

HIV & AIDS

HIV (Human Immunodeficiency Virus) is the virus that causes AIDS (Acquired Immune Deficiency Syndrome). HIV is a sexually transmitted infection (STI, also known as STD, sexually transmitted disease). HIV is passed from an infected person to another person through blood-to-blood contact, sexual contact, or from mother to infant during pregnancy, delivery, or breast-feeding. HIV attacks certain types of white blood cells, primarily T4 cells (commonly known as T-cells) and macrophages, which are crucial to the normal functioning of the immune system. The disruption of these cells causes the breakdown in the immune system, which characterizes AIDS.

AIDS is an illness that damages a person's ability to fight off disease, leaving the body open to attack from unusual types of cancer and from infections that the body's immune system could ordinarily fight off. These types of infections are known as "opportunistic" infections because they take advantage of a weakened immune system to cause illness. AIDS is not a single disease, but rather a collection of symptoms caused by opportunistic infections and/or cancers. Pneumocystis carinii pneumonia and Kaposi's sarcoma, once a rare type of cancer, have been the most common causes of death in people with AIDS in the United States.

HISTORY OF AIDS

Unfortunately, we do not know the origin of HIV. None of the theories about the origin of HIV have been proven. The earliest known case of HIV was from a blood sample collected in 1959 from a man in Kinshasa, Democratic Republic of Congo, but the source of his infection is not known. Genetic analysis of this blood sample suggests that HIV may have stemmed from a single virus in the late 1940s or early 1950s.

We do know that the virus has existed in the U.S. since at least the mid to late 1970s. From 1979 to 1981 rare types of pneumonia, cancer, and other illnesses were being reported by doctors in Los Angeles and New York among a number of gay male patients. These were conditions not usually found in people with healthy immune systems.

In 1982, public health officials began to use the term "acquired immunodeficiency syndrome," or AIDS, to describe the occurrences of opportunistic infections, Kaposi's sarcoma, and Pneumocystis carinii pneumonia in previously healthy men. Formal tracking of AIDS cases began that year in the U.S. Scientists isolated the HIV virus as the cause of AIDS in 1983.

TRANSMISSION

This virus is passed from an infected person to another person through blood-to-blood contact, sexual contact, or mother-to-infant contact.

These body fluids have been proven to spread HIV:

- Blood
- Semen
- Vaginal fluid
- Breast milk
- Other body fluids containing blood

HIV enters the body through cuts in the skin, open sores, tiny tears in the mucous membranes of the mouth, rectum, or vagina, and directly into the blood by a needle. It is generally accepted

that the virus is transmitted through direct exposure to contaminated bodily fluids that have not been exposed to the air.

HIV is commonly spread by:

- Having unprotected sexual intercourse with someone who has the virus.
- Getting HIV-infected blood, semen, or vaginal secretions into open wounds or sores.
- Sharing needles or syringes with someone who has the virus (i.e. IV drugs, steroid, piercing and/or tattooing needles).
- Being deeply punctured with a needle or surgical instrument contaminated with the virus.
- Passing from a woman to her infant during pregnancy, birth, or breast feeding.
- Receiving transfusions of blood products donated by someone who has the virus. (The risk of transmitting HIV by a screened blood transfusion is practically nonexistent now. Since 1985, the U.S. blood supply has been screened for HIV and is believed to be very safe.)

HIV is not transmitted through:

- Insect bites
- Human bites
- Dry kissing
- Saliva, tears, urine, or sweat
- Contact with public toilets or drinking fountains
- Shaking hands, giving hugs or sharing a cup

HIV *cannot* go through unbroken skin. In comparison to the flu and common cold viruses, HIV is actually quite fragile and will die rather quickly if exposed to air.

CONTINUUM OF RISK

To assess your risk in intimate activities, consider the continuum of risk below:

Very Low Risk: No reported cases due to these behaviors.

- Masturbation or mutual masturbation
- Touching or massage
- Erotic massage or body rubbing
- Casual kissing
- Oral sex on a man with a condom
- Oral sex on a woman with a dental dam

Low Risk: Rare reported cases due to these behaviors.

- Deep kissing
- Unprotected oral sex
- Vaginal sex with a condom or female condom
- Anal sex with a condom

High Risk: Millions of reported cases due to these behaviors.

- Vaginal sex without a condom
- Anal sex without a condom

SYMPTOMS

It is possible to be infected with HIV and to transmit the virus without showing symptoms of illness. Many people do not develop any symptoms when they first become infected with HIV. Some people, however, have a flu-like illness within a month or two after exposure to the virus. People infected with HIV may have symptoms including fever, headaches, lack of energy, and enlarged lymph nodes easily felt in the neck and

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groin. These symptoms usually disappear within a week to a month and are often mistaken for the flu. The only way to determine for sure whether you are infected is to be tested for HIV infection.

The following symptoms may signal that the infection has progressed to AIDS:

- Rapid weight loss
- Deep, dry coughing
- Recurring fever or profuse night sweats
- Profound and unexplained fatigue
- Swollen lymph glands in the armpits, groin, or neck
- Diarrhea that lasts for more than a week
- Bruising more easily than normal
- White spots or unusual blemishes on the tongue, in the mouth, or in the throat
- Recurring yeast infections
- Pneumonia
- Red, brown, pink, or purplish blotches on or under the skin or inside the mouth, nose, or eyelids
- Numbness or pain in the hands or feet
- Loss of muscle control and reflex, paralysis, or loss of muscular strength
- Memory loss, depression, and other neurological disorders.

Because these symptoms can take years to develop, their absence is not an indicator of HIV status. Only a medical provider can diagnose AIDS based on specific criteria established by the CDC.

More persistent or severe symptoms may not surface for 10 years or more after HIV first enters the body in adults, and within 2 years in children born with HIV. This period of "asymptomatic" infection is variable, however, and can depend on many factors, including a person's health status and their health-related behaviors. Some people may begin to have symptoms in as soon as a few months, whereas others may be symptom-free for more than 10 years.

During the asymptomatic period, HIV is actively infecting and killing cells of the immune system. HIV's effect is seen most obviously by measuring the levels of T cells in the blood, the immune system's key infection fighters. The virus initially disables or destroys these cells without causing symptoms.

DIAGNOSIS

HIV Testing: The tests commonly used to detect HIV infection look for the presence of antibodies that fight HIV. According to the CDC, most people infected with HIV develop antibodies against the virus within 3 months of infection, the average time being 25 days. The length of time between infection and when there are enough antibodies to be detected by the HIV test is often called the "window period." If an HIV test is negative 3 months after a high-risk experience, an individual should consult their medical provider to determine if the test should be repeated. CDC studies indicate that it is highly unlikely that HIV infection would go unrecognized for prolonged periods (over 6 months) in persons who are infected.

HIV Testing at UHS: The University Health Service (UHS) performs confidential HIV testing. For information about testing at UHS, see the fact sheet, "HIV Testing at UHS," which is available on the UHS web site in the Sexual Health section of Health Topics. There are other testing sites in Rochester and throughout New York. A list of sites offering confidential and anonymous testing in the Rochester area are listed on the fact sheet.

Diagnosing AIDS: An HIV-infected person receives a diagnosis of AIDS after developing one of the CDC-defined AIDS indicator illnesses. Studies have revealed that most people infected with HIV carry the virus for years before enough damage is done to the immune system for noticeable AIDS symptoms to develop. An HIV-infected person can receive an AIDS diagnosis on the basis of certain blood tests (T cell counts) even if the person has not had any serious illnesses. The loss of T cells in people with HIV is a very strong predictor of the development of AIDS.

TREATMENT

Today there are medical treatments that can slow down the rate at which HIV weakens the immune system. Sixteen drugs have been approved for treating HIV infection. They are called anti-retroviral drugs because they attack HIV, which is a retrovirus. Once inside the cell, HIV uses specific enzymes to survive. Anti-retroviral drugs work by interfering with the virus' ability to use these enzymes.

In addition to the anti-retroviral drugs, there are other treatments that can prevent or cure some of the illnesses associated with AIDS. As with other diseases, early detection offers more options for treatment and preventative care. Unfortunately, the drugs currently available cannot cure an HIV infection. HIV can become resistant to any one drug and even a combination of drugs cannot suppress the virus indefinitely. However, scientists continue to develop new drugs and treatments that are helping many people infected with HIV live longer and healthier lives.

SCHEDULING AN APPOINTMENT

The University Health Service (UHS) offers a full range of health care services for men and women, including confidential HIV testing. You can schedule an appointment with your primary care provider (PCP) by calling 275-2662. Women can also schedule an appointment with one of the women's health nurse practitioners. All visits to UHS are confidential.

LINKS

For more information about HIV/AIDS, you can visit:

Centers for Disease Control and Prevention (CDC):
<http://www.cdc.gov/hiv/dhap.htm>

For phone inquiries 24 hours/day, 7 days/week – Call CDC-INFO at 1-800-CDC-INFO or 1-888-232-6348 (TTY) or e-mail cdcinfo@cdc.gov.

Planned Parenthood:
<http://www.plannedparenthood.org/sti/aidsquestions.html>