2015 CDC STD Guidelines

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Disclosures
Nothing to disclose in regards to STD diagnostic tests or treatment.

All images used with permission or are from the CDC.

What is available from the CDC?
◆ Wall chart.
◆ Pocket guidebook.
◆ Textbook of guidelines.
◆ App (only for Mac OS right now)
◆ FREE!

What we will discuss today
◆ Men who have sex with men (MSM).
◆ Anal cancer screening.
◆ Women who have sex with women (WSW).
◆ Adolescents.
◆ Pregnancy.
◆ Gonorrhea (GC) and chlamydia (CT).
◆ Mycoplasma.
◆ Herpes simplex virus.
Key Principles of STD Prevention

- Screening asymptomatic persons.
- Vaccination including HPV, hepatitis
- Counseling on risk prevention.
- Diagnosis and treatment of symptoms.
- Management of sex partners.

Who are at risk for STDs?

- Adolescents and young women.
  - 50% of STDs estimated to occur ages 15-24.
- Racial and ethnic minorities.
  - STDs among highest of all racial health disparities.
  - African-Americans:
    - Chlamydia: 6 times the rate among whites.
    - GC: 12 times the rate among whites.
  - MSM.
    - Account for 75% of syphilis cases in 2013.
    - High rates of HIV co-infection.

Adolescents

- No states require parental consent for STD care.
- Routine screening for GC/CT females < age 25.
- Screen high risk males.
- HIV should be discussed and offered to all.
- Routine screening for asymptomatic adolescents is NOT recommended:
  - Syphilis, Trich, BV, HSV, HPV, HBV.
Key vaccine recommendations

- **Hepatitis B** vaccine recommended for ALL unvaccinated, uninfected persons evaluated or treated for an STD. ([MMWR 2005;54(No. RR-16)](https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5406a1.htm))

- **Hepatitis A and B** vaccines recommended for MSM, injection drug users, chronic liver disease.

  - Persons with HIV infection who have not been infected with one or both types of hepatitis virus. ([Clin Infect Dis 2014;58:e1-34](https://academic.oup.com/cid/article/58/10/e1/2525380))

- **HPV vaccination**.
  - **Females**: Bivalent, Quadrivalent or 9-valent.
  - Through age 26.
  - **Males**: Quadrivalent or 9-valent.
  - Through age 21.
  - **HIV infected and MSM**.
  - Through age 26.

  - 4/10 girls and 6/10 boys, aged 13-17 have not started the HPV vaccine schedule.

  - [Schuchat A. MMWR July 30, 2015](https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a2.htm)

HPV vaccination with ≥ 1 dose females and males, aged 13-17

MMWR July 31, 2015;64;784-792

Pregnancy

- **Hepatitis C**.
  - Screen at first prenatal visit if at risk.
  - Injection or intranasal drug use, blood transfusion before 1992, unregulated tattoos, hemodialysis.
  - No established treatment in pregnancy.

- **Cervical cancer screening**.
  - Same as non-pregnant but management may differ.
  - Do not do Pap just because patient is pregnant.

- **HSV**.
  - Type specific tests for those with partners who have HSV to determine risk for acquiring HSV in pregnancy.

Men who have sex with men (MSM)

- **Heterogeneous group of men with varied behaviors, identities, health-care needs**.
  - Some are high risk for HIV infection and other STDs.
  - Multiple sex partners and substance abuse increase risk for HIV and STDs.
  - Syphilis, GC, Chlamydia documented in US.

- **Anal sex: rectal mucosa is uniquely susceptible to STDs including HPV**.
  - Transformation zone like the cervix.

![Anorectal male](https://example.com/anal-dysplasia-1.png)
MSM and syphilis

◆ 2/3′rds of primary and secondary syphilis are in MSM, particularly in ethnic minority groups.
◆ Early syphilis associated with HIV infection in MSM.
  MMWR 2014;63:1402-6.

Primary and Secondary Syphilis—Rates of Reported Cases by Race/Ethnicity and Sex, United States, 2013

What is congenital syphilis?

◆ Illness in an infant from whom lesional, placental, umbilical cord or autopsy material demonstrates T pallidum.
◆ Infant whose mother had untreated or inadequately treated syphilis at delivery.
  ◆ Treatment with penicillin is 98% effective.
◆ Infant or child who has a + RPR test.
◆ Severe illness, miscarriage, stillbirth and early infant death.
  ◆ Syphilitic rash, jaundice, hepatosplenomegaly.

Congenital Syphilis—Reported Cases Among Infants by Year of Birth and Rates of Primary and Secondary Syphilis Among Women, United States, 2004—2013

Congenital syphilis (CS) among infants < 1 year and rate of primary and secondary syphilis (P&S) among women in US 2008-2014
Congenital syphilis (CS)

- Although the rate of CS decreased during 2008-2012 (8.4 cases/100,000 live births), the rate increased in 2012-2014 (11.6 cases/100,000 live births).
- Highest CS rate in over a decade.
- Reflects increase in national rate of primary and secondary syphilis among women.
- Prevention.
  - Rapidly responding to syphilis cases.
  - Women of reproductive age and MSW.
  - Screening prenatal patients for syphilis.

Screening of MSM

- Annual screening.
  - HIV serology.
  - Hepatitis C (especially in HIV+, traumatic sex practices)
  - Syphilis serology.
  - Urethral infection (insertive intercourse), GC/CT Nucleic Acid Amplification Test (NAAT), urine preferred.
  - Rectal infection (receptive anal intercourse), GC/CT (NAAT)
  - Pharyngeal infection (receptive oral intercourse), GC/CT (NAAT)
- More frequent screening 3-6 mos. depending on risk behaviors.
- Recent or concurrent STDs and HIV+

MSM: HPV infection and Anal SIL

- Genital warts and anal SILs are highly prevalent among MSM.
  - MSW–12% (oncogenic 7%)
  - MSM HIV–60% (oncogenic 30%)
  - MSM HIV +100% (oncogenic 80%)

Chin-Hong PV et al. JID 2004;190:2070-6.

Anal warts. Used with permission. J Palefsky, MD

Low Grade Anal SIL

High Grade Anal SIL

UCSF Anal Neoplasia Clinic (used with permission, T Darragh, MD)

UCSF Anal Neoplasia Clinic (used with permission, T Darragh, MD)
Anal cancer risk factors

- High risk HPV infections.
- Multiple sex partners.
- Chronic inflammation (trauma).
- Anal warts.
- Smoking.
- Weakened immune system, including HIV infection.

Anal Cancer Prevention

- Primary.
  - HPV vaccination of MSM, 4v or 9v
  - 3 dose schedule.
- Secondary.
  - Anal cytology in high risk populations.
  - HPV tests not clinically useful (high HPV prevalence).

Anal screening in MSM

- Data insufficient to recommend routine anal cancer screening in HIV+ or HIV- MSM.
- No studies have shown that treatment of anal HSIL reduces the incidence of anal cancer.
- Some high-risk MSM and HIV + men are being screened.
- High resolution anoscopy (HRA) for those with abnormal cytology.

Who should have anal screening?

- All HIV+ MSM with good prognosis > 30 years.
- All HIV- MSM > 40 years.
- All HIV+ men regardless of sexual orientation > 30 years.
- Women with HSIL vulvar or cervical lesions or cancer > 40 years.
- All HIV+ women > 30 years.
- All men and women with perianal condyloma.
- All men and women with transplant-associated immunosuppression > 30 years.

Anal cancer screening

- Screening for anal cancer is different than screening for anal intraepithelial neoplasia (AIN).
- Anal cancer is often palpable or grossly visible.
  - Anal dysplasia is not usually palpable and often not seen without magnification and staining.
  - Before you screen you need to be able to deal with an abnormal result.
- Most patients won’t admit to a problem and most physicians won’t look.

Stephen Goldstone, MD, Joel Palefsky, MD 2015

1510 cytology results recorded and 848 had HRA

Mean age 43 (20-79) years

Cytology results

<table>
<thead>
<tr>
<th>CYTOLOGY</th>
<th>BENIGN</th>
<th>LSIL</th>
<th>HSIL</th>
<th>ASC-US</th>
<th>ASC-H</th>
<th>ASC-H/HSIL</th>
<th>HSIL</th>
<th>TOTAL</th>
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<tr>
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<td>88 (52%)</td>
<td>48 (28%)</td>
<td>34 (20%)</td>
<td>166 (42%)</td>
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<td>53 (38%)</td>
<td>952 (40%)</td>
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<td>107 (27%)</td>
<td>126 (32%)</td>
<td>0 (0%)</td>
<td>399 (47%)</td>
<td>2 (0.3%)</td>
<td>48 (29%)</td>
<td>634 (37%)</td>
<td>399 (47%)</td>
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<tr>
<td>ASC-H</td>
<td>21 (9%)</td>
<td>9 (69%)</td>
<td>2 (1%)</td>
<td>246 (29%)</td>
<td>3 (1.7%)</td>
<td>20 (9%)</td>
<td>275 (30%)</td>
<td>246 (29%)</td>
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<tr>
<td>LSIL</td>
<td>0 (0%)</td>
<td>1 (5%)</td>
<td>18 (50%)</td>
<td>1 (5%)</td>
<td>3 (0.4%)</td>
<td>848 (100%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSIL</td>
<td>0 (0%)</td>
<td>1 (5%)</td>
<td>18 (50%)</td>
<td>1 (5%)</td>
<td>3 (0.4%)</td>
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HISTOLOGY DIAGNOSIS

Swedish et al. Dis Colon Rectum 2011;54:1008-1007
Women who have sex with women (WSW)

- Most WSW have had sex with men (53-97%).
- Up to 25% had sex with men in the last year.
- Sparse data on risk for STDs.
  - More data for shared Trich infections.
  - HPV commonly transmitted among WSW.
- Routine cervical screening.
- BV: sharing of same identical \textit{Lactobacillus} strains.
- Avoid sharing of sex toys.

Cervicitis

- Assess for signs of PID and test for BV, Trich, GC/CT with NAAT (vagina, cervix, urine).
- Symptomatic women but negative wet prep should receive further testing for Trich.

**Recommended Regimens for Presumptive Treatment**

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

*Consider concurrent treatment for gonococcal infection if patient is at risk for gonorrhea or lives in a community where the prevalence of gonorrhea is high.*

Mycoplasma genitalium

- Emerging role in cervicitis (10-30%) and PID (2-22%).
  - Association with PID < than chlamydia.
- Recognized cause of persistent or recurrent urethritis.
- No FDA cleared diagnostic test.
  - NAAT is preferred method however.
- Treatment:
  - 1 gm Azithromycin (emerging resistance) > doxycycline
  - Moxifloxacin (Avelox) 400 mg x 7d for recurrence
Chlamydia and Gonorrhea

- **USPSTF** categorizes chlamydia (CT) and gonorrhea (GC) as “B” evidence (2014).
- **Women:** annual screening for GC/CT.
  - Sexually active women < age 25.
  - Older women with risk factors.
- **Heterosexual men.**
- **CT:** consider screening in high risk prevalence settings (adolescents, corrections, STD clinics)
- **GC:** screening not recommended
- **MSM:** annual screening.

**Expedited Partner Therapy (EPT)**

- Reduces CT/GC reinfection rates among women.
- Data lacking for WSW, treatment of Trich or syphilis.
- Offer to heterosexual patients when it cannot ensured that sex partners from the prior 60 days will be treated.

- **ACOG** endorses only after the risk of intimate partner violence associated with EPT is assessed.  

**Screening Methods: GC/CT**

**Past standard:** Culture

**Current Standard:** NAATs
(NAAT-nucleic acid amplification test)
- High sensitivity
- Faster results
- Easier to use

**Screening Sites for Women**

- First-catch urine specimen
- Vaginal swab
- Endocervical swab
- Thin Prep Liquid Pap Transport

**Screening sites for men**

- **Urethra:** NAATs urethral swab or first catch urine.
- **Rectum:** NAATs have improved sensitivity and specificity compared with culture.
  - Can be self-collected; comparable to clinician-collected swabs; high patient acceptance.
- **Oropharynx:** NAATs.
Treatment of chlamydia

- Meta-analysis 12 RCTs of doxy versus azithromycin for uncomplicated urogenital CT infections.
  - Equally efficacious. (Lau CY et al. Sex Transm Dis 2002;29)

<table>
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<th>Recommended Regimens</th>
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<td>Azithromycin 1 g orally in a single dose</td>
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<tr>
<td>Doxycycline 100 mg orally twice a day for 7 days</td>
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- Doxy delayed release (Doryx 200 mg gid x 7 days) equally effective as doxy 100 mg bid x 7 days.

Follow-up after treatment of CT

- Refrain from sex for 7 days after single dose (azithromycin).
- Refrain from sex until completion of a 7-day regimen (doxycycline).
- Refrain from sex until all partners are treated.

Chlamydia: Retest

- Repeat testing in 3-4 weeks is not recommended except:
  - In pregnant women
  - When therapeutic compliance is in question, symptoms persist, or reinfection is suspected

Retest at 3 Months

Chlamydia treatment in pregnancy

- Pregnancy: Amoxicillin moved to alternative tx.
- In vitro studies: penicillin induces persistent viable noninfectious CT that can revert to a replicative form after penicillin removal.

- RCT: higher test of cure using azithro vs. amox (95% vs 80%) (Kacmar J et al. Infect Dis Obstet Gynecol 2001;9:197-202)
  - Azithromycin appears safe. (Rahangdale L et al. Sex Transm Dis 2006;33:106-10)

Chlamydia in pregnancy

- Test of cure.
  - 3-4 weeks after completion of therapy (NAAT)
  - Retest 3 months after treatment.
  - Consider rescreening in third trimester.

Gonorrhea

- GC in women is commonly asymptomatic and might not produce symptoms until complications occur (PID).
- Urethral infections in men may produce symptoms that cause them to seek treatment.
  - Not always early enough to prevent transmission.
Gonorrhea — Proportion of STD Clinic Patients’ Testing Positive by Age, Sex, and Sexual Behavior, STD Surveillance Network (SSuN), 2013

Screening for GC

- Annual screening for all sexually active women < age 25.
- Annual screening for older women at increased risk of GC (new partner, multiple partners, sex partner with STD).
- Annual screening for MSM at sites of exposure.
- Screening for GC in low risk men and older women is not recommended.

Gonorrhea Treatment

- Dual therapy recommended.
- Enhance treatment effectiveness.
- Prevent transmission of resistant organism.
- Azithromycin preferred over doxy due to tetracycline resistance (24% in 2013).
- No evidence to support increasing dose of ceftriaxone or azithro as part of dual therapy.
- Ceftriaxone tx failures RARE! (none USA).
- Azithro monotherapy not recommended due to ease of resistance.

Uncomplicated GC: Pharynx
Most asymptomatic!

Few antimicrobial regimens including oral cephalosporins can reliably cure > 90% of pharyngeal GC.
Ask patients with urogenital or rectal GC about oral sexual exposure.
GC: alternative regimens

- Cefixime (Suprax) should only be considered as an alternative regimen (does not provide as high or sustained levels as ceftriaxone 250 mg).
- Limited efficacy for pharyngeal GC.
- CDC anticipates declining effectiveness.

GC Treatment

- Test of cure not needed after treatment (recommended or alternative) for:
  - Urogenital infection.
  - Rectal infection.
- Test of cure only for pharynx infection if treated with alternative regimen.
- 14 days after treatment. (culture or NAAT)
- Most + tests at 3 months are due to reinfection.
  - Infected new partner.
  - Untreated prior partner.

GC: treatment failure

- Report to local or state health dept.
- Test of cure
  - 7-14 days after retreatment.
  - Culture/susceptibility test + NAAT.
- Ensure partner treatment.

Genital HSV

- Increasing proportion of anogenital infections HSV-1 (young females, MSM)
- Type specific serologic tests
  - HSV-2 ELISA may be false + at low index values; confirm with Western Blot
  - HSV-1 ELISA insensitive for HSV-2 (80%)
- No change in recommended therapy.

USPSTF Aug 2015: HSV screening research plan 2017

- Does serologic screening for HSV or paired testing in pregnant and adolescents reduce future episodes and transmission?
- How effective are oral antivirals in reducing HSV-2 shedding in asymptomatic pregnant women?
- How effective are preventive meds and behavioral counseling in reducing neonatal HSV infections at delivery?
- What is the accuracy of serologic screening for HSV-2 in asymptomatic adults, adolescents and pregnant women?

The Patient Protection & Affordable Care Act

- Affordable Care Act provides full health plan coverage for U.S. Preventive Services Task Force (USPSTF) A and B graded preventive health services with no cost sharing
- Chlamydia screening all sexually active females under 25 years is a USPSTF Grade A recommendation
The End.......Thanks!