

## CDC Releases 2015 Guidelines on the Treatment of Sexually Transmitted Diseases

### Key Points for Practice

- Serologic screening for HCV should be performed in all persons with HIV infection on initial assessment.
- Any of the HPV vaccines should be given to girls at 11 to 12 years of age, but boys 11 to 12 years of age should receive either the quadrivalent or the 9-valent vaccine.
- If point-of-care diagnostic tests for urethritis are unavailable, NAAT should be done and treatment given to cover gonorrhea and chlamydia.
- The recommended treatment for uncomplicated *N. gonorrhoeae* infection is a single 250-mg dose of intramuscular ceftriaxone plus a single 1-g dose of oral azithromycin.
- *M. genitalium* infection is one cause of urethritis, and the treatment is a single 1-g dose of azithromycin.

From the AFP Editors

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The Centers for Disease Control and Prevention (CDC) has updated its 2010 recommendations to help guide physicians in preventing and treating sexually transmitted diseases (STDs). This summary practice guideline will focus on the updates, which include yearly screening for hepatitis C virus (HCV) in persons with human immunodeficiency virus (HIV) infection; vaccine recommendations and counseling for persons with human papillomavirus (HPV); diagnostic assessment of urethritis; nucleic acid amplification tests (NAATs) for diagnosing trichomoniasis; alternative treatments for *Neisseria gonorrhoeae* and genital herpes simplex virus (HSV); the role of *Mycoplasma genitalium* in urethritis and cervicitis and implications of treatment; STD management in persons who are transgendered; and retesting for repeat STDs.

### New and Updated Recommendations HCV SCREENING IN PERSONS WITH HIV INFECTION

Although HCV is most commonly transmitted through exposure to infected blood, it can also be transmitted through sexual

contact, especially in persons with HIV infection. Serologic screening for HCV should be performed in all persons with HIV infection on initial assessment, and should be considered periodically thereafter, and at least annually in persons at high risk of HCV infection. Measurement of alanine transaminase is not recommended for testing; however, if a patient whose alanine transaminase levels are being monitored has increased levels, he or she should be tested for acute HCV infection. Additionally, because some persons with HIV infection do not have HCV antibodies, persons with liver disease of unknown etiology and who are anti-HCV negative should be evaluated for HCV infection using RNA testing.

### VACCINES AND COUNSELING IN PERSONS WITH HPV

**Vaccines.** The bivalent vaccine (Cervarix) protects against HPV types 16 and 18, which are responsible for more than 65% of cervical cancers; the quadrivalent vaccine (Gardasil) protects against HPV types 6 and 11, which are responsible for 90% of genital warts, as well as types 16 and 18; and the 9-valent vaccine protects against HPV types 6, 11, 16, 18, 31, 33, 45, 52, and 58, which include the strains responsible for an additional 15% of cervical cancers. The vaccine is given in three doses over six months, with the second dose given one to two months after the first dose, and the third dose given six months after the first dose.

For girls, it is recommended that any of the vaccines be given at 11 to 12 years of age, but boys 11 to 12 years of age should receive the quadrivalent or the 9-valent vaccine. In both groups, the vaccine can be given as early as nine years of age. Females 13 to 26 years of age and males 13 to 21 years of age in whom the vaccine series was not provided ►

or not completed should receive the vaccine. It should be noted that the vaccine is not licensed or recommended for persons older than 26 years.

**Counseling.** When providing counseling to persons with HPV infection, there are many important points of discussion. Most persons who are sexually active will be infected with HPV at some point; however, many will not be aware of it. The infection typically resolves spontaneously, with no associated health problems; however, when symptoms and problems do occur, they can lead to genital warts, precancers, and cancers of the cervix, anus, penis, vulva, vagina, head, and neck. An HPV infection that causes genital warts is not the same as the infection that causes cancers. These conditions can be treated; however, HPV itself has no treatment. There are also no tests to help determine which infections will resolve and which will progress. In some cases, however, a test can help detect if a woman is at increased risk of developing cervical cancer, but these tests do not identify other problems associated with HPV infection, and are not helpful in women younger than 25 years or men.

Many kinds of HPV are transmitted through anogenital (vaginal and anal sex) and genital to genital contact and oral sex. Anogenital infection is common and can affect other parts of the body (e.g., mouth, throat).

HPV does not cause difficulty in achieving or maintaining pregnancy, but some cancers caused by HPV, as well as their treatments, may decrease a woman's ability to get pregnant or to have an uncomplicated delivery. Rarely, HPV can be passed from an infected mother to her infant during delivery.

If a patient and his or her partner both have HPV, it may not be feasible to determine where the infection originated, and it should be noted that infection does not necessarily mean that one or both partners are having a sexual relationship outside the existing one.

Condoms, if used correctly, can also lower the risk of HPV infection and its related conditions, but it should be noted that HPV can infect other areas that a condom would not cover. Abstinence from sexual activity is the most reliable way to avoid HPV infection; limiting the number of sex partners can reduce risk, but even persons with only one partner can be infected.

#### DIAGNOSIS OF URETHRITIS

When diagnosing what is suspected to be urethritis, physicians should assess the patient for urethral inflammation. If point-of-care diagnostic tests such as Gram stain are unavailable, NAAT should be performed, and the patient should receive medications that treat gonorrhea and chlamydia. Urethritis can be diagnosed based on the presence of mucoid, mucopurulent, or purulent discharge; at least two white blood cells per oil immersion

field on Gram stain or methylene blue/gentian violet stain of urethral secretions; or positive findings on a leukocyte esterase test of first-void urine or first-void urine with at least 10 white blood cells per high-power field on microscopic examination of sediment from a spun first-void urine sample.

Men who are determined to have urethritis based on Gram or methylene blue/gentian violet stain (suspected gonococcal negative) and those who have at least one criterion for urethritis, should be tested for chlamydia or gonorrhea with NAAT and treated as nongonococcal urethritis. Those who meet urethritis criteria without the use of Gram or methylene blue/gentian violet stain, should be tested with NAAT and treated for both gonorrhea and chlamydia. If a patient has symptoms, but no inflammation, testing with NAAT for chlamydia and gonorrhea might help to determine if these infections are present.

Nongonococcal urethritis can have many causes, and can be diagnosed in men who present with symptoms and stains of urethral secretions that suggest inflammation without gram-negative or purple diplococci. If nongonococcal urethritis is confirmed, testing for chlamydia and gonorrhea should be performed, with NAATs preferred. Testing for *Trichomonas vaginalis* should be considered in locations with a high prevalence of the infection.

#### NAATS FOR TRICHOMONIASIS

NAATs are highly sensitive and are preferred for diagnosing *T. vaginalis*. In women, NAATs can be performed on vaginal, endocervical, and urine specimens and can typically identify three to five times more infections compared with wet-mount microscopy.

#### ALTERNATIVE TREATMENTS FOR GONORRHEA

The recommended treatment for uncomplicated *N. gonorrhoeae* infection is a single 250-mg dose of intramuscular ceftriaxone plus a single 1-g dose of oral azithromycin (Zithromax). Several regimens of injectable cephalosporins are considered safe and effective to treat uncomplicated urogenital and anorectal gonococcal infections. These include a single 500-mg dose of intramuscular ceftizoxime (Cefizox); a single 2-g dose of intramuscular cefoxitin combined with 1 g of oral probenecid; and a single 500-mg dose of intramuscular cefotaxime (Claforan). None of these have a specific advantage over ceftriaxone, and coverage against pharyngeal infections is not fully known.

Only if ceftriaxone is unavailable, a single 400-mg dose of oral cefixime combined with a single 1-g dose of oral azithromycin can be considered as an alternative treatment option. ►

## Practice Guidelines

### ALTERNATIVE TREATMENTS FOR GENITAL HERPES

Antiviral chemotherapy is beneficial in most persons with symptoms of genital herpes and is the main treatment used. Signs and symptoms of first and recurrent episodes of genital herpes can be somewhat controlled with systemic antiviral medications; these medications are also beneficial when used as daily suppressive therapy. Acyclovir, valacyclovir (Valtrex), and famciclovir (Famvir) have been shown to provide benefit; however, it should be noted that, after discontinuation, they do not eliminate latent virus or have an effect on the risk, frequency, or severity of recurrent infection. Topical therapy is generally discouraged.

If treatment with antivirals fails in persons with HSV, they should be managed with guidance from an infectious disease expert and receive an alternative treatment; 40 to 80 mg per kg of intravenous foscarnet every eight hours until clinical resolution is typically beneficial for genital herpes with resistance to acyclovir. Also, 5 mg per kg of intravenous cidofovir (Vistide) once weekly may be an option. Topical imiquimod (Aldara) and cidofovir 1% are also options, although cidofovir must be compounded at a pharmacy.

### M. GENITALIUM IN URETHRITIS AND CERVICITIS

*M. genitalium* is one cause of male urethritis, and can also be found in the vagina, cervix, and endometrium. Infections in women typically cause no symptoms. In persons with persistent or recurrent urethritis or cervicitis, *M. genitalium* may be suspected. Antibiotics aimed at cell-wall biosynthesis (e.g., penicillins, cephalosporins) are not effective.

The seven-day doxycycline treatment recommended for urethritis is generally not effective for *M. genitalium* infection (median cure rate of 31%); the single 1-g dose of azithromycin is more effective and is preferred over doxycycline. It should be noted, however, that azithromycin resistance is quickly developing, with the latest study indicating a median cure rate of 40% (down from 85%). Longer treatment with azithromycin (500 mg initially, then 250 mg per day for four days) may be slightly better than the single-dose regimen; however, those

persons in whom the single dose is not effective are not likely to experience benefits from the longer course.

Moxifloxacin (Avelox), in a dosage of 400 mg per day for seven, 10, or 14 days, has been effective for *M. genitalium* infection in patients in whom treatment failed previously. It should be noted, however, that moxifloxacin has been used for treatment in only a couple of cases and it has not been evaluated in clinical trials. Although moxifloxacin has been considered generally effective, treatment failures have been reported after the seven-day regimen in Japanese, Australian, and U.S. studies.

### PERSONS WHO ARE TRANSGENDERED

Physicians should know about each patient's anatomy and sexual behaviors before providing STD and HIV prevention counseling. Because the surgical affirming procedures, hormone use, and sexual behaviors vary in persons who are transgendered, physicians should know the symptoms of common STDs and should perform STD screening in asymptomatic persons based on history of behavior and sexual practices (e.g., women may retain a functional penis, men may have a vagina and cervix).

### RETESTING

Retesting for chlamydia, gonorrhea, and trichomoniasis should be performed a few months after diagnosis; this assists with identifying repeat infection. Men and women who have chlamydia or gonorrhea, and women who test positive for trichomoniasis should be rescreened three months after being treated. Persons with syphilis should have follow-up testing based on current recommendations.

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