



STD Quick Facts

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General

One in five adults in the United States has an STD.¹ It is estimated that 19 million STD infections occur annually, almost half of them among youth ages 15 to 24.²

As a general principle, if a person contracts one STD, his or her probability of getting another STD is increased. First, the original STD is an indicator of sexual behaviors that pose risk for other infections and, second, some STDs cause damage to genital skin and mucous membranes, creating a portal of entry for other infectious organisms. Overall, STDs increase the likelihood of human immunodeficiency virus transmission two to five fold.³

Differences based on male and female anatomy account for the fact that consequences of STDs are different for women than for men. A woman with a given STD usually suffers more severe damage than a man because her sexual organs are more complex and lie deeper inside the body, and because she can pass the infection on to an unborn child. On the other hand, men have a higher incidence of many STDs because male-to-male sex results in a variety of STD transmission possibilities that do not exist for female-to-female encounters.

Sexually transmitted diseases can be caused by any of the four major classes of infectious organisms: viruses, bacteria, fungi, or parasites. Bacterial infections are usually curable with antibiotics if treated in time. Other medications can cure fungal and parasitic infections in most cases. By contrast, the viral STDs cannot be cured, though for several of them, antiviral or other medication can relieve the symptoms.

Chancroid

What is it?

Chancroid is a bacterial infection. It is a major cause of genital ulcer disease, especially in Asia and Africa.⁴

How many people have it?

In the late 1980s, reported cases in the United States averaged 4,000 to 5,000 per year (during an epidemic involving New York and the southern states). Since 2000, the rate has been less than 100 per year. However, because many clinicians are unfamiliar with the infection, and specific laboratory tests are often not available, it may often go undiagnosed.⁵

How do you get it?

Chancroid is typically transmitted during sexual intercourse from lesions of the penis or vagina. Small abrasions occurring during intercourse are thought to facilitate transmission.⁶

What are the symptoms?

A papule appears four to seven days after exposure, which turns into a pustule, then ruptures to form a painful ulcer. If left untreated, the lesion can persist for weeks to months. In up to half of cases it is accompanied by swollen lymph nodes in the groin. Effective antibiotic therapy speeds the healing of the lesion; healing takes longer if one is infected with HIV.⁷

What are the long-term effects?

The published clinical descriptions do not describe any long-term effects.

Chlamydia

What is it?

Chlamydia is the most common bacterial STD in humans.⁸ It is also the most common of the infectious diseases for which CDC receives case reports. It is caused by the bacterium *Chlamydia trachomatis*.

How many people have it?

Almost two million Americans have *Chlamydia trachomatis* at any given time, and nearly three million new cases occur each year.⁹ The rates of Chlamydia are highest in young people.¹⁰ In fact, 6 percent of girls under 18 years of age tested in family planning clinics are infected with Chlamydia,¹¹ and almost 10 percent of female army recruits have Chlamydia.¹² Women acquire Chlamydia more easily than men do.¹³

How do you get it?

Chlamydia trachomatis is usually transmitted during vaginal, anal, or oral sex.¹⁴ Pregnant women can also transmit it to their infants during childbirth.¹⁵

What are the symptoms?

In women, most chlamydia infections occur with no symptoms at all. If they occur, the usual symptoms are vaginal or urethral discharge, burning with urination and urinary frequency.¹⁶ Similarly, men are often asymptomatic, but when they occur, symptoms for men can include urinary discharge, burning on urination, and sometimes swelling and tenderness of the scrotum (epididymitis).¹⁷

STD Quick Facts

For women, infection usually starts in the cervix.¹⁸ The infection may remain in the cervix or may spread to the uterus (endometritis) and fallopian tubes (salpingitis).¹⁹ When infection spreads from the cervix to the uterus and fallopian tubes, it causes pelvic inflammatory disease (PID).²⁰ Symptoms of PID, if they occur, include pelvic and abdominal pain, fever and vaginal bleeding.²¹ PID can be confused with other severe abdominal conditions, such as acute appendicitis or ectopic (tubal) pregnancy.²² Very often, however, chlamydial PID manifests few symptoms and goes undiagnosed even while it is causing severe damage to the woman's fallopian tubes.²³

Infected women can pass Chlamydia on to their infants during birth, which can result in the baby contracting an eye infection and/or pneumonia.²⁴

What are the long-term effects?

Chlamydial PID can damage the fallopian tubes, resulting in tubal scarring and infertility.²⁵ Tubal scarring also increases the risk of an ectopic (tubal) pregnancy.²⁶ Chlamydia is also the most common trigger for a condition called Reiter's Syndrome,²⁷ though it can also be caused by foodborne intestinal infections. This syndrome involves inflammation of the eyes, joints, and urogenital tract and occurs mainly to people who have a specific genetic predisposition to it. Recent research has suggested that chlamydia can be a cofactor with human papillomavirus in the development of cervical cancer.²⁸

How is it treated?

Chlamydia infections are usually treated with oral antibiotics.²⁹ Severe PID may necessitate hospitalization and treatment with intravenous antibiotics.³⁰ Treatment of Chlamydia infection during pregnancy dramatically improves the chances of a successful pregnancy outcome.³¹

Gonorrhea

What is it?

Gonorrhea is a sexually transmitted bacterial infection caused by *Neisseria gonorrhoeae*. It is one of the long-recognized "venereal diseases" — sometimes known by the colloquial term "the clap."

How many people have it?

Between 650,000 and 718,000 Americans and 62 million people worldwide become infected with gonorrhea each year.³² Sixty percent of cases in the United States are among people ages 15 to 24.³³ It is the second most common reportable bacterial sexually transmitted infection in the United States.³⁴ Reported rates are 20 times higher among African Americans than whites,³⁵ though much of this disparity may result because whites more often seek care from private providers, who are less likely to comply with legal reporting requirements than do public clinics.

How do you get it?

Gonorrhea is usually spread via vaginal, oral and anal sex. Female contacts of males with gonorrhea are found to have a 50 to 90 percent risk of infection, though studies have not carefully controlled for numbers of exposures.³⁶ Although the infectious dose is unknown, one

STD Quick Facts

ejaculate from an infected man contains approximately 6 million live bacteria.³⁷ In a study conducted among sailors with exposure to a group of prostitutes with a high prevalence of gonococcal infection, the men had a 22 percent chance of becoming infected after an average of 2.5 exposures to an infected female.³⁸

Infected mothers can pass on the infection to their infants during birth.³⁹

What are the symptoms?

Frequently, gonorrhea is asymptomatic, but when symptoms occur they typically begin within a week to 10 days of exposure.⁴⁰ In women, genital infection usually causes vaginal discharge and may cause pain with urination.⁴¹ Women commonly experience vaginal bleeding, while men may experience painful and swollen testicles, discharge, and burning on urination.⁴²

In women, the infection may remain in the cervix or spread to the uterus and fallopian tubes, in which case it is called pelvic inflammatory disease (PID).⁴³ Gonorrhea is one of the two primary causes of PID, a serious disease in the upper reproductive tract in females.⁴⁴ As with Chlamydial PID, gonococcal PID may cause few symptoms, but more often it brings severe pelvic pain.⁴⁵ PID can cause tubal scarring, resulting in ectopic or tubal pregnancy or infertility.⁴⁶ Typical symptoms are pelvic and abdominal pain, fever and vaginal bleeding.⁴⁷ PID can be confused with other severe abdominal conditions, such as acute appendicitis or ectopic (tubal) pregnancy.⁴⁸

In males, gonorrhea can cause epididymitis, a painful condition of the testicles that can lead to infertility.⁴⁹

Oral and rectal infections can also result, causing irritation, pain and discharge.⁵⁰ Some people with oral or rectal infections do not experience symptoms.⁵¹

What are the long-term effects?

PID is the most common complication of gonorrhea among females, occurring in 9 to 15 percent of infected females.⁵²

Though the spread of gonorrhea throughout the body (“disseminated gonococcal infection”) is rare in persons whose gonorrhea is adequately treated, the consequences are very serious. These consequences include infections of the heart muscle and valves, nervous system, joints, skin, and blood.⁵³

Pregnant women with gonorrhea increase their risk of spontaneous abortion, premature rupture of membranes and preterm birth.⁵⁴ Gonorrhea can also infect the amniotic fluid around the unborn baby.⁵⁵

How is it treated?

Uncomplicated gonorrhea is treated with oral or injectable antibiotics.⁵⁶ Hospitalization and treatment with intravenous (IV) antibiotics may be required if a woman develops PID.⁵⁷

Unfortunately, the disease has become resistant to some antibiotic regimens that were commonly used in the past.⁵⁸ Timely treatment of pregnant women prevents infection in infants.

Hepatitis B

What is it?

Hepatitis B is a common viral blood-borne infection that can be transmitted sexually or through the sharing of injection drug equipment.⁵⁹

How many people have it?

Most unvaccinated babies born to infected mothers develop chronic infections.⁶⁰ Approximately one in 20 people exposed to hepatitis B as an adolescent or adult develops chronic infections; the fraction is higher for younger children.⁶¹ The Centers for Disease Control and Prevention estimate that 1.25 million Americans are chronically infected and 20 to 30 percent of that number acquired the infection as a child. About 73,000 new infections occurred in the U.S. in 2003.⁶²

How do you get it?

About half of infections are transmitted via sexual activity.⁶³ Drug users who share needles are also at high risk for infection.⁶⁴ Infection can also occur if needles used for tattooing or body piercing are not properly sterilized.⁶⁵ If an infant's mother is infected, the infant is very likely to become infected at birth unless the mother is vaccinated.⁶⁶ Infections in infants have been reduced dramatically since the implementation of routine vaccination. Hepatitis B can be transmitted through more ordinary household contact among young children.⁶⁷

What are the symptoms?

Nearly 30 percent of infected people have no symptoms.⁶⁸ Liver damage in an infected person can cause jaundice (yellowing of the skin and eyes), severe fatigue, loss of appetite, abdominal pain, nausea and vomiting.⁶⁹ Rash, joint pain and fever can also result.⁷⁰

What are the long-term effects?

Most people who become infected after infancy will recover from the infection. However, some infected people will develop lifelong infections that may cause liver failure, cancer and death.⁷¹

How is it treated?

There are several antiviral drug therapies to treat hepatitis B, but they are usually expensive, have to be used for extended periods of time and can cause serious side effects, including depression.⁷² Even when taken properly, the drugs are not always effective, and none of them can cure the infection.⁷³

Hepatitis C

What is it?

Hepatitis C is a blood-borne, viral infectious disease of the liver, identified in 1988 and found to be responsible for most cases of what had formerly been called "non-A, non-B hepatitis." At that time, the infection commonly resulted from blood transfusion, but more recently has been often associated with injection drug use. It can also be transmitted sexually.⁷⁴

How many people have it?

CDC estimates that 3.8 million Americans have had hepatitis C, of whom 2.7 million currently have chronic infection.⁷⁵ Of the 55 to 85 percent of those infected who do not resolve their infection, about 70 percent develop chronic hepatitis.⁷⁶ Because of specific blood donor screening for hepatitis C instituted after the discovery of the virus, the overall number of new infections annually has dropped from about 240,000 in the 1980s to 30,000 in 2003.⁷⁷

How do you get it?

Hepatitis C is primarily transmitted by sharing needles when shooting drugs.⁷⁸ In one study, hepatitis C infection was also more common in inmates who had received tattoos in prison.⁷⁹ Sexual transmission of hepatitis C has been shown to exist, but is less efficient than for most other STDs.⁸⁰ Though 10 percent of hepatitis C cases have no known risk factor,⁸¹ the evidence does not support transmission by casual contact.

What are the symptoms?

Eighty percent of infected people have no symptoms.⁸² Liver damage in an infected person can cause jaundice (yellowing of the skin and eyes), severe fatigue, loss of appetite, abdominal pain, nausea and vomiting.⁸³

What are the long-term effects?

Those who develop chronic hepatitis C are at risk to go on to develop cirrhosis⁸⁴ or liver cancer.⁸⁵

How is it treated?

There is no vaccine for hepatitis C. The few drug therapies that exist are usually expensive, have to be used for extended periods of time and can cause serious side effects, including depression.⁸⁶ Even when taken properly, the drugs are not always successful.⁸⁷

Herpes

What is it?

Herpes simplex virus (HSV) types 1 and 2 infect the skin and mucous membranes (mouth, genital areas, etc).⁸⁸ The majority of infections are caused by type 2 (HSV-2).⁸⁹

How many people have it?

Genital herpes is the most common sexually transmitted viral infection in the United States, where an estimated 45 million people—more than one in five Americans over the age of 11—are infected.⁹⁰ Because herpes is not reportable nationally, nor in the states, annual incidence estimates cover a broad range—from 200,000 to a million new cases per year.⁹¹

How do you get it?

HSV-2 is most often sexually transmitted.⁹² Although it usually causes genital infections, it can also cause oral infections that are often spread by non-sexual activities, such as kissing.⁹³ Similarly, although HSV-1 typically causes oral herpes infections, it can be transmitted to the

STD Quick Facts

genitals through oral sex.⁹⁴ HSV infection also may occur on the abdomen, thighs, hands and other areas,⁹⁵ making possible its spread by skin-to-skin contact.⁹⁶

Females are at greater risk for infection than males.⁹⁷

Mothers can transmit the infection to their babies during birth, which can be fatal to the infant.⁹⁸

What are the symptoms?

Some HSV infections are asymptomatic. The symptoms of an initial infection can include fever, headache and muscle aches that begin about a week after exposure.⁹⁹ Approximately eight days after contact, lesions may appear in the exposed area.¹⁰⁰ The lesions typically start as small blisters, which erupt and eventually ulcerate.¹⁰¹ The ulcers are often painful and cause burning or itching.¹⁰² Genital lesions may spread to the buttocks and thighs.¹⁰³ Other symptoms include burning with urination, vaginal or urethral discharge and tender swollen lymph nodes in the groin.¹⁰⁴ Symptoms of the initial infection usually disappear within two to three weeks.¹⁰⁵ Recurrent outbreaks of herpes skin lesions are common, but typically are less severe and are preceded by tingling but not by the fever, headache and muscle aches that accompany the first outbreak.¹⁰⁶

In a large national survey, less than ten percent of men and women with antibodies to HSV-2 gave histories of clinical herpes—suggesting that the great majority of infections are without symptoms.¹⁰⁷

What are the long-term effects?

Once someone is infected with HSV-2, the infection persists for life.¹⁰⁸ Shedding of virus—portending infectiousness to a partner—has been shown to occur more than 10 years after initial infection, though at gradually lower levels over time.¹⁰⁹ Eighty-nine percent of people with an initial symptomatic HSV-2 infection will experience at least one recurrence of symptoms within the year, and 38 percent have at least six recurrences within the first year.¹¹⁰ Clinical recurrences continue to occur for at least nine years after initial infection.¹¹¹

Mothers can transmit the infection to their infants during birth,¹¹² especially with first-time infections.¹¹³ With recurrent infections, the risk factor is very small.¹¹⁴ Infected infants often die.¹¹⁵ Infection in the mother also increases the risk of premature birth.¹¹⁶

How is it treated?

There is no cure for genital herpes,¹¹⁷ though treatment with anti-viral medications decreases the duration, intensity and frequency of the symptoms.¹¹⁸

Human Papilloma Virus (HPV)

What is it?

HPV is a virus that infects the skin and mucous membranes (tissues that line the mouth, cervix, vagina, urethra and anus).¹¹⁹ There are more than 100 strains, of which at least 35 cause genital infections.¹²⁰

How many people have it?

Five to six million Americans become infected with genital HPV every year.¹²¹ Twenty million Americans are currently infected.¹²² HPV infection is found in 30 percent of sexually active adolescent girls and young women.¹²³ HPV prevalence in men varies widely depending on the population tested; it usually ranges from 15 to 30 percent.¹²⁴ Unlike women, men are not screened in large numbers for any condition related to HPV.

How do you get it?

Genital HPV is typically transmitted via direct skin-to-skin contact, including sexual intercourse.¹²⁵ Transmission of HPV through oral sex¹²⁶ and even fingers¹²⁷ may occur.

What are the symptoms?

Most patients have no symptoms. Some infections cause genital warts.¹²⁸ In females, infection can occur on the cervix, vagina and vulva.¹²⁹ In males, infection can occur on the penis, urethra, rectum, inner thighs and perianal area.¹³⁰

What are the long-term effects?

HPV is a public health concern out of proportion to the severity of its acute effects because of its association with cancer of the cervix. HPV infection of the female cervix can cause damage to the cells, precancerous at first (dysplasia) but sometimes progressing to invasive cervical cancer if left untreated. These cellular abnormalities are detected with a Papanicolaou (Pap) smear. At least 20 HPV types have been associated with cervical cancer, but four types are responsible for most cases.¹³¹ Every year in the United States, 2.5 million women have an abnormal Pap smear, with most of these abnormalities due to HPV infection.¹³² If the precancerous condition causing the abnormal Pap smears is not treated, it can develop into cervical cancer. The average time from a moderate degree of abnormality on the Pap smear to cancer is about five years, but can be shorter or longer.¹³³ The American Cancer Society estimates that in 2005, 10,370 women will be diagnosed with cervical cancer, and 3,710 women will die from the disease.¹³⁴ HPV is the primary cause of over 99 percent of cervical cancers.¹³⁵

HPV has been associated with a number of less common cancers, including oral, vaginal, vulvar, penile and anal cancer.¹³⁶

Occasionally, infants born to women with genital warts develop warts in their throats, which can be fatal.¹³⁷

How is it treated?

HPV infection cannot be cured, although most HPV infections resolve spontaneously.¹³⁸ Topical medications can be used on genital warts,¹³⁹ which can make them decrease in size or disappear.¹⁴⁰ However, even if the warts are no longer visible, infection can persist and be passed on to a sexual partner.¹⁴¹ Furthermore, warts often recur following treatment.¹⁴²

Syphilis

What is it?

Treponema pallidum is a “spirochete”—a highly infectious bacterium—that causes syphilis.¹⁴³

How many people have it?

The numbers of people reported with syphilis in the United States has increased 19 percent between 2000 and 2003.¹⁴⁴ African Americans, homosexual men and people living in southern states are more likely to become infected than others.¹⁴⁵

How do you get it?

Syphilis transmission usually occurs during vaginal, anal or oral sex.¹⁴⁶ The bacterium is transmitted easily by moist, infectious lesions.¹⁴⁷ It only takes a few of the organisms to transmit the infection.¹⁴⁸

Medical and dental practitioners are at some risk of syphilis if exposed through a cut or puncture wound to the body fluids of a patient with syphilis.¹⁴⁹ Transmission risk is greatest in the first few months of infection, but may continue intermittently up to five years.¹⁵⁰

If a woman is in the primary or secondary stage of syphilis (see below for definitions) during pregnancy, transmission to the unborn child is virtually certain. Fifty percent of such pregnancies end in stillbirth or premature delivery.¹⁵¹ Timely diagnosis and treatment of syphilis in pregnancy, however, makes these outcomes entirely preventable.¹⁵²

What are the symptoms?

Syphilis is sometimes called the Great Imitator because so many of its symptoms resemble other diseases. Pioneer physician William Osler was known to say, “Know syphilis, and the whole of medicine is opened to you.”¹⁵³ The *primary* stage of syphilis is usually discernible by the appearance of a single sore, although multiple sores may develop.¹⁵⁴ The sore is usually firm, round and painless and appears approximately three weeks after exposure.¹⁵⁵ If not treated, it heals in three to six weeks, but the infection may advance to the *secondary* stage.¹⁵⁶

The secondary stage features a wide variety of symptoms—most commonly a non-itching rash of the skin or mucous membranes, sometimes with low-grade fever, malaise, sore throat, headache, or swollen lymph glands.¹⁵⁷

What are the long term effects?

Tertiary symptoms may occur if the earlier stages of syphilis go untreated. Tertiary symptoms may include lack of coordination, paralysis, numbness, gradual blindness and severe confusion.¹⁵⁸ The infection can develop into a systemic illness affecting many organs.¹⁵⁹ In some cases, death has resulted either from cardiovascular or neurologic manifestations of syphilis.¹⁶⁰

How is it treated?

A single dose of antibiotic can cure a person who has been infected for under a year.¹⁶¹ Additional doses are required for those who have been infected for longer periods.¹⁶² Antibiotics cannot repair or reverse the damage already caused by the disease, but they can prevent the damage from progressing further.¹⁶³

Trichomoniasis

What is it?

Trichomoniasis is caused by a parasite (*Trichomonas vaginalis*) that infects the genitourinary tract of both men and women.¹⁶⁴

How many people have it?

Though exact numbers are not known because trichomoniasis is not a reportable condition, it is clearly one of the most common sexually transmitted infections. Every year, an estimated five million people are infected in the United States.¹⁶⁵ The World Health Organization estimated that more than 170 million cases occurred worldwide in 1999.¹⁶⁶

How do you get it?

Trichomonas is almost always sexually transmitted, by exposing mucosal surfaces to genital secretions. Though the parasite can survive on fomites such as washcloths and toilet seats, transmission by these means is rare.¹⁶⁷ As sexually transmitted pathogens go, *Trichomonas* is easy to transmit. Fourteen to 60 percent of male partners of infected women test positive, as do 67 to 100 percent of female partners of infected men.¹⁶⁸

What are the symptoms?

Many women and most men do not know that they are infected.¹⁶⁹ In women, infection causes inflammation of the vagina and cervix.¹⁷⁰ This inflammation often causes vaginal discharge, vaginal bleeding, genital swelling and irritation, itching of the vulva and abdominal pain.¹⁷¹ In men, symptoms include discharge from the penis and burning with urination.¹⁷² Infection is linked with urethritis, prostatitis and other syndromes.¹⁷³

What are some the long-term effects?

Trichomonas infection in pregnant women is linked with premature delivery and low birth weight.¹⁷⁴

How is it treated?

Most infections are cured with a single dose of the oral drug metronidazole.¹⁷⁵ A common side effect of this drug is stomach upset. Severe abdominal cramps, nausea, vomiting, and headache can occur if alcohol is used within about three days of taking the drug.¹⁷⁶

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