

Sexually Transmitted Infections Update: Screen, Treat, and Prevent

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Dr. Wheat earned her medical degree from the University of Illinois College of Medicine at Chicago, and she earned her Master of Public Health (MPH) degree at the University of Illinois at Chicago School of Public Health. She completed a residency in family medicine at Northwestern McGaw Family Medicine Residency at Humboldt Park in Chicago, Illinois. Dr. Wheat has a strong interest in reproductive health and social determinants of health, and she works with a largely Spanish-speaking patient population at a federally qualified health center (FQHC) in Chicago. She provides full primary care to patients living with HIV/AIDS and hepatitis C. Dr. Wheat is the program director for the Northwestern McGaw Family Medicine Residency. She runs an outpatient procedure clinic with the residents in her program and is part of the maternity care team.

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Dr. Brahmi earned her medical degree from Indiana University School of Medicine in Indianapolis and completed residency training at the University of California, San Francisco (UCSF) Family and Community Medicine Residency Program. She also completed a Family Planning Fellowship from Albert Einstein College of Medicine in New York City and a Faculty Development Fellowship at Montefiore Medical Center's Department of Family and Social Medicine. Prior to attending medical school, Dr. Brahmi worked as a high school teacher, HIV peer educator, and international human rights advocate. She developed a strong interest in refugee health when performing medical exams for survivors of torture with Survivors International and Physicians for Human Rights.

Dr. Brahmi has experience incorporating comprehensive reproductive health services into primary health clinics and has trained globally. Prior to moving to North Carolina, she worked as a medical officer at the World Health Organization (WHO), compiling scientific evidence on abortion and contraception that contributed to the Centers for Disease Control and Prevention's (CDC's) U.S. Medical Eligibility Criteria for Contraceptive Use and the WHO's safe abortion guidance. For six years, Dr. Brahmi served as Associate Medical Director of Ipas, an international nongovernmental organization (NGO) working to reduce maternal mortality from unsafe abortion. She currently travels internationally with NGOs, providing technical assistance and training, trains residents and students at Planned Parenthood South Atlantic, and recently joined an independent practice in Chapel Hill, NC that serves patients from throughout North Carolina providing primary care for adolescents and adults, including gender-affirming hormone management, outpatient gynecologic care, and comprehensive care for individuals with eating disorders. Dr. Brahmi is active in advocacy and education efforts with Physicians for Reproductive Health and the Reproductive Health Access Project and is a member of the North Carolina Academy of Family Physicians' Member Satisfaction and Practice Environment Committee.

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Learning Objectives

1. Use evidence-based recommendations and guidelines to screen asymptotically infected persons and test symptomatic persons unlikely to seek diagnostic and treatment services.
2. Be aware of increasing rates of syphilis in MSM population.
3. Follow evidence-based recommendations and guidelines in providing preventive STD/STI vaccination (HPV, hepatitis A and B) for persons at risk for vaccine preventable STDs/STIs.
4. Provide education and counseling to persons at risk on ways to avoid STIs/STDs through changes in sexual behaviors and use of recommended prevention services.
5. Establish patient-centered protocols for the evaluation, treatment, and counseling of sex partners of persons who are infected with an STI/STD.

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Audience Engagement System



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Audience Engagement System (AES) Question #1

24 year old male presents to establish care with you after moving into the area 6 months ago. His main concern today is a sore in his scrotal area. He noticed it as he was washing, but didn't feel any pain. He doesn't have any penile discharge or lesions anywhere else. He has had several new male partners that he met on a dating app and is worried because he has never had any STI testing.

Audience Engagement System (AES) Question #1

What STI testing does he need today?

- A. HPV and urine GC/CT NAAT testing
- B. HSV serology and Hep C testing
- C. GC/CT NAAT at appropriate sites, HIV testing, and Syphilis testing
- D. Trichomonas testing, HIV testing, GC/CT NAAT testing
- E. None of the above – no screening recommended

STI Prevention and Control

- Accurate risk assessment, education and counseling
- Pre-exposure vaccination (HPV, HAV, HBV)
- Identification of asymptotically infected persons and persons with STI symptoms
- Effective diagnosis, treatment and follow up
- Evaluation, treatment, and counseling of partners

Syphilis Screening

USPSTF

- Recommends early screening for all pregnant women – GRADE A
- Recommends screening for syphilis infection for non-pregnant persons at increased risk – GRADE A

CDC

- All pregnant women at first prenatal visit and in 3rd trimester for high risk
- MSM should be screened at least annually and every 3-6 months if increased risk
- Persons with HIV at least annually

Syphilis Symptoms



- Primary syphilis infection: ulcers or chancre at the infection site
- Secondary syphilis: skin rash, mucocutaneous lesions, lymphadenopathy, etc
- Tertiary syphilis: cardiac, gummatous lesions, tabes dorsalis, and general paresis
- Latent infections: no clinical manifestations (i.e., those lacking clinical manifestations)
- Neurosyphilis:
 - Early- cranial nerve dysfunction, meningitis, stroke, acute altered mental status, and auditory or ophthalmic abnormalities
 - Late - tabes dorsalis and general paresis

HIV Screening

USPSTF

- Clinicians screen for HIV infection in adolescents and adults aged 15 to 65 years. Younger adolescents and older adults who are at increased risk should also be screened. – GRADE A
- clinicians screen all pregnant women for HIV, including those who present in labor who are untested and whose HIV status is unknown. – GRADE A

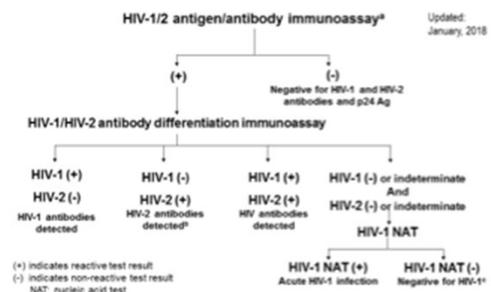
CDC

- All men and women aged 13-64 (opt-out) and all men and women seeking evaluation and treatment for STDs
- MSM should be screened at least annually if patient or partner has had more than 1 partner since most recent test
- Pregnant patients at first visit and in 3rd trimester if high risk

HIV Detection

- Acute retroviral syndrome
 - develops in 50%–90% of persons within the first few weeks after they become infected with HIV
 - nonspecific symptoms, including fever, malaise, lymphadenopathy, and skin rash.
 - Highly infectious time
- Detected with p24 and HIV viral load

Recommended Laboratory HIV Testing Algorithm for Serum or Plasma Specimens



Chlamydia & Gonorrhea Screening

USPSTF

- Screening for chlamydia in sexually active women age ≤ 24 and in older women at increased risk for infection – GRADE B
- The current evidence is insufficient to assess the balance of benefits and harms for screening in men – GRADE I

CDC

- Same for sexually active women
- Consider screening young men in high prevalence clinical settings or in populations with high burden of infection
- Screen AT LEAST annually for sexually active MSM at sites of contact regardless of condom use

Chlamydia & Gonorrhea Testing

Chlamydia

- Females: vaginal discharge, dysuria
- Males: penile discharge, dysuria, pain and swelling in testicles
- Rectal infections: rectal pain; discharge; bleeding.

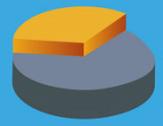
Test using NAATs via urine or swab

Gonorrhea

- Males: dysuria, penile discharge, painful or swollen testicles;
- Females: often asymptomatic, dysuria, vaginal discharge, bleeding between menses
- Rectal infections: discharge; anal pruritis; soreness; rectal bleeding

Test using NAATs via urine or swab

Centers for Disease Control and Prevention
MMWR | **MSM* & STDs: TEST MORE THAN GENITALS**

STDs IN THE THROAT AND RECTUM	OF MSM SCREENED FOR CHLAMYDIA & GONORRHEA**:	SCREEN SEXUALLY ACTIVE MSM FOR STDs!
<ul style="list-style-type: none"> • MSM AT HIGH RISK • OFTEN NO SYMPTOMS • DETECT BY SCREENING • INCREASES HIV RISK 	 <p>1 IN 8 HAD AN STD IN THROAT OR RECTUM</p>  <p>1/3 NOT SCREENED IN LAST 12 MONTHS</p>	<ul style="list-style-type: none"> • AT LEAST 1X/YEAR • HIGHER RISK? EVERY 3-6 MONTHS • IF INDICATED, TEST THROAT & RECTUM 

Data from National HIV Behavioral Surveillance (NHBS) as published in Johnson Jones et. al. MMWR 2019.
* Men who have sex with men
** MSM recruited from social venues in 5 cities provided data and self-collected swabs
bit.ly/CDCV2019
CS 202276-1

WWW.CDC.GOV

MSM-men who have sex with men

- HIV serology, if HIV status is unknown or negative and the patient himself or his sex partner(s) has had more than one sex partner since most recent HIV test.
- Syphilis serology to establish whether persons with reactive tests have untreated syphilis, have partially treated syphilis, are manifesting a slow serologic response to appropriate prior therapy, or are serofast.
- A test for urethral infection with *N. gonorrhoeae* and *C. trachomatis* in men who have had insertive intercourse during the preceding year
- A test for rectal infection with *N. gonorrhoeae* and *C. trachomatis* in men who have had receptive anal intercourse during the preceding year
- A test for pharyngeal infection with *N. gonorrhoeae* in men who have had receptive oral intercourse§ during the preceding year Testing for *C. trachomatis* pharyngeal infection is not recommended.

Vaginal Swab collection

Vaginal Swab Specimen Collection



Rectal Swab collection

Rectal Swab Specimen Collection



Throat Swab collection

Throat Swab Specimen Collection



Hepatitis

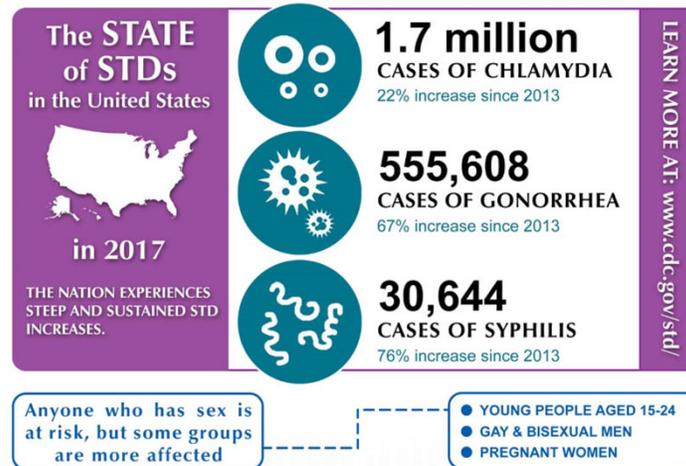
Hepatitis B

- Women and men at increased risk
- Pregnant women should be screened with HBsAg at initial visit
- HIV+ patients should be screened with HBsAg, anti-HBc, and anti-HBs

Hepatitis C

- All born between 1945-1965
- Patients with HIV upon intake
- Annual testing for MSM living with HIV
- Additional testing with risk factors

We Are Seeing More



STIs and Adolescents

- Prevalence of many STIs highest in this age group
- All states allow minors to consent to STI services – though what is allowed is state dependent
- Confidentiality can be a challenge with insurance companies
- Providers often fail to assess risk behaviors

STIs and Incarcerated Persons

- High rates among those incarcerated
- May have had limited access to care prior to incarceration
- GC/CT screening for all females ≤ 35 and all males ≤ 30 . Syphilis screening based on area prevalence

Additional screening

Trichomonas

- Consider for women presenting in high risk setting (STI clinic) and with high risk behaviors
- HIV+ women upon entry into care and annually

Herpes

- Type specific testing can be considered for women and men presenting in STI clinic

Audience Engagement System (AES) Question #2

You clinically diagnosed our previous patient with primary syphilis which was confirmed with serology. Our same patient has been diagnosed with rectal chlamydia. He has a penicillin allergy. How will you treat him?

Audience Engagement System (AES) Question #2

- A. Doxycycline 100 mg BID x 7 days
- B. Doxycycline 100 mg BID x 7 days and hospitalize for PCN desensitization
- C. Ceftriaxone 250mg x1 and azithromycin 1000 mg x1
- D. Azithromycin 1000mg x 1
- E. Doxycycline 100mg BID x 14 days

Syphilis Treatment

- Penicillin G
 - Primary, secondary and early latent 1dose
 - Late latent and tertiary longer duration
- Allergic to penicillin?
 - PCN with desensitization in pregnancy
 - Doxycycline or tetracycline
- Jarish-Herxheimer reaction

Syphilis Treatment of partners

- Persons who have had sexual contact within 90 days preceding diagnosis
- Persons with sexual contact >90 days before diagnosis treated presumptive if concern about followup
- Notification of sex partners who are considered high risk should be notified and evaluated

Chlamydia treatment

- Azithromycin 1g orally in a single dose
- Doxycycline 100mg orally twice daily x 7 days (preferred for rectal)
- Alternative options: erythromycin, levofloxacin, ofloxacin
- Abstain from sexual activity until regimen completed and symptoms resolve plus 7 days
- Test of cure not recommended

Gonococcal Infection Treatment

- Ceftriaxone 250mg IM plus Azithromycin 1g orally
- Alternative – Cefixime 400mg orally plus Azithromycin 1g orally
- For cephalosporin allergy:
 - Gemifloxacin or gentamicin plus azithromycin

Audience Engagement System (AES) Question #3

Your patient has been scared by his recent diagnosis and treatment of syphilis and chlamydia. He wants to know what he can do to prevent further. What do you tell him?

- A. Abstinence or mutual monogamy
- B. Pre Exposure Prophylaxis
- C. Condom use
- D. HPV vaccination
- E. All of the above

STI prevention

THE LOWDOWN ON HOW TO PREVENT SEXUALLY TRANSMITTED DISEASES

Every year, there are an estimated **20 MILLION** new STD infections in the United States. Anyone who is sexually active can get an STD. Some groups are disproportionately affected by STDs: men who have sex with men, people who inject drugs, and people who have sex with sex workers.

The Good News
STDs **ARE** preventable. There are steps you can take to keep yourself and your partner(s) healthy. Here's How You Can Avoid Giving or Getting an STD:

- Practice Abstinence**
The surest way to avoid STDs is to not have sex. This means not having vaginal, oral, or anal sex.
- Have Fewer Partners**
Agree to only have sex with one person who agrees to only have sex with you. Make sure you both get tested to know for sure that neither of you has an STD. This is one of the most reliable ways to avoid STDs.
- Talk With Your Partner**
Talk with your sex partner(s) about STDs and staying safe before having sex. Why take a chance when we can know for sure? Let's both get tested together! It might be uncomfortable to start the conversation, but protecting your health is your responsibility.
- Use Condoms**
Using a condom correctly every time you have sex can help you avoid STDs. Condoms lower the risk of infection for all STDs. You still can get certain STDs, like herpes or HPV, but contact with your partner's skin can also spread a condom every time.
- Get Vaccinated**
The most common STD can be prevented by a vaccine. The HPV vaccine is safe, effective, and can help you avoid HPV-related health problems like genital warts and some cancers. Who should get the HPV vaccine? Routine vaccination for boys & girls ages 11 to 12. Catch-up vaccination for: Men ages 13 to 15, men ages 16 to 26 who have not been vaccinated, and women ages 13 to 26 who have not been vaccinated.
- Get Tested**
Many STDs don't have symptoms, but they can still cause health problems. The only way to know for sure if you have an STD is to get tested. If You Test Positive... Getting an STD is not the end! Many STDs are curable and all are treatable. If either you or your partner is infected with an STD that can be cured, both of you need to start treatment immediately to avoid getting reinfected.

View Infographic Online at: www.cdc.gov/std/prevention/lowdown/

PrEP Recommendation

- USPSTF recommend that clinicians offer pre-exposure prophylaxis (PrEP) with effective antiretroviral therapy to persons at high risk of HIV acquisition – Grade A

PrEP Practice Opportunities

- Allow for same day start
- Identification mechanism for patients at risk
 - Chart pull of patients with positive STI tests in past year
 - Automatic ask for anyone asking for STI testing



For clinical advice:

Translating Science into Care

- Call 855-448-7737

- <http://nccc.ucsf.edu/clinician-consultation/prep-pre-exposure-prophylaxis/>

Hepatitis B vaccination recommendations

- Universal vaccination of infants once at least 2,000grams and Children and adolescents not previously vaccinated
- Persons at risk for infection by sexual exposure
- Persons with a history of current or recent injection drug use are at increased risk for HBV infection.
- Other persons at risk for infection by percutaneous or mucosal exposure to blood
- International travelers to countries with high or intermediate levels endemic HBV infection, persons with HCV infection, persons with HIV infection, incarcerated persons, all other persons seeking protection from HBV infection without acknowledgement of a specific risk factor
- ***Persons with chronic liver disease [including, but not limited to, those with cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, and an ALT or AST level >2x the upper limit of normal]***
- Pregnant women are able to get vaccination

HPV vaccination recommendations

- HPV vaccine is recommended for routine vaccination at age 11 or 12 years. (Vaccination can be started at age 9.)
- ACIP also recommends vaccination for females aged 13 through 26 years and males aged 13 through 21 years not adequately vaccinated previously.
- Catch up vaccination is recommended through age 26 years for those not adequately vaccinated previously.
- *ACIP recommends shared decision making for persons 26 -45 years of age*

Vaccine Practice Recommendations

- Standing orders for second and third doses
- Communication relationships with pharmacies for proper documentation

Protocol Recommendations

- Standing orders to test for other STIs when one is positive
- Standing orders for treatment and EPT
- Allow for self collection when possible
- Standing orders for vaccinations
- Condoms available or condom resources

Practice Recommendations

- Adults and adolescents at increased risk should be screened for syphilis, Hepatitis B, and HIV infection and be offered PrEP when indicated- SOR A
- Screening should be done for chlamydial and gonococcal infection in all sexually active nonpregnant women 24 years and younger, and all nonpregnant women 25 years and older who are at increased risk - SOR B
- Sexually active MSM should have annual HIV serology, syphilis serology, urethral and rectal chlamydia and gonorrhea testing, and pharyngeal gonorrhea testing and offered HPV vaccination per guidelines - SOR B

Questions



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Resources/Supplemental Material

- <https://www.cdc.gov/std/tg2015/screening-recommendations.htm>
- <https://www.cdc.gov/vaccines/vpd/hpv/hcp/recommendations.html>
- CDC. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR. 9/22/2006 2006;55(No. RR-14):1-17.
- Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2015.
- Moyer VA, US Preventive Services Task Force. Screening for HIV: US Preventive Services Task Force Recommendation Statement. Annals of internal medicine. 2013;159:51–60.
- <https://www.cdc.gov/std/ept/legal/default.htm>
- <https://www.cdc.gov/std/tg2015/clinical.htm>
- <https://www.cdc.gov/std/prevention/default.htm>