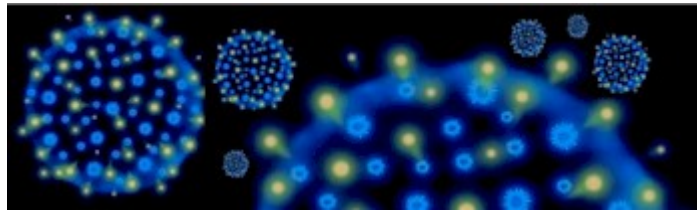


Facts About HIV/AIDS

2001

What Is HIV?

HIV is the human immunodeficiency virus that causes AIDS. A member of a group of viruses called retroviruses, HIV infects human cells and uses the energy and nutrients provided by those cells to grow and reproduce.



What Is AIDS?

AIDS (acquired immunodeficiency syndrome) is a disease in which the body's immune system breaks down and is unable to fight off certain infections, known as "opportunistic infections," and other illnesses that take advantage of a weakened immune system.

When a person is infected with HIV, the virus enters the body and lives and multiplies primarily in the white blood cells. These are the immune cells that normally protect us from disease. The hallmark of HIV infection is the progressive loss of a specific type of immune cell called T-helper or CD4 cells.

As the virus grows, it damages or kills these and other cells, weakening the immune system and leaving the individual vulnerable to various opportunistic infections and other illnesses, ranging from pneumonia to cancer. The U.S. Centers for Disease Control and Prevention (CDC) defines

someone as having a clinical diagnosis of AIDS if they have tested positive for HIV and meet one or both of these conditions:

- They have experienced one or more AIDS-related infections or illnesses.
- The number of CD4 cells has reached or fallen below 200 per cubic millimeter of blood (a measurement known as T-cell count).

In healthy individuals, the CD4 count normally ranges from 450 to 1200.

How Quickly Do People Infected with HIV Develop AIDS?

In some people, the T-cell decline and opportunistic infections that signal AIDS develop soon after initial infection with HIV. Most people remain asymptomatic for 10 to 12 years, and a few for much longer. As with most diseases, early medical care can help prolong a person's life.

How Many People Are Affected By HIV/AIDS?

The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimates that there are now over 34 million people living with HIV or AIDS worldwide. Most of them do not know they carry HIV and may be spreading the virus to others. Here in the U.S., nearly one million people have HIV infection or AIDS roughly one out of every 250 people. At least 40,000 Americans become newly infected with HIV each year, and it is estimated that half of all people with HIV in the U.S. have not been tested and do not know they are carrying the virus.

Since the beginning of the epidemic, AIDS has killed nearly 19 million people worldwide, including some 425,000 Americans. AIDS has replaced malaria and tuberculosis as the world's deadliest infectious disease among adults and is the fourth leading cause of death worldwide. Over 13 million children have been orphaned by the epidemic.

How Is HIV Transmitted?

A person who is HIV-infected carries the virus in certain body fluids, including blood, semen, vaginal secretions, and breast milk. The virus can be transmitted only if such HIV-infected fluids enter the bloodstream of another person. This kind of direct entry can occur (1) through the linings of the vagina, rectum, mouth, and the opening at the tip of the penis; (2) through intravenous injection with a syringe; or (3) through a break in the skin, such as a cut or sore. Usually, HIV is transmitted through:

- **Unprotected sexual intercourse (either vaginal or anal) with someone who is HIV-infected.**

Women are at greater risk of HIV infection through vaginal sex than men, although the virus can also be transmitted from women to men. Anal sex (whether male-male or male-female) poses a high risk mainly to the receptive partner, because the lining of the anus and rectum are extremely thin and filled with small blood vessels that can be easily injured during intercourse.

- **Unprotected oral sex with someone who is HIV-infected.**

There are far fewer cases of HIV transmission attributed to oral sex than to either vaginal or anal intercourse, but oral-genital contact poses a clear risk of HIV-infection, particularly when ejaculation occurs in the mouth. This risk is increased when either partner has cuts or sores, such as those caused by sexually transmitted diseases (STDs), recent tooth-brushing, or canker sores, which can allow the virus to enter the bloodstream.

- **Sharing needles or syringes with someone who is HIV-infected.**

Laboratory studies show that infectious HIV can survive in used needles for a month or more, and should never reuse or share syringes, water, or drug preparation equipment. This includes needles or syringes used to inject illegal drugs such as heroin, as well as steroids. Other types of needles, such as those used for body piercing and tattoos, can also carry HIV.

- **Infection during pregnancy, childbirth, or breast-feeding (mother-to-infant transmission).**

Any woman who is pregnant or considering becoming pregnant and thinks she may have been exposed to HIV even if the exposure occurred years ago should seek testing and counseling. Mother-to-infant transmission has been reduced to just a few cases each year in the U.S., where pregnant women are tested for HIV, and those who test positive are provided with drugs to prevent transmission and counseled not to breast-feed.

How Is HIV Not Transmitted?

HIV is not an easy virus to pass from one person to another. It is not transmitted through food or air (for instance, by coughing or sneezing). There has never been a case where a person was infected by a household member, relative, co-worker, or friend through casual or everyday contact such as sharing eating utensils and bathroom facilities or hugging and kissing. (Most scientists agree that while HIV transmission through deep or prolonged "French" kissing may be possible, it would be extremely unlikely.)

Here in the U.S., screening the blood supply for HIV has virtually eliminated the risk of infection through blood transfusions. (And you cannot get HIV from giving blood at a blood bank or other established blood collection center.) Sweat, tears, vomit, feces, and urine do contain HIV, but have not been reported to transmit the disease (apart from two cases involving transmission from feces via cut skin). Mosquitos, fleas, and other insects do not transmit HIV.



How Can I Reduce My Risk of Becoming Infected with HIV Through Sexual Contact?

If you are sexually active, protect yourself from HIV infection by practicing safer sex. Whenever you have sex, use a condom or "dental dam" (a square of latex recommended for use during oral-genital and oral-anal sex). When used properly and consistently, condoms are extremely effective. But remember:

- Use only latex condoms (or dental dams). Lambskin products provide little protection against HIV.
- Use only water-based lubricants. Latex condoms are virtually useless when combined with oil- or petroleum-based lubricants such as Vaseline or hand lotion. (People with latex allergies can use polyethylene condoms with oil-based lubricants.)
- Use protection each and every time you have sex.
- If needed, consult a nurse, doctor, or health educator for guidance on the proper use of latex barriers.

How Can I Avoid Acquiring HIV From a Contaminated Needle?

If you are injecting drugs of any type, including steroids, do not share syringes or other injection equipment with anyone else. (Disinfecting previously used needles and syringes with bleach can reduce the risk of HIV transmission.) If you are planning to have any part of your body pierced or to get a tattoo, be sure to see a qualified professional who uses sterile equipment. Detailed HIV prevention information for drug users who continue to inject is available from the CDC's National Prevention Information Network at 1-800-458-5231 or online.

Is There a Link Between HIV and Other STDs?

Having a sexually transmitted disease can increase your risk of acquiring and transmitting HIV. This is true whether you have open sores or breaks in the skin (as with syphilis, herpes, chancroid) or not (as with chlamydia and gonorrhea). Where there are breaks in the skin, HIV can enter and exit the body more easily. Even when there are no breaks in the skin, STDs can cause biological changes that may make HIV transmission more likely. Studies show that HIV-infected individuals who are infected with another STD are three to five times more likely to contract or transmit the virus through sexual contact.

Are There Other Ways to Avoid Getting HIV Through Sex?

The male condom is the only widely available barrier against sexual transmission of HIV. Female condoms are fairly unpopular in the U.S. and still relatively expensive, but they are gaining acceptance in some developing countries. Efforts are also underway to develop topical creams or gels called "microbicides," which can be applied prior to sexual intercourse to kill HIV and block other STDs that facilitate HIV infection.

Are Some People at Greater Risk of HIV Infection Than Others?

HIV does not discriminate. It is not who you are, but what you do that determines whether you can become infected with HIV. Worldwide, sexual intercourse is by far the most common mode of HIV transmission, but in the U.S., as many as half of all new HIV infections are now associated either directly or indirectly with injection drug use (i.e., using HIV-contaminated needles to inject drugs or having sexual contact with an HIV-infected drug user). Overall, HIV infection is spreading fastest in this country among young people, women, African Americans, and Hispanics.

Are Women Especially Vulnerable to HIV?

In western countries, women are four times more likely to contract HIV through vaginal sex with infected males than vice versa. This biological vulnerability is worsened by social and cultural factors that often undermine women's ability to avoid sex with partners who are HIV-infected or to insist on condom use. In the U.S., the proportion of AIDS cases among women more than tripled from 7% in 1985 to 23% in 1999. African American and Hispanic women, who represent less than one-quarter of U.S. women, represent nearly 80% of AIDS cases reported among American women to date.

Are Young People at Significant Risk of HIV Infection?

Nearly half of the roughly 40,000 Americans newly infected with HIV each year are under the age of 25. Approximately two young Americans become infected with HIV every hour of every day, and about 25% of the people now living with HIV in this country became infected when they were teenagers. Statistics show that by the age of 19, at least half of females and 60% of males in this country have engaged in sexual intercourse, and one in six sexually experienced teens has contracted one or more STDs. Many young people also use drugs and alcohol, which can increase the likelihood that they will engage in high-risk sexual behavior.

Are There Treatments for HIV/AIDS?

For many years, there were no effective treatments for AIDS. Today, people in the United States and other developed countries can use a number of drugs to treat HIV infection and AIDS. Some of these are designed to treat the opportunistic infections and illnesses that affect people with HIV/AIDS. In addition, several types of drugs seek to prevent HIV from reproducing and destroying the body's immune system:

- Reverse transcriptase inhibitors attack an HIV enzyme called reverse transcriptase. They include abacavir, delavirdine, didanosine (ddI), efavirenz, lamivudine (3TC), nevirapine, stavudine (d4T), zalcitabine (ddC), and zidovudine (AZT).
- Protease inhibitors attack the HIV enzyme protease and include amprenavir, indinavir, nelfinavir, ritonavir, and saquinavir.

Many HIV patients are taking several of these drugs in combination a regimen known as highly active antiretroviral therapy (HAART). When successful, combination or "cocktail" therapy can reduce the level of HIV in the bloodstream to very low, even undetectable, levels and sometimes enable the body's CD4 immune cells to rebound to normal levels.

Researchers are working to develop new drugs known as fusion inhibitors and entry inhibitors that can prevent HIV from attaching to and infecting human immune cells. Efforts are also underway to identify new targets for anti-HIV medications and to discover ways of restoring the ability of damaged immune systems to defend against HIV and the many illnesses that affect HIV-infected individuals. Ultimately, advances in rebuilding the immune system in HIV patients will benefit people with a number of serious illnesses, including cancer, Alzheimer's disease, multiple sclerosis, and immune deficiencies associated with aging and premature birth.

Is There a Cure for AIDS?

There is still no cure for AIDS. And while new drugs are helping many people with HIV/AIDS live longer, healthier lives, there are many problems associated with them:

- Existing treatments do not work for many people with HIV/AIDS.
- Anti-HIV drugs are highly toxic and can cause serious side effects, including heart damage, kidney failure, and osteoporosis. Many (perhaps even most) patients cannot tolerate long-term treatment with HAART.
- HIV mutates constantly. In as many as 40% of people on HAART, HIV mutates into new viral strains that have become highly resistant to current drugs, and as many as 10% of newly infected Americans are acquiring drug-resistant strains of the virus.
- Because treatment regimens are unpleasant and complex, many patients occasionally miss doses of their medication. Failure to take anti-HIV drugs on schedule and in the prescribed dosage can encourage the development of new viral strains that are resistant to current HIV drugs.
- Even among those who do respond well to treatment, HAART does not eradicate HIV. The virus continues to replicate at low levels and often remains hidden in "reservoirs" in the body, such as the lymph nodes and brain.

Importantly, roughly 95% of all people with HIV/AIDS live in the developing world, where there is virtually no access to antiretroviral treatments. Here in the U.S., HAART contributed to a significant decline in the annual number of AIDS-related deaths between 1996 and 1998. But the rate of this decline has now slowed markedly, and some communities are reporting an increase in AIDS deaths.

Is There a Vaccine to Prevent HIV Infection?

Despite continued intensive research, experts believe it will be at least a decade before we have a safe, effective, and affordable AIDS vaccine. And even after a vaccine is developed, it will take many years before the millions of people at risk of HIV infection worldwide can be immunized. Until then, other HIV prevention methods, such as using condoms and avoiding needle-sharing, will remain essential.

Can You Tell Whether Someone Else Has HIV or AIDS?

You cannot tell by looking at someone whether he or she is infected with HIV or has AIDS. An infected person can appear completely healthy. But anyone infected with HIV can infect other people, even if no symptoms are present.

How Can I Know Whether I'm HIV-Infected?

Immediately after infection, some people may develop mild, temporary flu-like symptoms or persistent swollen glands. Even if you look and feel healthy, you may be infected. The only way to know your HIV status for sure is to be tested for HIV antibodies proteins the body produces in an effort to fight off infection. This usually requires a blood sample. If a person's blood has HIV antibodies, that means the person is infected.

Should I Get Tested?

If you think you might have been exposed to HIV, you should get tested as soon as possible. Here's why:

- Even in the early stages of infection, you can take concrete steps to protect your long-term health. Many physicians still recommend a "hit early and hit hard" approach to anti-HIV therapy.
- But even if you don't begin taking medications right away, regular check-ups with a doctor who has experience with HIV/AIDS will enable you (and your family members or loved ones) to make the best decisions about how and when to begin treatment, without waiting until you get sick.
- Taking an active approach to managing HIV may give you many more years of healthy life than you would otherwise have.
- If you are HIV-positive, you will be able to take the precautions necessary to protect others from becoming infected.
- If you are HIV-positive and pregnant, you can take medications and other precautions to significantly reduce the risk of infecting your infant, including refraining from breast-feeding.

How Can I Get Tested?

Most people are tested by private physicians, at local health department facilities, or in hospitals. In addition, many states offer anonymous HIV testing. It is important to seek testing at a place that also provides counseling about HIV and AIDS. Counselors can answer questions about high-risk behavior and suggest ways you can protect yourself and others in the future. They can also help you understand the meaning of the test results and refer you to local AIDS-related resources.

Though less readily available, there is also a viral load test that can reveal the presence of HIV in the blood within 3 to 5 days of initial exposure, as well as highly accurate saliva tests that are nearly equivalent to blood tests in determining HIV antibody status. You can also purchase a kit that allows you to collect your own blood sample, send it to a lab for testing, and receive the

results anonymously. Only the "Home Access" brand kit is approved by the Food and Drug Administration. It can be found at most drug stores.

Keep in mind that while most blood tests are able to detect HIV infection within four weeks of initial exposure, it can sometimes take as long as three to six months for antibodies to reach detectable levels. The CDC currently recommend testing six months after the last possible exposure to HIV.

The CDC's National AIDS Hotline can answer questions about HIV testing and refer you to testing sites in your area. Operators are available toll-free, 24 hours a day, seven days a week, at:

1-800-CDC-INFO

1-888-232-6348 (TTY/deaf access)

Where Can I Get More Information About HIV and AIDS?

There are many valuable sources of HIV/AIDS information, including your state or local health department (see your local phonebook), and your local AIDS service organization (see your local phonebook). You can also access resources over the internet. **For more information, see amfAR's [Treatment Directory resource list](#).**

How Can I Help Fight HIV/AIDS?

Everyone can play a role in dealing with this epidemic. Here are just a few suggestions for how you can make a difference in the fight against HIV/AIDS:

- Volunteer with your local AIDS service organization.
- Talk with the young people you know about HIV/AIDS.
- Urge government officials to provide adequate funding for AIDS research, prevention education, medical care, and support services.
- Speak out against AIDS-related discrimination.
- Support continued research to develop better treatments and a safe and effective AIDS vaccine by making a donation to amfAR.

This article was provided by [American Foundation for AIDS Research](#). You can find this article online by typing this address into your Web browser:

<http://www.thebody.com/content/whatis/art32981.html>

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