



APPENDIX A

FACT SHEETS

HIV/AIDS AND SEXUALLY TRANSMITTED DISEASES—CDC FACT SHEET

HIV/AIDS AND AFRICAN AMERICANS

In the United States, the HIV/AIDS epidemic is a health crisis for African Americans. At all stages of HIV/AIDS—from infection with HIV to death with AIDS—blacks (including African Americans) are disproportionately affected, as compared with members of other races and ethnicities.

STATISTICS: HIV/AIDS IN 2006–2007¹

- ▶ According to the 2000 census, blacks make up approximately 13% of the U.S. population. However, in 2006, blacks accounted for 49% of the new HIV/AIDS diagnoses in the United States in the 33 States with long-term, confidential, name-based HIV reporting. In 2006, rates of HIV/AIDS cases were highest among the black population at 67.7 per 100,000 in the black population.
- ▶ Of all black men living with HIV/AIDS, the primary transmission category was sexual contact with other men, followed by injection drug use and high-risk heterosexual contact.
- ▶ Of all black women living with HIV/AIDS, the primary transmission category was high-risk heterosexual contact, followed by injection drug use.
- ▶ Of the estimated 3,660 perinatally infected children living with AIDS, 67% are estimated to be black.

UNKNOWN SEROSTATUS

In the United States, approximately 25% of the people who are infected with HIV do not know they are infected.

- ▶ Through its National HIV Behavioral Surveillance system, the Centers for Disease Control and Prevention (CDC) found that 25% of the men who have sex with men (MSM) surveyed in five large U.S. cities were infected with HIV and that 48% of those infected were unaware of their infections.²

¹ Centers for Disease Control and Prevention. (2008). *HIV/AIDS surveillance report: Cases of HIV infection and AIDS in the United States and dependent areas, 2006* (Vol. 18, pp. 1–55). Atlanta, GA: U.S. Department of Health and Human Services. Retrieved April 11, 2008, from

<http://www.cdc.gov/hiv/topics/surveillance/resources/reports/2006report/pdf/2006SurveillanceReport.pdf>

² Centers for Disease Control and Prevention. (2005). HIV prevalence, unrecognized infection, and HIV testing among men who have sex with men—Five U.S. cities, June 2004–April 2005. *MMWR*, 54(24), 597–601.

- ▶ In a recent CDC study of young MSM, 77% of those who tested HIV-positive mistakenly believed that they were not infected. Young black MSM in this study were more likely to be unaware of their infection—approximately 9 out of 10 young black MSM, as compared with 6 out of 10 young white MSM. Of the men who tested positive, most (74%) had previously tested negative for HIV infection, and 59% believed that they were at low or very low risk.³

³ MacKellar, D. A., Valleroy, L. A., Secura, G. M., Behel, S., Bingham, T., Celentano, D. D., et al. (2005). Unrecognized HIV infection, risk behaviors, and perceptions of risk among young men who have sex with men: Opportunities for advancing HIV prevention in the third decade of HIV/AIDS. *Journal of Acquired Immune Deficiency Syndromes*, 38(5), 603–614.

HIV/AIDS AMONG MEN WHO HAVE SEX WITH MEN—CDC FACT SHEET

In the United States, HIV infection and AIDS have had a tremendous effect on men who have sex with men (MSM). MSM accounted for 71% of all HIV infections among male adults and adolescents in 2005 (based on data from 33 States with long-term, confidential, name-based HIV reporting), even though only about 5% to 7% of male adults and adolescents in the United States identify themselves as MSM.

The number of HIV diagnoses for MSM decreased during the 1980s and 1990s, but recent surveillance data show an increase in HIV diagnoses for this group. Additionally, racial disparities exist with regard to HIV diagnoses within the MSM population. A recent study, conducted in five large U.S. cities, found that HIV prevalence among black MSM (46%) was more than twice that among white MSM (21%).

The recent overall increase in HIV diagnoses for MSM, coupled with racial disparities, strongly points to a continued need for appropriate prevention and education services tailored for specific subgroups of MSM, especially those who are members of minority races/ethnicities.

STATISTICS: HIV/AIDS IN 2006¹

- ▶ In the 33 states and 5 U.S. dependent areas with long-term, confidential name-based HIV reporting, an estimated 243,761 MSM received a diagnosis of HIV/AIDS, accounting for 69% of male adults and adolescents and 48% of all people receiving an HIV/AIDS diagnosis in 2006.
- ▶ In the 45 states and 5 U.S. dependent areas with confidential name-based HIV reporting, 49% of persons living with HIV/AIDS in 2006 were black MSM. In addition, an estimated 57,520 black MSM accounted for 38% of persons living with AIDS in 2006.
- ▶ Black MSM comprised 44% of reported cases of HIV in 2006 and cumulatively for male adults and adolescents. In addition, black MSM comprised 26% of AIDS cases in 2006 and cumulatively for male adults and adolescents.

In the 33 States and 5 U.S. dependent areas with confidential, name-based HIV infection reporting, the number of HIV/AIDS diagnoses among MSM increased 11% from 2001 through 2005. It is not known whether this increase is due to an increase in the testing of

¹ Centers for Disease Control and Prevention. (2008). *HIV/AIDS surveillance report: Cases of HIV infection and AIDS in the United States and dependent areas, 2006* (Vol. 18, pp. 1–55). Atlanta, GA: U.S. Department of Health and Human Services. Retrieved April 11, 2008, from <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/2006report/pdf/2006SurveillanceReport.pdf>

persons with risk factors, which results in more HIV diagnoses, or to an increase in cases of HIV infection. The number of HIV/AIDS diagnoses among MSM increased 2% from 2003 through 2006.

CHLAMYDIA—CDC FACT SHEET

WHAT IS CHLAMYDIA?

Chlamydia is a common sexually transmitted disease (STD) caused by the bacterium, *Chlamydia trachomatis*, which can damage a woman's reproductive organs. Even though symptoms of chlamydia are usually mild or absent, serious complications that cause irreversible damage, including infertility, can occur "silently" before a woman ever recognizes a problem. Chlamydia also can cause discharge from the penis of an infected man.

HOW COMMON IS CHLAMYDIA?

Chlamydia is the most frequently reported bacterial sexually transmitted disease in the United States. In 2006, 1,030,911 chlamydial infections were reported to CDC from 50 states and the District of Columbia. Under-reporting is substantial because most people with chlamydia are not aware of their infections and do not seek testing. Also, testing is not often done if patients are treated for their symptoms. An estimated 2,291,000 non-institutionalized U.S. civilians ages 14-39 are infected with Chlamydia based on the U.S. National Health and Nutrition Examination Survey. Women are frequently re-infected if their sex partners are not treated.

HOW DO PEOPLE GET CHLAMYDIA?

Chlamydia can be transmitted during vaginal, anal, or oral sex. Chlamydia can also be passed from an infected mother to her baby during vaginal childbirth.

Any sexually active person can be infected with chlamydia. The greater the number of sex partners, the greater the risk of infection. Because the cervix (opening to the uterus) of teenage girls and young women is not fully matured and is probably more susceptible to infection, they are at particularly high risk for infection if sexually active. Since chlamydia can be transmitted by oral or anal sex, men who have sex with men are also at risk for chlamydial infection.

WHAT ARE THE SYMPTOMS OF CHLAMYDIA?

Chlamydia is known as a "silent" disease because about three quarters of infected women and about half of infected men have no symptoms. If symptoms do occur, they usually appear within 1 to 3 weeks after exposure.

In women, the bacteria initially infect the cervix and the urethra (urine canal). Women who have symptoms might have an abnormal vaginal discharge or a burning sensation when urinating. When the infection spreads from the cervix to the fallopian tubes (tubes that carry fertilized eggs from the ovaries to the uterus), some women still have no signs or symptoms; others have lower abdominal pain, low back pain, nausea, fever, pain during

intercourse, or bleeding between menstrual periods. Chlamydial infection of the cervix can spread to the rectum.

Men with signs or symptoms might have a discharge from their penis or a burning sensation when urinating. Men might also have burning and itching around the opening of the penis. Pain and swelling in the testicles are uncommon.

Men or women who have receptive anal intercourse may acquire chlamydial infection in the rectum, which can cause rectal pain, discharge, or bleeding. Chlamydia can also be found in the throats of women and men having oral sex with an infected partner.

WHAT COMPLICATIONS CAN RESULT FROM UNTREATED CHLAMYDIA?

If untreated, chlamydial infections can progress to serious reproductive and other health problems with both short-term and long-term consequences. Like the disease itself, the damage that chlamydia causes is often “silent.”

In women, untreated infection can spread into the uterus or fallopian tubes and cause pelvic inflammatory disease (PID). This happens in up to 40 percent of women with untreated chlamydia. PID can cause permanent damage to the fallopian tubes, uterus, and surrounding tissues. The damage can lead to chronic pelvic pain, infertility, and potentially fatal ectopic pregnancy (pregnancy outside the uterus). Women infected with chlamydia are up to five times more likely to become infected with HIV, if exposed.

To help prevent the serious consequences of chlamydia, screening at least annually for chlamydia is recommended for all sexually active women age 25 years and younger. An annual screening test also is recommended for older women with risk factors for chlamydia (a new sex partner or multiple sex partners). All pregnant women should have a screening test for chlamydia.

Complications among men are rare. Infection sometimes spreads to the epididymis (the tube that carries sperm from the testis), causing pain, fever, and, rarely, sterility.

Rarely, genital chlamydial infection can cause arthritis that can be accompanied by skin lesions and inflammation of the eye and urethra (Reiter's syndrome).

HOW DOES CHLAMYDIA AFFECT A PREGNANT WOMAN AND HER BABY?

In pregnant women, there is some evidence that untreated chlamydial infections can lead to premature delivery. Babies who are born to infected mothers can get chlamydial infections in their eyes and respiratory tracts. Chlamydia is a leading cause of early infant pneumonia and conjunctivitis (pink eye) in newborns.

HOW IS CHLAMYDIA DIAGNOSED?

There are laboratory tests to diagnose chlamydia. Some can be performed on urine, other tests require that a specimen be collected from a site such as the penis or cervix.

WHAT IS THE TREATMENT FOR CHLAMYDIA?

Chlamydia can be easily treated and cured with antibiotics. A single dose of azithromycin or a week of doxycycline (twice daily) are the most commonly used treatments. HIV-positive persons with chlamydia should receive the same treatment as those who are HIV negative.

All sex partners should be evaluated, tested, and treated. Persons with chlamydia should abstain from sexual intercourse until they and their sex partners have completed treatment, otherwise re-infection is possible.

Women whose sex partners have not been appropriately treated are at high risk for re-infection. Having multiple infections increases a woman's risk of serious reproductive health complications, including infertility. Retesting should be encouraged for women three to four months after treatment. This is especially true if a woman does not know if her sex partner received treatment.

HOW CAN CHLAMYDIA BE PREVENTED?

The surest way to avoid transmission of STDs is to abstain from sexual contact, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected.

Latex male condoms, when used consistently and correctly, can reduce the risk of transmission of chlamydia.

CDC recommends yearly chlamydia testing of all sexually active women age 25 or younger, older women with risk factors for chlamydial infections (those who have a new sex partner or multiple sex partners), and all pregnant women. An appropriate sexual risk assessment by a health care provider should always be conducted and may indicate more frequent screening for some women.

Any genital symptoms such as an unusual sore, discharge with odor, burning during urination, or bleeding between menstrual cycles could mean an STD infection. If a woman has any of these symptoms, she should stop having sex and consult a health care provider immediately. Treating STDs early can prevent PID. Women who are told they have an STD and are treated for it should notify all of their recent sex partners (sex partners within the preceding 60 days) so they can see a health care provider and be evaluated for STDs. Sexual activity should not resume until all sex partners have been examined and, if necessary, treated.

WHERE CAN I GET MORE INFORMATION?

Division of STD Prevention (DSTDP)
Centers for Disease Control and Prevention
www.cdc.gov/STD

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American Social Health Association (ASHA)
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SOURCES

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines 2006. *MMWR* 2006;55(No. RR-11).

Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance, 2006. Atlanta, GA: U.S. Department of Health and Human Services, November 2007.

SD Datta et al. Gonorrhea and chlamydia in the United States among persons 14 to 39 years of age, 1999 to 2002. *Ann Intern Med.* 2007;147:89-96.

Stamm W E. *Chlamydia trachomatis* infections of the adult. In: K. Holmes, P. Sparling, P. Mardh et al (eds). Sexually Transmitted Diseases, 3rd edition. New York: McGraw-Hill, 1999, 407-422.

Weinstock H, Berman S, Cates W. Sexually transmitted disease among American youth: Incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health* 2004; 36: 6-10.

GENITAL HERPES—CDC FACT SHEET

WHAT IS GENITAL HERPES?

Genital herpes is a sexually transmitted disease (STD) caused by the herpes simplex viruses type 1 (HSV-1) or type 2 (HSV-2). Most genital herpes is caused by HSV-2. Most individuals have no or only minimal signs or symptoms from HSV-1 or HSV-2 infection. When signs do occur, they typically appear as one or more blisters on or around the genitals or rectum. The blisters break, leaving tender ulcers (sores) that may take two to four weeks to heal the first time they occur. Typically, another outbreak can appear weeks or months after the first, but it almost always is less severe and shorter than the first outbreak. Although the infection can stay in the body indefinitely, the number of outbreaks tends to decrease over a period of years.

HOW COMMON IS GENITAL HERPES?

Results of a nationally representative study show that genital herpes infection is common in the United States. Nationwide, at least 45 million people ages 12 and older, or one out of five adolescents and adults, have had genital HSV infection. Over the past decade, the percent of Americans with genital herpes infection in the U.S. has decreased.

Genital HSV-2 infection is more common in women (approximately one out of four women) than in men (almost one out of eight). This may be due to male-to-female transmission being more likely than female-to-male transmission.

HOW DO PEOPLE GET GENITAL HERPES?

HSV-1 and HSV-2 can be found in and released from the sores that the viruses cause, but they also are released between outbreaks from skin that does not appear to have a sore. Generally, a person can only get HSV-2 infection during sexual contact with someone who has a genital HSV-2 infection. Transmission can occur from an infected partner who does not have a visible sore and may not know that he or she is infected.

HSV-1 can cause genital herpes, but it more commonly causes infections of the mouth and lips, so-called “fever blisters.” HSV-1 infection of the genitals can be caused by oral-genital or genital-genital contact with a person who has HSV-1 infection. Genital HSV-1 outbreaks recur less regularly than genital HSV-2 outbreaks.

WHAT ARE THE SIGNS AND SYMPTOMS OF GENITAL HERPES?

Most people infected with HSV-2 are not aware of their infection. However, if signs and symptoms occur during the first outbreak, they can be quite pronounced. The first outbreak usually occurs within two weeks after the virus is transmitted, and the sores typically heal within two to four weeks. Other signs and symptoms during the primary episode may include a second crop of sores, and flu-like symptoms, including fever and

swollen glands. However, most individuals with HSV-2 infection never have sores, or they have very mild signs that they do not even notice or that they mistake for insect bites or another skin condition.

People diagnosed with a first episode of genital herpes can expect to have several (typically four or five) outbreaks (symptomatic recurrences) within a year. Over time these recurrences usually decrease in frequency. It is possible that a person becomes aware of the “first episode” years after the infection is acquired.

WHAT ARE THE COMPLICATIONS OF GENITAL HERPES?

Genital herpes can cause recurrent painful genital sores in many adults, and herpes infection can be severe in people with suppressed immune systems. Regardless of severity of symptoms, genital herpes frequently causes psychological distress in people who know they are infected.

In addition, genital HSV can lead to potentially fatal infections in babies. It is important that women avoid contracting herpes during pregnancy because a newly acquired infection during late pregnancy poses a greater risk of transmission to the baby. If a woman has active genital herpes at delivery, a cesarean delivery is usually performed. Fortunately, infection of a baby from a woman with herpes infection is rare.

Herpes may play a role in the spread of HIV, the virus that causes AIDS. Herpes can make people more susceptible to HIV infection, and it can make HIV-infected individuals more infectious.

HOW IS GENITAL HERPES DIAGNOSED?

The signs and symptoms associated with HSV-2 can vary greatly. Health care providers can diagnose genital herpes by visual inspection if the outbreak is typical, and by taking a sample from the sore(s) and testing it in a laboratory. HSV infections can be diagnosed between outbreaks by the use of a blood test. Blood tests, which detect antibodies to HSV-1 or HSV-2 infection, can be helpful, although the results are not always clear-cut.

IS THERE A TREATMENT FOR GENITAL HERPES?

There is no treatment that can cure herpes, but antiviral medications can shorten and prevent outbreaks during the period of time the person takes the medication. In addition, daily suppressive therapy for symptomatic herpes can reduce transmission to partners.

HOW CAN HERPES BE PREVENTED?

The surest way to avoid transmission of sexually transmitted diseases, including genital herpes, is to abstain from sexual contact, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected.

Genital ulcer diseases can occur in both male and female genital areas that are covered or protected by a latex condom, as well as in areas that are not covered. Correct and consistent use of latex condoms can reduce the risk of genital herpes.

Persons with herpes should abstain from sexual activity with uninfected partners when lesions or other symptoms of herpes are present. It is important to know that even if a person does not have any symptoms he or she can still infect sex partners. Sex partners of infected persons should be advised that they may become infected and they should use condoms to reduce the risk. Sex partners can seek testing to determine if they are infected with HSV. A positive HSV-2 blood test most likely indicates a genital herpes infection.

WHERE CAN I GET MORE INFORMATION?

Division of STD Prevention (DSTDP)
Centers for Disease Control and Prevention
www.cdc.gov/STD

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PERSONAL HEALTH INQUIRIES AND INFORMATION ABOUT STDs

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1-800-CDC-INFO (1-800-232-4636)
E-mail: cdcinfo@cdc.gov

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<http://www.ashastd.org/hrc>
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SOURCES

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines 2006. *MMWR* 2006; 55(no. RR-11).

Corey L, Wald A. Genital herpes. In: Holmes KK, Sparling PF, Mardh P et al (eds). *Sexually Transmitted Disease*, 3rd Edition. New York: McGraw-Hill, 1999, p. 285-312.

Corey L, Wald A, Patel R et al. Once-daily valacyclovir to reduce the risk of transmission of genital herpes. *New England Journal of Medicine* 2004; 350:11-20.

Wald A, Langenberg AGM, Link K, et al. Effect of condoms on reducing the transmission of herpes simplex virus type 2 from men to women. *JAMA* 2001;285: 3100-3106.

Wald A, Link K. Risk of human immunodeficiency virus infection in herpes simplex virus infection in herpes simplex virus type 2 – seropositive persons: A meta-analysis. *J Infect Dis* 2002; 185: 45-52.

Weinstock H, Berman S, Cates W. Sexually transmitted diseases among American youth: Incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health* 2004; 36:6-10.

Xu F, Sternberg M, Kottiri B, McQuillan G, Lee F, Nahmias A, Berman S, Markowitz L. National trends in herpes simplex virus type 1 and type 2 in the United States: Data from the National Health and Nutrition Examination Survey (NHANES). *JAMA* 2006; Vol 296: 964-973.

GONORRHEA—CDC FACT SHEET

WHAT IS GONORRHEA?

Gonorrhea is a sexually transmitted disease (STD). Gonorrhea is caused by *Neisseria gonorrhoeae*, a bacterium that can grow and multiply easily in the warm, moist areas of the reproductive tract, including the cervix (opening to the womb), uterus (womb), and fallopian tubes (egg canals) in women, and in the urethra (urine canal) in women and men. The bacterium can also grow in the mouth, throat, eyes, and anus.

HOW COMMON IS GONORRHEA?

Gonorrhea is a very common infectious disease. CDC estimates that more than 700,000 persons in the U.S. get new gonorrheal infections each year. Only about half of these infections are reported to CDC. In 2006, 358,366 cases of gonorrhea were reported to CDC. In the period from 1975 to 1997, the national gonorrhea rate declined, following the implementation of the national gonorrhea control program in the mid-1970s. After several years of stable gonorrhea rates, however, the national gonorrhea rate increased for the second consecutive year. In 2006, the rate of reported gonorrheal infections was 120.9 per 100,000 persons.

HOW DO PEOPLE GET GONORRHEA?

Gonorrhea is spread through contact with the penis, vagina, mouth, or anus. Ejaculation does not have to occur for gonorrhea to be transmitted or acquired. Gonorrhea can also be spread from mother to baby during delivery.

People who have had gonorrhea and received treatment may get infected again if they have sexual contact with a person infected with gonorrhea.

WHO IS AT RISK FOR GONORRHEA?

Any sexually active person can be infected with gonorrhea. In the United States, the highest reported rates of infection are among sexually active teenagers, young adults, and African Americans.

WHAT ARE THE SIGNS AND SYMPTOMS OF GONORRHEA?

Some men with gonorrhea may have no symptoms at all. However, some men have signs or symptoms that appear two to five days after infection; symptoms can take as long as 30 days to appear. Symptoms and signs include a burning sensation when urinating, or a white, yellow, or green discharge from the penis. Sometimes men with gonorrhea get painful or swollen testicles.

In women, the symptoms of gonorrhea are often mild, but most women who are infected have no symptoms. Even when a woman has symptoms, they can be so non-specific as to be mistaken for a bladder or vaginal infection. The initial symptoms and signs in women include a painful or burning sensation when urinating, increased vaginal discharge, or vaginal bleeding between periods. Women with gonorrhea are at risk of developing serious complications from the infection, regardless of the presence or severity of symptoms.

Symptoms of rectal infection in both men and women may include discharge, anal itching, soreness, bleeding, or painful bowel movements. Rectal infection also may cause no symptoms. Infections in the throat may cause a sore throat but usually causes no symptoms.

WHAT ARE THE COMPLICATIONS OF GONORRHEA?

Untreated gonorrhea can cause serious and permanent health problems in both women and men.

In women, gonorrhea is a common cause of pelvic inflammatory disease (PID). About one million women each year in the United States develop PID. The symptoms may be quite mild or can be very severe and can include abdominal pain and fever. PID can lead to internal abscesses (pus-filled “pockets” that are hard to cure) and long-lasting, chronic pelvic pain. PID can damage the fallopian tubes enough to cause infertility or increase the risk of ectopic pregnancy. Ectopic pregnancy is a life-threatening condition in which a fertilized egg grows outside the uterus, usually in a fallopian tube.

In men, gonorrhea can cause epididymitis, a painful condition of the ducts attached to the testicles that may lead to infertility if left untreated.

Gonorrhea can spread to the blood or joints. This condition can be life threatening. In addition, people with gonorrhea can more easily contract HIV, the virus that causes AIDS. HIV-infected people with gonorrhea can transmit HIV more easily to someone else than if they did not have gonorrhea.

HOW DOES GONORRHEA AFFECT A WOMAN AND HER BABY?

If a pregnant woman has gonorrhea, she may give the infection to her baby as the baby passes through the birth canal during delivery. This can cause blindness, joint infection, or a life-threatening blood infection in the baby. Treatment of gonorrhea as soon as it is detected in pregnant women will reduce the risk of these complications. Pregnant women should consult a health care provider for appropriate examination, testing, and treatment, as necessary.

HOW IS GONORRHEA DIAGNOSED?

Several laboratory tests are available to diagnose gonorrhea. A doctor or nurse can obtain a sample for testing from the parts of the body likely to be infected (cervix, urethra, rectum, or throat) and send the sample to a laboratory for analysis. Gonorrhea that is present in the cervix or urethra can be diagnosed in a laboratory by testing a urine sample. A quick laboratory test for gonorrhea that can be done in some clinics or doctor's offices is a Gram stain. A Gram stain of a sample from a urethra or a cervix allows the doctor to see the gonorrhea bacterium under a microscope. This test works better for men than for women.

WHAT IS THE TREATMENT FOR GONORRHEA?

Several antibiotics can successfully cure gonorrhea in adolescents and adults. However, drug-resistant strains of gonorrhea are increasing in many areas of the world, including the United States, and successful treatment of gonorrhea is becoming more difficult. Because many people with gonorrhea also have chlamydia, another STD, antibiotics for both infections are usually given together. Persons with gonorrhea should be tested for other STDs.

It is important to take all of the medication prescribed to cure gonorrhea. Although medication will stop the infection, it will not repair any permanent damage done by the disease. People who have had gonorrhea and have been treated can get the disease again if they have sexual contact with persons infected with gonorrhea. If a person's symptoms continue even after receiving treatment, he or she should return to a doctor to be reevaluated.

HOW CAN GONORRHEA BE PREVENTED?

The surest way to avoid transmission of STDs is to abstain from sexual intercourse, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected.

Latex condoms, when used consistently and correctly, can reduce the risk of transmission of gonorrhea.

Any genital symptoms such as discharge or burning during urination or unusual sore or rash should be a signal to stop having sex and to see a doctor immediately. If a person has been diagnosed and treated for gonorrhea, he or she should notify all recent sex partners so they can see a health care provider and be treated. This will reduce the risk that the sex partners will develop serious complications from gonorrhea and will also reduce the person's risk of becoming re-infected. The person and all of his or her sex partners must avoid sex until they have completed their treatment for gonorrhea.

WHERE CAN I GET MORE INFORMATION?

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Centers for Disease Control and Prevention
www.cdc.gov/STD

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American Social Health Association (ASHA)
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SOURCES

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines, 2006. MMWR 2006; 55 (No. RR-11). www.cdc.gov/std/treatment

Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance, 2006. Atlanta, GA: U.S. Department of Health and Human Services, November 2007.

Hook EW III and Handsfield HH. Gonococcal infections in the adult. In: K. Holmes, P. Sparling, P. Markh et al (eds). Sexually Transmitted Diseases, 3rd Edition. New York: McGraw-Hill, 1999, 451-466.

Weinstock H, Berman S, Cates W. Sexually transmitted disease among American youth: Incidence and prevalence estimates, 2000. Perspectives on Sexual and Reproductive Health 2004; 36: 6-10.

ANTIMICROBIAL RESISTANCE AND *NEISSERIA GONORRHOEAE*—CDC FACT SHEET

GENERAL INFORMATION

Antimicrobial resistance in *N. gonorrhoeae* remains an important challenge to controlling gonorrhea; gonococcal strains may be resistant to penicillins, tetracyclines, spectinomycin, and fluoroquinolones. Resistance to CDC-recommended doses of ciprofloxacin and ofloxacin exceeds 40% in some Asian countries (World Health Organization (WHO) Western Pacific Region Gonococcal Antimicrobial Susceptibility Programme (GASP) Report- 2000. *Commun Dis Intell* 2001; 25:274-277).

Fluoroquinolone-resistant strains of *N. gonorrhoeae* have also been reported in the United States and Canada. The proportion of gonococcal isolates in Hawaii that are fluoroquinolone-resistant currently exceeds 13% and increasing numbers of resistant strains have been identified in the continental United States (Gonococcal Isolate Surveillance Project (GISP) Annual Report - 2003).

Antimicrobial resistance in *N. gonorrhoeae* occurs as plasmid-mediated resistance to penicillin and tetracycline, and chromosomally mediated resistance to penicillins, tetracyclines, spectinomycin, and fluoroquinolones.

SURVEILLANCE

Surveillance for antimicrobial resistance in *N. gonorrhoeae* in the United States is conducted through the Gonococcal Isolate Surveillance Project (GISP). The Gonococcal Isolate Surveillance Project (GISP) was established in 1986 to monitor trends in antimicrobial susceptibilities of strains of *N. gonorrhoeae* in the United States and to establish a rational basis for the selection of gonococcal therapies. Approximately 26 cities participate in GISP. Data from this project have been reported and used to revise the CDC's STD Treatment Guidelines in 1989, 1993, 1998, and 2002.

TRENDS

Antimicrobial resistance remains an important consideration in the treatment of gonorrhea. Overall, 16.4% of isolates collected in 2003 by GISP were resistant to penicillin, tetracycline, or both. The percentage of GISP isolates that were penicillinase-producing *Neisseria gonorrhoeae* (PPNG) declined from a peak of 11.0% in 1991 to 1.0% in 2003. In contrast, the percentage of isolates with chromosomally mediated resistance to penicillin (PenR) had increased from 0.5% in 1988 to 5.7% in 1999 and then declined to 1.3% in 2003. The prevalence of chromosomally mediated tetracycline resistance (TetR) decreased every year since 1995, until 2002, when it slightly increased. In 2003 there was another slight increase to 6.2%. The prevalence of isolates with chromosomally mediated

resistance to penicillin and tetracycline (CMRNG) increased from 3.0% in 1989 to a peak of 8.7% in 1997 and declined to 3.8% in 2003.

Resistance to ciprofloxacin was first identified in GISP in 1991. From 1991 to 1998, fewer than 9 ciprofloxacin-resistant isolates were identified each year and such isolates were identified in only a few GISP clinics. In 2000, similar to 1999, 19 (0.4%) ciprofloxacin-resistant GISP isolates were identified in 7 of the 25 GISP clinics. In 2001, 38 (0.7%) ciprofloxacin-resistant GISP isolates were identified in 6 clinics. Two hundred seventy (4.1%) of GISP isolates were resistant to ciprofloxacin (MICs >1.0 g/ml) in 2003, which was two times the proportion identified in 2002 (2.2%, 116/5367). Ciprofloxacin-resistant isolates were identified in 70% (21/30) sentinel sites in 2003.

In 2003, no GISP isolates had decreased susceptibility to cefixime or ceftriaxone. The proportion of GISP isolates demonstrating decreased susceptibility to ceftriaxone or cefixime has remained very low over time. To date, no cephalosporin resistance has been identified in GISP. However, it was notable that three of the four isolates with decreased susceptibility to cefixime were also resistant to penicillin, tetracycline, and ciprofloxacin; such multi-drug resistance in combination with decreased susceptibility to cefixime has rarely been identified in the United States (Wang SA, Lee MV, Iverson CJ, O'Connor N, Ohye RG, Hale JA, Knapp JS, Effler PV, Weinstock HS. Multi-drug resistant *Neisseria gonorrhoeae* with decreased susceptibility to cefixime, Hawaii 2001. [Abstract] International Conference on Emerging Infectious Diseases, Atlanta, Georgia, March 25, 2002.) [Note: No NCCLS criteria currently exist for resistance of *N. gonorrhoeae* to cephalosporins.]

The proportion of GISP isolates demonstrating elevated minimum inhibitory concentrations (MICs) to azithromycin has been increasing since GISP began monitoring azithromycin susceptibility in 1992. In 1992, 0.9% of GISP isolates had azithromycin MIC 0.5 µg/ml compared with 2.2% in 2003. In 1992, there were no isolates with azithromycin MIC 1.0 µg/ml, but in 2003 there were 26 such isolates. [Note: No NCCLS criteria currently exist for susceptibility or resistance of *N. gonorrhoeae* to azithromycin.]

CHALLENGES

Major challenges to monitoring antimicrobial resistance of *N. gonorrhoeae* include substantial declines in the use of gonorrhea culture for testing and declines in the number of laboratories performing gonorrhea susceptibility testing. There has been a proliferation of non-culture diagnostic testing for gonorrhea. In many clinical settings, non-culture testing has completely replaced testing using culture. Currently, susceptibility testing can only be performed on *N. gonorrhoeae* growing in culture. Technology that allows susceptibility testing from non-culture specimens is needed. Research into determining mechanisms of resistance for the newer antimicrobials and for determining the upper limits of resistance conferred by currently recognized mechanisms of resistance to fluoroquinolones is ongoing.

LABORATORY ISSUES

Research into determining mechanisms of resistance for the newer antimicrobials and for determining the upper limits of resistance conferred by currently recognized mechanisms of resistance to fluoroquinolones is ongoing.

LYMPHOGRANULOMA VENEREUM (LGV)— CDC FACT SHEET

WHAT IS LGV?

LGV (*Lymphogranuloma venereum*) is a sexually transmitted disease (STD) caused by three strains of the bacterium *Chlamydia trachomatis*. The visual signs include genital papule(s) (e.g., raised surface or bumps) and or ulcers, and swelling of the lymph glands in the genital area. LGV may also produce rectal ulcers, bleeding, pain, and discharge, especially among those who practice receptive anal intercourse. Genital lesions caused by LGV can be mistaken for other ulcerative STDs such as syphilis, genital herpes, and chancroid. Complications of untreated LGV may include enlargement and ulcerations of the external genitalia and lymphatic obstruction, which may lead to elephantiasis of the genitalia.

HOW COMMON IS LGV?

Signs and symptoms associated with rectal infection can be mistakenly thought to be caused by ulcerative colitis. While the frequency of LGV infection is thought to be rare in industrialized countries, its identification is not always obvious, so the number of cases of LGV in the United States is unknown. However, outbreaks in the Netherlands and other European countries among men who have sex with men (MSM) have raised concerns about cases of LGV in the U.S.

HOW DO PEOPLE GET LGV?

LGV is passed from person to person through direct contact with lesions, ulcers or other area where the bacteria is located. Transmission of the organism occurs during sexual penetration (vaginal, oral, or anal) and may also occur via skin to skin contact. The likelihood of LGV infection following an exposure is unknown, but it is considered less infectious than some other STDs. A person who has had sexual contact with a LGV-infected partner within 60 days of symptom onset should be examined, tested for urethral or cervical chlamydial infection, and treated with doxycycline, twice daily for 7 days.

WHAT ARE THE SIGNS AND SYMPTOMS?

LGV can be difficult to diagnose. Typically, the primary lesion produced by LGV is a small genital or rectal lesion, which can ulcerate at the site of transmission after an incubation period of 3-30 days. These ulcers may remain undetected within the urethra, vagina, or rectum. As with other STDs that cause ulcers, LGV may facilitate transmission and acquisition of HIV.

HOW IS LGV DIAGNOSED?

Because of limitations in a commercially available test, diagnosis is primarily based on clinical findings. Direct identification of the bacteria from a lesion or site of the infection may be possible through testing for chlamydia but, this would not indicate if the chlamydia infection is LGV. However, the usual chlamydia tests that are available have not been FDA approved for testing rectal specimens. In a patient with rectal signs or symptoms suspicious for LGV, a health care provider can collect a specimen and send the sample to his/her state health department for referral to CDC, which is working with state and local health departments to test specimens and validate diagnostic methods for LGV.

WHAT IS THE TREATMENT FOR LGV?

There is no vaccine against the bacteria. LGV can be treated with three weeks of antibiotics. CDC STD Treatment Guidelines recommend the use of doxycycline, twice a day for 21 days. An alternative treatment is erythromycin base or azithromycin. The health care provider will determine which is best.

If you have been treated for LGV, you should notify any sex partners you had sex with within 60 days of the symptom onset so they can be evaluated and treated. This will reduce the risk that your partners will develop symptoms and/or serious complications of LGV. It will reduce your risk of becoming re-infected as well as reduce the risk of ongoing transmission in the community. You and all of your sex partners should avoid sex until you have completed treatment for the infection and your symptoms and your partners' symptoms have disappeared.

Note: Doxycycline is not recommended for use in pregnant women. Pregnant and lactating women should be treated with erythromycin. Azithromycin may prove useful for treatment of LGV in pregnancy, but no published data are available regarding its safety and efficacy. A health care provider (like a doctor or nurse) can discuss treatment options with patients.

Persons with both LGV and HIV infection should receive the same LGV treatment as those who are HIV-negative. Prolonged therapy may be required, and delay in resolution of symptoms may occur among persons with HIV.

HOW CAN LGV BE PREVENTED?

The surest way to avoid transmission of sexually transmitted diseases is to abstain from sexual contact, or to be in a long-term mutually monogamous relationship with a partner who has been tested and is asymptomatic and uninfected.

Male latex condoms, when used consistently and correctly, may reduce the risk of LGV transmission. Genital ulcer diseases can occur in male or female genital areas that may or may not be covered (protected by the condom).

Having had LGV and completing treatment does not prevent re-infection. Effective treatment is available and it is important that persons suspected of having LGV be treated as if they have it. Persons who are treated for LGV treatment should abstain from sexual contact until the infection is cleared.

WHERE CAN I GET MORE INFORMATION?

Division of STD Prevention (DSTD)

Centers for Disease Control and Prevention
www.cdc.gov/STD

PERSONAL HEALTH INQUIRIES AND INFORMATION ABOUT STDs

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American Social Health Association (ASHA)

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CLINICAL RESOURCES

Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines 2006. MMWR 2006;55(no. RR-11).

Lymphogranuloma Venereum Among Men Who Have Sex with Men – Netherlands, 2003-2004. MMWR, October 29, 2004
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5342a2.htm>

Perine, PL, Stann, WE. Lymphogranuloma venereum. In: K. Holmes, P. Sparling, P. Mardh et al (eds). Sexually Transmitted Diseases, 3rd edition. New York: McGraw-Hill, 1999, p. 423-432.

THE ROLE OF STD DETECTION AND TREATMENT IN HIV PREVENTION—CDC FACT SHEET

Testing and treatment of sexually transmitted diseases (STDs) can be an effective tool in preventing the spread of HIV, the virus that causes AIDS. An understanding of the relationship between STDs and HIV infection can help in the development of effective HIV prevention programs for persons with high-risk sexual behaviors.

WHAT IS THE LINK BETWEEN STDs AND HIV INFECTION?

Individuals who are infected with STDs are at least two to five times more likely than uninfected individuals to acquire HIV infection if they are exposed to the virus through sexual contact. In addition, if an HIV-infected individual is also infected with another STD, that person is more likely to transmit HIV through sexual contact than other HIV-infected persons.

There is substantial biological evidence demonstrating that the presence of other STDs increases the likelihood of both transmitting and acquiring HIV.

Increased susceptibility. STDs appear to increase susceptibility to HIV infection by two mechanisms. Genital ulcers (e.g., syphilis, herpes, or chancroid) result in breaks in the genital tract lining or skin. These breaks create a portal of entry for HIV. Additionally, inflammation resulting from genital ulcers or non-ulcerative STDs (e.g., chlamydia, gonorrhea, and trichomoniasis) increase the concentration of cells in genital secretions that can serve as targets for HIV (e.g., CD4+ cells).

Increased infectiousness. STDs also appear to increase the risk of an HIV-infected person transmitting the virus to his or her sex partners. Studies have shown that HIV-infected individuals who are also infected with other STDs are particularly likely to shed HIV in their genital secretions. For example, men who are infected with both gonorrhea and HIV are more than twice as likely to have HIV in their genital secretions than are those who are infected only with HIV. Moreover, the median concentration of HIV in semen is as much as 10 times higher in men who are infected with both gonorrhea and HIV than in men infected only with HIV. The higher the concentration of HIV in semen or genital fluids, the more likely it is that HIV will be transmitted to a sex partner.

HOW CAN STD TREATMENT SLOW THE SPREAD OF HIV INFECTION?

Evidence from intervention studies indicates that detecting and treating STDs may reduce HIV transmission.

STD treatment reduces an individual's ability to transmit HIV. Studies have shown that treating STDs in HIV-infected individuals decreases both the amount of HIV in genital secretions and how frequently HIV is found in those secretions (Fleming, Wasserheit, 1999).

Herpes can make people more susceptible to HIV infection, and it can make HIV-infected individuals more infectious. It is critical that all individuals, **especially those with herpes**, know whether they are infected with HIV and, if uninfected with HIV, take measures to protect themselves from infection with HIV.

Among individuals with both herpes and HIV, trials are underway studying if treatment of the genital herpes helps prevent HIV transmission to partners.

WHAT ARE THE IMPLICATIONS FOR HIV PREVENTION?

Strong STD prevention, testing, and treatment can play a vital role in comprehensive programs to prevent sexual transmission of HIV. Furthermore, STD trends can offer important insights into where the HIV epidemic may grow, making STD surveillance data helpful in forecasting where HIV rates are likely to increase. Better linkages are needed between HIV and STD prevention efforts nationwide in order to control both epidemics.

In the context of persistently high prevalence of STDs in many parts of the United States and with emerging evidence that the U.S. HIV epidemic increasingly is affecting populations with the highest rates of curable STDs, the CDC/HRSA Advisory Committee on HIV/AIDS and STD Prevention (CHAC) recommended the following:

Early detection and treatment of curable STDs should become a major, explicit component of comprehensive HIV prevention programs at national, state, and local levels;

In areas where STDs that facilitate HIV transmission are prevalent, screening and treatment programs should be expanded;

HIV testing should always be recommended for individuals who are diagnosed with or suspected to have an STD.

HIV and STD prevention programs in the United States, together with private and public sector partners, should take joint responsibility for implementing these strategies.

CHAC also notes that early detection and treatment of STDs should be only one component of a comprehensive HIV prevention program, which also must include a range of social, behavioral, and biomedical interventions.

WHERE CAN I GET MORE INFORMATION?

Sexually Transmitted Diseases - Home Page: <http://www.cdc.gov/STD/>

HIV/AIDS and STDs - Topic Page: <http://www.cdc.gov/STD/hiv/default.htm>

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REFERENCES

Centers for Disease Control and Prevention. 1998. HIV prevention through early detection and treatment of other sexually transmitted diseases - United States. *MMWR* 47(RR-12):1-24.

Fleming DT, Wasserheit JN. 1999. From epidemiological synergy to public health policy and practice: The contribution of other sexually transmitted diseases to sexual transmission of HIV infection. *Sexually Transmitted Infections* 75:3-17.

Grosskurth H, Mosha F, Todd J, et al. 1995. Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: Randomized controlled trial. *Lancet* 346:630-6.

Wasserheit JN. 1992. Epidemiologic synergy: Interrelationships between human immunodeficiency virus infection and other sexually transmitted diseases. *Sexually Transmitted Diseases* 9:61-77.

Wawer MJ, Sewankambo NK, Serwadda D., et al. 1999. Control of sexually transmitted diseases for AIDS prevention in Uganda: a randomized community trial. Rakai Project Study Group. *Lancet*. 353(9152):525-35.

SYPHILIS & MSM (MEN WHO HAVE SEX WITH MEN)—CDC FACT SHEET

WHAT IS SYPHILIS?

Syphilis is a sexually transmitted disease (STD) caused by the bacterium *Treponema pallidum*. It has often been called “the great imitator” because so many of the signs and symptoms are indistinguishable from those of other diseases.

HOW COMMON IS SYPHILIS?

In the United States, health officials reported over 36,000 cases of syphilis in 2006, including 9,756 cases of primary and secondary (P&S) syphilis. In 2006, half of all P&S syphilis cases were reported from 20 counties and 2 cities; and most P&S syphilis cases occurred in persons 20 to 39 years of age. The incidence of P&S syphilis was highest in women 20 to 24 years of age and in men 35 to 39 years of age. Reported cases of congenital syphilis in newborns increased from 2005 to 2006, with 339 new cases reported in 2005 compared to 349 cases in 2006.

Between 2005 and 2006, the number of reported P&S syphilis cases increased 11.8 percent. P&S rates have increased in males each year between 2000 and 2006 and among females between 2004 and 2006. In 2006, 64% of the reported P&S syphilis cases were among men who have sex with men (MSM).

HOW DO PEOPLE GET SYPHILIS?

Syphilis is passed from person to person through direct contact with a syphilis sore. Sores occur mainly on the external genitals, vagina, anus, or in the rectum. Sores also can occur on the lips and in the mouth. Transmission of the organism occurs during vaginal, anal, or oral sex. Pregnant women with the disease can pass it to the babies they are carrying. Syphilis cannot be spread through contact with toilet seats, doorknobs, swimming pools, hot tubs, bathtubs, shared clothing, or eating utensils.

WHAT ARE THE SIGNS AND SYMPTOMS IN ADULTS?

Many people infected with syphilis do not have any symptoms for years, yet remain at risk for late complications if they are not treated. Although transmission occurs from persons with sores who are in the primary or secondary stage, many of these sores are unrecognized. Thus, transmission may occur from persons who are unaware of their infection.

Primary Stage

The primary stage of syphilis is usually marked by the appearance of a single sore (called a chancre), but there may be multiple sores. The time between infection with syphilis and

the start of the first symptom can range from 10 to 90 days (average 21 days). The chancre is usually firm, round, small, and painless. It appears at the spot where syphilis entered the body. The chancre lasts 3 to 6 weeks, and it heals without treatment. However, if adequate treatment is not administered, the infection progresses to the secondary stage.

Secondary Stage

Skin rash and mucous membrane lesions characterize the secondary stage. This stage typically starts with the development of a rash on one or more areas of the body. The rash usually does not cause itching. Rashes associated with secondary syphilis can appear as the chancre is healing or several weeks after the chancre has healed. The characteristic rash of secondary syphilis may appear as rough, red, or reddish brown spots both on the palms of the hands and the bottoms of the feet. However, rashes with a different appearance may occur on other parts of the body, sometimes resembling rashes caused by other diseases. Sometimes rashes associated with secondary syphilis are so faint that they are not noticed. In addition to rashes, symptoms of secondary syphilis may include fever, swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and fatigue. The signs and symptoms of secondary syphilis will resolve with or without treatment, but without treatment, the infection will progress to the latent and possibly late stages of disease.

Latent and Late Stages

The latent (hidden) stage of syphilis begins when primary and secondary symptoms disappear. Without treatment, the infected person will continue to have syphilis even though there are no signs or symptoms; infection remains in the body. This latent stage can last for years. The late stages of syphilis can develop in about 15% of people who have not been treated for syphilis, and can appear 10-20 years after infection was first acquired. In the late stages of syphilis, the disease may damage the internal organs, including the brain, nerves, eyes, heart, blood vessels, liver, bones, and joints. Signs and symptoms of the late stage of syphilis include difficulty coordinating muscle movements, paralysis, numbness, gradual blindness, and dementia. This damage may be serious enough to cause death.

WHY SHOULD MSM BE CONCERNED ABOUT SYPHILIS?

Over the past several years, increases in syphilis among MSM have been reported in various cities and areas, including Chicago, Seattle, San Francisco, Southern California, Miami, and New York City. In the recent outbreaks, high rates of HIV co-infection were documented, ranging from 20 percent to 70 percent. While the health problems caused by syphilis in adults are serious in their own right, it is now known that the genital sores caused by syphilis in adults also make it easier to transmit and acquire HIV infection sexually.

HOW IS SYPHILIS DIAGNOSED?

Some health care providers can diagnose syphilis by examining material from a chancre (infectious sore) using a special microscope called a dark-field microscope. If syphilis bacteria are present in the sore, they will show up when observed through the microscope.

A blood test is another way to determine whether someone has syphilis. Shortly after infection occurs, the body produces syphilis antibodies that can be detected by an accurate, safe, and inexpensive blood test. A low level of antibodies will likely stay in the blood for months or years even after the disease has been successfully treated.

WHAT IS THE LINK BETWEEN SYPHILIS AND HIV?

Genital sores (chancres) caused by syphilis make it easier to transmit and acquire HIV infection sexually. There is an estimated 2- to 5-fold increased risk of acquiring HIV if exposed to that infection when syphilis is present.

Ulcerative STDs that cause sores, ulcers, or breaks in the skin or mucous membranes, such as syphilis, disrupt barriers that provide protection against infections. The genital ulcers caused by syphilis can bleed easily, and when they come into contact with oral and rectal mucosa during sex, increase the infectiousness of and susceptibility to HIV. Having other STDs is also an important predictor for becoming HIV infected because STDs are a marker for behaviors associated with HIV transmission.

WHAT IS THE TREATMENT FOR SYPHILIS?

Syphilis is easy to cure in its early stages. A single intramuscular injection of penicillin, an antibiotic, will cure a person who has had syphilis for less than a year. Additional doses are needed to treat someone who has had syphilis for longer than a year. For people who are allergic to penicillin, other antibiotics are available to treat syphilis. There are no home remedies or over-the-counter drugs that will cure syphilis. Treatment will kill the syphilis bacterium and prevent further damage, but it will not repair damage already done.

Because effective treatment is available, it is important that persons be screened for syphilis on an on-going basis if their sexual behaviors put them at risk for STDs.

Persons who receive syphilis treatment must abstain from sexual contact with new partners until the syphilis sores are completely healed. Persons with syphilis must notify their sex partners so that they also can be tested and receive treatment if necessary.

WILL SYPHILIS RECUR?

Having syphilis once does not protect a person from getting it again. Following successful treatment, people can still be susceptible to re-infection. Only laboratory tests can confirm whether someone has syphilis. Because syphilis sores can be hidden in the vagina, rectum, or mouth, it may not be obvious that a sex partner has syphilis. Talking with a health care provider will help to determine the need to be re-tested for syphilis after being treated.

HOW CAN SYPHILIS BE PREVENTED?

The surest way to avoid transmission of sexually transmitted diseases, including syphilis, is to abstain from sexual contact or to be in a long-term mutually monogamous relationship with a partner who has been tested and is known to be uninfected.

Avoiding alcohol and drug use may also help prevent transmission of syphilis because these activities may lead to risky sexual behavior. It is important that sex partners talk to each other about their HIV status and history of other STDs so that preventive action can be taken.

Genital ulcer diseases, like syphilis, can occur in both male and female genital areas that are covered or protected by a latex condom, as well as in areas that are not covered. Correct and consistent use of latex condoms can reduce the risk of syphilis, as well as genital herpes and chancroid, only when the infected area or site of potential exposure is protected.

Condoms lubricated with spermicides (especially Nonoxynol-9 or N-9) are no more effective than other lubricated condoms in protecting against the transmission of STDs. Use of condoms lubricated with N-9 is not recommended for STD/HIV prevention. Transmission of an STD, including syphilis cannot be prevented by washing the genitals, urinating, and or douching after sex. Any unusual discharge, sore, or rash, particularly in the groin area, should be a signal to refrain from having sex and to see a doctor immediately.

The CDC's 2006 Sexually Transmitted Disease Treatment Guidelines recommend that MSM who are at risk for STDs be tested for syphilis annually.

WHERE CAN I GET MORE INFORMATION?

Sexually Transmitted Diseases - Home Page: <http://www.cdc.gov/STD/>

Syphilis - Topic Page: <http://www.cdc.gov/STD/Syphilis/default.htm>

Syphilis and MSM - Fact Sheet: <http://www.cdc.gov/STD/Syphilis/STDFact-MSM&Syphilis.htm>

STDs and Pregnancy - Fact Sheet: <http://www.cdc.gov/STD/STDFact-STDs&Pregnancy.htm>

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SOURCES

Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines 2006. MMWR 2006;55(no. RR-11).

Centers for Disease Control and Prevention. Sexually Transmitted Disease Surveillance, 2006. Atlanta, GA: U.S. Department of Health and Human Service, November 2007.

Centers for Disease Control and Prevention. Primary and Secondary Syphilis Among Men Who Have Sex With Men – New York City, 2001. MMWR 2002;51(38);853.

Centers for Disease Control and Prevention. Primary and Secondary Syphilis – United States, 2003—2004. MMWR 2006;55(269-272).

Centers for Disease Control and Prevention. Unrecognized HIV Infection, Risk Behaviors, and Perceptions of Risk Among Young Black Men Who Have Sex with Men — Six U.S. Cities, 1994 -1998. MMWR 2002;51(33);733.

Centers for Disease Control and Prevention. HIV Incidence Among Young Men Who Have Sex With Men– Seven U.S. Cities, 1994 – 2000. MMWR 2001;50(21);440.

Centers for Disease Control and Prevention. HIV and AIDS – United States, 1982-2000. MMWR 2001;50(21);430.

Centers for Disease Control and Prevention. Outbreak of Syphilis Among Men Who Have Sex With Men – Southern California, 2000. MMWR 2001;50(07);117.

Centers for Disease Control and Prevention. Notice to Readers: CDC Statement on Study Results of Product Containing Nonoxynol-9. MMWR 2000;49(31);717.

Centers for Disease Control and Prevention. STD Increases Among Gay and Bisexual Men. Reported at 2000 National STD Prevention Conference in Milwaukee, Wisconsin. December 2000.

Centers for Disease Control and Prevention. Resurgent Bacterial Sexually Transmitted Disease Among Men Who Have Sex With Men – King County, Washington, MMWR 1999;48(35);773.

Centers for Disease Control and Prevention. HIV Prevention Through Early Detection and Treatment of Other Sexually Transmitted Diseases - United States Recommendations of the Advisory Committee for HIV and STD Prevention. MMWR 1998;47(RR12);1.

K. Holmes, P. Mardh, P. Sparling et al (eds). Sexually Transmitted Diseases, 3rd Edition. New York: McGraw-Hill, 1999, chapters 33-36.