (BioRad) – recombinant TpN15, TpN17, TpN47
  - Athena Multi-Lyte T. pallidum IgG (Zeus Scientific) – recombinant T. pallidum antigen p17kDa

Why Labs Are Switching: Low vs High tech

180 tests per hour, no manual pipetting
CDC Recommendations

- All reactive EIA/CIAs should be reflexed to a quantitative non-treponemal test (e.g., RPR, VDRL)
  - Confirm reactive EIA/CIA
  - Detect active infection
- Discordant specimens (e.g., EIA+/RPR-) should be confirmed with a 2nd treponemal test
  - Confirmatory treponemal test should ideally be similarly sensitive and more specific than EIA/CIA
    - TP-PA recommended
    - FTA-ABS test not recommended (lower specificity than other treponemal tests and probably lower sensitivity; also requires trained personnel and a dedicated fluorescence microscope)
  - Results of all 3 tests (EIA, RPR, TP-PA) should be reported simultaneously to provider

High EIA/CIA index values may predict TP-PA positivity (n=255)

N=79 individuals with CIA index value >12.0; 100% were TP-PA positive

CDC-recommended Algorithm for Reverse Sequence Syphilis Screening

Probable false positive EIA
- If high risk, repeat RPR in several weeks
Assess for hx of treated syphilis, sx/signs
- If treated, no further action
- If untreated, consider tx for latent syphilis

Case 3
24yo female calls you for a prescription.

- She thinks she has bacterial vaginosis (BV) again because of a recurrence of vaginal discharge and odor.
- She has had 2 documented BV episodes in the last 3 mo (1st treated with oral metronidazole x 7d, 2nd with metronidazole gel vaginally x 5d).
- She is sexually active. No condom use. Does not douche.
  - What else might be important to know on history that would influence next steps?

**Recurrent BV**

- Recurrent disease remains common
  - Rates up to 70% within 3 months
- Reasons for recurrence unclear
  - Re-infection
  - Failure of lactobacilli to re-colonize
  - Inadequate length of therapy
  - Persistence of unidentified host factor
- Despite comparable early cure rates, higher recurrence rates associated with shorter treatment
  - Single-dose 2 g metronidazole no longer recommended
  - 3-day clindamycin course no longer recommended

**Utility of Hx and Exam for Vaginitis**

- No single symptom has enough predictive power to confidently diagnose any of 3 main causes of vaginitis
- Symptoms & signs can suggest a dx
  - Yeast: assoc w/ itching, cheesy d/c, redness and self-dx; watery d/c or odiferous d/c makes it less likely
  - BV: assoc w/ sensation of increased d/c and c/o of odor; absent d/c makes it less likely
  - Inflammation relatively specific for yeast, but not always there, and sometimes assoc w/ trich

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**Wet Prep: Bacterial Vaginosis**

- **Saline: 40X objective**
  - NOT a clue cell
  - Clue cells

**Treatment**

- **Recommended**
  - Metronidazole 500 mg PO BID x 7 days OR
  - Metrogel 0.75% 5 g intravaginally qhs x 5 days OR
  - Clindamycin cream 2% 5 g intravaginally qhs x 7 days
    - OX-based, might weaken latex condoms and diaphragms for 5 days after use
- **Alternative**
  - Tinidazole 2 g PO qd x 2 days
  - Tinidazole 1 g PO qd x 5 days
  - Clindamycin 300 mg PO BID x 7 days OR
  - Clindamycin ovules 100 mg intravaginally qhs x 3 days
- **Pregnant**
  - “Because oral therapy has not been shown to be superior to topical therapy for treating symptomatic BV in effecting cure or in preventing adverse outcomes of pregnancy, symptomatic pregnant women can be treated with either of the oral or vaginal regimens recommended for non-pregnant women.”
    - Newer data also indicate vaginal clindamycin is safe in pregnant women.
Suppressive Treatment

- Metrogel 0.75% twice weekly for 4-6 months
  - “although this benefit might not persist when suppressive therapy is discontinued”
- One uncontrolled, nonrandomized chart review of following regimen:
  - Oral nitrimazole x 7 days
  - Followed by boric acid intravaginally 600 mg daily x 21 days
  - Followed by suppressive metronidazole gel twice weekly x 16 weeks

2010 CDC STD Treatment Guidelines

Partner Management

- Routine treatment of male sexual partners of women with BV is not recommended
  - Neither response to therapy or likelihood of relapse or recurrence are affected by treatment of male sex partners
- Routine partner therapy for WSW is also not recommended
  - No trials examining potential benefits of treating female sex partners of women with BV

Case 4

Dora

- 20 year-old woman G2P0 presents with genital lesions increasing in size for 2 weeks
- 5 lifetime sexual partners, her most recent partnership began 3 months ago
- H/o genital warts 1 yr ago. She broke up with her partner because she thought warts indicated that he was cheating on her
- Using oral contraceptives for birth control

Dora’s Exam

Exam shows multiple nontender exophytic lesions on the labia perineum, and external anus

STD Atlas, 1997
Why did Dora’s warts come back?

1. Her original HPV infection has recurred
2. She was infected with a new HPV type
3. She has become immunocompromised
4. Any of the above

Recurrent Genital Warts

- Reasons for late recurrence:
  - Reactivation of initial infection
  - Reinfection with new HPV types
  - Intercurrent immunodeficiency
- Test for pregnancy
- Screen for GC, chlamydia, syphilis
- Annual Pap smear
- Recommend HIV test

HPV DNA Tests

- **Qiagen Hybrid Capture II®**
  - RNA probes: 13 high risk types: 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59 & 68
- **Hologic Cervista®**
  - 14 high risk types (as above plus type 66)
  - Separate HPV 16/18 test
- **Roche Cobas HPV®**
  - 14 high risk types
  - Separate HPV 16/18 test
- **GenProbe Aptima HPV®**
  - 14 high risk HPV types

When should I order an HPV test?

- Triage of ASC-US Pap result (if age ≥21)
- Co-test with Pap in women age 30+
- Very selective follow up situations

When should I NOT order an HPV test?

- Screening in women under 30
- Any use in women under 21
- Diagnosis of genital warts
- Testing in males
- ASC-H, LSIL or higher grade lesions
- Before vaccination
- STD screening

Dora’s results

- Not pregnant
- GC/CT-negative
- Syphilis-negative
- HIV-negative
- But she still has warts

What next???

Pretreatment Education

- Goal is removal of symptomatic warts
- Warts may resolve on their own (10-30%)
- Multiple treatments are usually required
- Recurrence is common (20-50% by 6 mo)
- Removal of warts likely reduces but probably doesn’t eradicate infectivity
- Treatment may have uncomfortable side effects
- Treatment may cause persistent hypo or hyperpigmentation (e.g. ablative modalities, Imiquimod)
Which wart treatment do you prescribe most often?

1. Podofilox 0.5% solution or gel (Condylox)
2. Imiquimod 5% cream (Aldara)
3. Sinecatechins 15% ointment (Veregen)
4. I do office-based therapy
5. I don’t have a favorite

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Genital Warts: Treatment

- No best or curative therapy
- All therapies have potential side effects and high recurrence rates
- Consider:
  - Provider’s experience
  - Patient’s preference and abilities
  - Size, number and location of warts
  - Potential side effects
  - Availability and expense of therapy

Recommended patient-applied therapy:
- Imiquimod 5% QHS (wash off after 6-10 hours) 3x/week for up to 16 weeks
- NEW: Imiquimod 3.75% QHS (wash off after 6-10 hours) daily for up to 16 weeks
- Podofilox 0.5% BID x 3 d, 4 days off; up to a total of 4 cycles
- NEW: Sinecatechins 15% ointment apply TID x 16 weeks (DO NOT wash off)

Recommended provider-applied therapy:
- TCA or BCA
- Cryotherapy with liquid nitrogen
- Surgical removal

Alternative: intralesional interferon, photodynamic therapy, topical cidofovir

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New Genital Wart Treatment

- Sinecatechins (Veregen) a green tea extract ointment (15% strength) approved for treatment of genital warts
- Cost $251 for 15 grams
- Not recommended in pregnancy, HIV, HSV
- May weaken condoms/diaphragms

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Imiquimod Vs. Sinecatechins

- Age
  - Imiquimod FDA-approved down to age 12 years
  - Sinecatechins FDA approved 18 years and older
- Sinecatechins dosed more frequently
- No head-to-head trials
  - Similar efficacy rates in separate trials
    - Week 16 complete clearance rates
      - Men 38-50% (vehicle 5-30%)
      - Women 60-70% (vehicle 20-40%)
  - Similar adverse events profile in separate trials
    - ~50% developed erythema, itching, burning
    - ~30-50% developed pain, erosions/ulcerations

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More HPV recs

- New tx for genital warts: Imiquimod 3.75% cream, apply daily
- Move podophyllin resin out of the box of recommended therapy to alternative (due to reports of severe toxicity)
Dora’s Clinical Course

- You treat Dora in the office with TCA treatments every 1-2 weeks
- After 4 treatments her warts have resolved
- She asks if she could get the HPV vaccine to prevent getting warts in the future!

Dora: Key Counseling Messages

- A diagnosis of genital warts is not indicative of a partner’s infidelity
- Unknown how long HPV remains contagious after warts are treated
- Her current partner does not need to be tested for HPV
- Informing her future sex partners about prior history of genital warts may not benefit the health of those partners
- She should continue Pap screening at recommended intervals regardless of her genital wart or vaccination history

Case 5

20yo heterosexual male was treated with doxycycline for NGU 2 weeks prior.

- His initial chlamydia and GC tests were negative. His urethral symptoms never fully resolved and he now returns for evaluation. NGU is demonstrated again.
- He reports compliance with treatment and sexual abstinence.

What's next on your differential for persistent urethritis?

1. T. vaginalis
2. M. genitalium
3. U. urealyticum
4. HSV
5. N. meningitidis
Recurrent and Persistent Urethritis

- Check first for objective signs of urethritis
  - Mucoed, mucopurulent, or purulent discharge on exam
  - Gram, methylene blue, or gentian violet stain of urethral secretions: ≥2 WBC per oil immersion field
  - Positive leukocyte esterase test on first void urine
  - Urine micro of first void urine sediment: ≥10 WBC per high-power field
- If urethritis confirmed, re-treat with initial regimen if initially non-compliant or if re-exposed to untreated partner
  - Not this patient’s case, but this is the usual next step

DDx for Recurrent and Persistent Urethritis

- Consider azithromycin or doxycycline-resistant U. urealyticum or M. genitalium
  - May benefit from treatment with moxifloxacin 400 mg orally once daily for 7 days
- Consider T. vaginalis
  - More common in heterosexual men
  - Test using first-void urine or urethral swab, send for culture (not always available) or NAAT (now commercially available)
  - May benefit from treatment with metronidazole or tinidazole
  - Low probability in MSM
- Consider HSV if recurrent

Mycoplasma genitalium: Epidemiology

- First identified in the early 1980’s
- Cause of male urethritis
  - 15-20% of non-gonococcal urethritis (NGU) cases
  - 20-25% of non-chlamydial NGU
  - 30% of persistent or recurrent urethritis
  - More common than N. gonorrhoeae but less common than C. trachomatis
  - Co-infection with C. trachomatis is not uncommon
- Unknown whether it can cause male infertility or other male anogenital tract disease syndromes
- Pathogenic role in women also less clear

Mycoplasma genitalium: Diagnostics

- Very slow-growing organism
  - Culture can take up to 6 months
  - Only a few laboratories in the world are able to recover clinical isolates
- Nucleic acid amplification testing (NAAT) is the preferred method to detect M. genitalium
  - Research settings
  - In-house PCR assays (?)
  - None commercially available (YET)

Mycoplasma genitalium: Treatment

- 7-day doxycycline regimen recommended for treatment of urethritis is largely ineffective against M. genitalium with a median cure rate of approximately 31%
- 1 gram single dose azithromycin significantly more effective against M. genitalium than doxycycline in two randomized trials
  - However, resistance to azithromycin appears to be rapidly emerging; median cure rate for both men and women is approximately 85%, but was only 40% in the most recent trial
  - Individuals with treatment failures after 1g azithromycin regimen frequently have macrolide resistant strains suggesting that single dose azithromycin therapy may select for resistance
- Moxifloxacin (400mg x 7, 10 or 14 days) successfully used to treat M. genitalium treatment failures in men and women, with cure rates of 100% in initial reports
  - However, moxifloxacin has been used in a relatively small number of cases and the drug has not been tested in clinical trials

Treatment of MG: RCTs Comparing Doxycycline vs. Azithromycin

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- Observational studies suggest that longer courses of AZM (e.g. 500 mg PO X1 followed by 250 mg QD X 4d) yield higher cure rates and may lead to decreased emergence of resistance
Treatment of MG: Fluoroquinolones

- Ofloxacin, ciprofloxacin, and levofloxacin not highly active
  - Moxifloxacin
  - No RCTs
  - Observational studies suggest high efficacy of 400mg PO X 7-10d
  - Recent emergence of fluoroquinolone resistant mutations with suggestion of clinical and microbiologic treatment failures

Trich Testing in Men

- No approved point of care tests
  - Wet prep not sensitive
- Culture available – urethral swab, semen or urine
  - No conclusive studies on sensitivity/specificity
  - Urine and urethral swab NAAT offered through certain labs using analyte-specific reagents (check before sending)

Newer Testing Options for Trich

- Microscopy is inferior to new options, including
  - Rapid antigen testing (OSOM)
  - APTIMA TMA Trichomonas Vaginalis
    - 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)

Trichomoniasis Treatment

Recommended regimen:
- Metronidazole 2g PO x 1
- Tinidazole 2g PO x 1
- Metronidazole 500mg PO BID x 7d

HIV-infected women:
- Metronidazole 500mg PO BID x 7d
- Alternative regimen: Metronidazole 500mg PO BID x 7d

Recommended regimen in pregnancy:
- Metronidazole 2g PO x 1

Management of Trichomoniasis in Patients with Serious Contraindications to Metronidazole

- Paromomycin cream 250mg intravag. daily x 14 days
  - Can cause labial ulcers
- Furazolidone 100mg BID intravag. x 10-14 days
- Zinc oxide douche
- Oral desensitization (Kurohara et al., J All Clin Immunol 1991)
- NOT tinidazole
- Call your local PTC, or CDC!
Case 6

Jeremy

- 24 year-old web designer presents for STD and HIV testing
- He reports exclusively male partners, 5 in past 6 months, insertive and receptive oral sex, occasionally anal sex (condoms)
- Good health, no complaints, GC ~3 years ago, last tested for HIV/STD 8 months ago

STD Screening for MSM*

Screen at least annually, q 3-6 mos if high risk*
- HIV
- Syphilis
- Urethral GC and CT
- Rectal GC and CT (if anal sex)
- Pharyngeal GC (if oral sex)

Also screen for:
- Hepatitis C (in HIV+ MSM: repeat as indicated by risk)

Proposed: Anal Cancer in HIV+ MSM: Annual digital rectal exam may be useful, some centers perform anal Pap and HRA for ASC-US or worse.

* High risk: multiple and/or anonymous partners, drug use, or high risk partners

CDC 2010 STD Tx Guidelines: www.cdc.gov/std/treatment

HIV and Syphilis Rates in MSM

- Numerator based upon national 2008 surveillance data on new HIV and syphilis diagnoses
- Denominator based upon estimated proportion of men who engaged in same-sex behavior in past 5 years (3.9%)

- HIV diagnosis rate = 672/100,000 MSM
  - 67x rate of other men
  - 58x rate for women
- 1st and 2nd syphilis diagnosis rate = 154/100,000 MSM
  - 71x rate of other men
  - 96x rate for women

Purcell et al., Open AIDS J, 2012

Do you screen MSM differently than MSW for STI/HIV?

1. Yes
2. No
3. Sometimes

0% 0% 0%
HIV and Syphilis Diagnoses Have Increased in Young MSM

- Primary and secondary syphilis rates increased in 70% of areas
- Average increases in young black men:
  - HIV: 68%
  - Syphilis: 203%

Torrone et al, JAIDS, 2011.

What proportion of CT/GC infections may be missed if extragenital sites in MSM are not screened?

1. 10%
2. 25%
3. 50%
4. Over 50%

Proportion of CT and GC infections MISSED among 3398 asymptomatic MSM if screening only urine/urethral sites, San Francisco, 2008-2009

Indicated by Marcus et al, STD Oct 2011; 38: 922-4

Don’t forget the “triple dip” for MSM

**Off-label use. Not FDA-approved for testing at extragenital sites, but many reference labs have validated the assay for use.**
Case 7

A 17 year old presents with first time genital ulcerations:

She has never had any prior genital symptoms. She has had one partner in her lifetime. She has no other history of STD. What else would you like to know?
What diagnostic testing do you perform today?

1. Nothing - it’s most likely herpes
2. Herpes culture
3. Herpes PCR
4. Herpes serology
5. Syphilis serology

What About Genital HSV-1?
- HSV1 now causes MOST of first genital HSV episodes in young adults
  - Among >3400 HSV double-seronegative women 18-30 yrs from control arm of herpes vaccine trial who acquired disease during a 20 month period:
    - 5.3% became infected
    - HSV1 2.3x more common than HSV2 infection
    - Genital HSV1 2.5x more common than oral HSV1
  - Increasing proportion of anogenital herpetic infections have been attributed to HSV-1 infection in women and MSM
- Primary genital HSV1 and HSV2 remain indistinguishable clinically, and are treated with the same antiviral regimens
- Genital HSV1 does not recur as often as genital HSV2 (?)
## Treatment

### First Clinical HSV Episode

- Acyclovir 400 mg PO tid
- Acyclovir 200 mg PO 5x per day
- Famciclovir* 250 mg PO tid
- Valacyclovir** 1 g PO bid

For 7-10 days or until clinical resolution

*not licensed for <18 yrs
**not licensed for pre-pubertal

### Episodic Recurrent HSV

- Acyclovir 400 mg PO tid
- Acyclovir 800 mg PO bid
- Famciclovir* 125 mg PO bid
- Valacyclovir** 1 g PO qd
- Valacyclovir** 500 mg PO bid for 3 days, OR
- Acyclovir 800 mg PO tid for 2 days, OR
- Famciclovir* 1 g PO bid for 1 day, OR
- Famciclovir* 500 mg PO x 1 dose, then 250 mg PO bid for 2 days

Start during prodrome or within 1 day of lesion onset

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**not licensed for pre-pubertal

### Daily Suppressive HSV Therapy

- Among patients with frequent recurrences (≥6/yr), reduces frequency by 70-80%
- Safe and efficacious
  - Acyclovir up to 6 yrs documented experience
  - Valacyclovir and famciclovir up to 1 yr
- Regimens
  - Acyclovir 400 mg PO bid
  - Famciclovir* 250 mg PO bid
  - Valacyclovir** 1 g PO qd
  - Valacyclovir** 500 mg PO qd

(May be less effective in those with ≥10 episodes/yr)

Discuss need to continue therapy annually with patient

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### Counseling

- Discuss natural history
  - Potential for recurrence
  - Asymptomatic shedding
  - Sexual transmission risk
- First episode
  - Discuss episodic or suppressive therapy
  - Encourage partner notification
  - But they may already be infected and asymptomatic, and should be offered serology to determine if risk for HIV acquisition exists
- Abstain from sex when lesions or prodrome present
- Condom reduce risk of transmission
- Transmission can occur when asymptomatic
  - Especially shedding with HSV2 than with HSV1
  - Risk of HSV2 transmission reduced with suppressive therapy

- Risks for neonatal infection
  - Discuss with men and women
  - Counsel pregnant women not known to be infected with either HSV1 or 2, to avoid genital exposure
- Ask persons dixed with HSV2 by type-specific serology should receive same counseling messages as persons with sx
- HSV2-infected persons are at greater risk for HIV acquisition following exposure

### I HAVE WHAT ?!

Initial visit suggestions for confirmed cases

- The 4 T’s
  - Transmission (Acquisition)
  - Treatment
  - Telling your partner
  - Therapist

Marshall, Contraceptive Tech, Boston 2010

Patrick et al. Sexually Transmitted Infections 2004;80:192-197

Counseling

- Study from 2004 showed that patients were satisfied with their care if they had 15 minutes face-to-face with practitioner.
- Most felt that a follow-up visit was helpful to answer questions and clarify key points
- Much of the initial information was not retained 48 hours after visit.

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Resources

Want to know more about STDs? There's an app for that.

CDC STD Treatment Guidelines App for Apple and Android

Available now, FREE! (accept no competitors)

Search “STD Treatment Guidelines” in the app store

Clinical STD Training Centers

- 8 PTCs cover the nation
- Training focused upon:
  - Enhancing clinical skills
  - Learning state-of-the-art STI diagnostics
  - Applying recent advances in STI treatment and prevention
  - STI/HIV interaction issues, including management of co-infections
What is your primary profession or discipline?

0% 1. Nurse
0% 2. Advanced Practice RN (NP, CNM)
0% 3. Physician Assistant (PA)
0% 4. MD/DO
0% 5. Other

How many years have you been practicing?

0% 1. 0-5
0% 2. 6-10
0% 3. 11-20
0% 4. >20

THANK YOU!