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HIV and AIDS

What Is It?

The **human immunodeficiency virus (HIV)** is one of the most serious, deadly diseases in human history. HIV causes a condition called **acquired immunodeficiency syndrome** — better known as **AIDS**.

HIV destroys a type of defense cell in the body called a **CD4 helper lymphocyte** (pronounced: **lim-fuh-site**). These lymphocytes are part of the body's immune system, the defense system that fights infections. When HIV destroys these lymphocytes, the immune system becomes weak and people can get serious infections that they normally wouldn't.

As the medical community learns more about how HIV works, they've been able to develop medications to inhibit it (meaning they interfere with its growth). These medicines have been successful in slowing the progress of the disease.

If people with HIV get treated, they can live long, relatively healthy lives — just as people who have other **chronic** diseases like diabetes can. But, as with diabetes or asthma, there is still no cure for HIV and AIDS.

How Do People Get It?

Thousands of U.S. teens and young adults get infected with HIV each year. HIV can be transmitted from an infected person to another person through blood, semen (also known as "cum," the fluid released from the penis when a male ejaculates), vaginal fluids, and breast milk.

The virus is spread through what doctors call "high-risk behaviors," which include things like:

- having unprotected oral, vaginal, or anal sexual intercourse ("unprotected" means not using a condom)
- sharing needles, such as needles used to inject drugs, steroids, and other substances, or sharing needles used for tattooing

Other risk factors:

- People who have another sexually transmitted disease (STD)

An infographic titled "The Truth About Transmission" featuring a blue star icon. The text explains that HIV cannot be transmitted through casual contact like hugs or handshakes, and is not spread through sneezes or coughs. It also states that mosquitoes and other bugs do not carry the virus, and that all blood in the United States is tested for HIV before transfusions. The text is written in a bold, sans-serif font.

The Truth About Transmission

You **can't** get HIV from hugging or holding hands or from other casual contact. HIV is not spread through sneezes or coughs, and you can't catch it from sitting near someone who has it. Mosquitoes and other bugs **don't** carry the virus. And it is very rare for blood transfusions to spread HIV. All blood in the United States is **carefully tested** for HIV and other infections before it can be used for transfusions.

(such as syphilis, genital herpes, chlamydia, gonorrhea, or bacterial vaginosis) are at greater risk for getting HIV during sex with infected partners.

- If a woman with HIV is pregnant, her newborn baby can catch the virus from her before birth, during the birthing process, or from breastfeeding.

If doctors know a mom-to-be has HIV, they can usually prevent the spread of the virus from mother to baby. So all pregnant women should be tested for HIV so they can begin treatment if necessary.

How Does HIV Affect the Body?

A healthy body has CD4 helper lymphocyte cells (CD4 cells). These cells help the immune system function normally and fight off certain kinds of infections. They do this by acting as messengers to other types of immune system cells, telling them to become active and fight against an invading germ.

HIV attaches to these CD4 cells. The virus then infects the cells and uses them as a place to multiply. In doing so, **the virus destroys the ability of the infected cells to do their job in the immune system.** The body then loses the ability to fight many infections.

Because their immune systems are weakened, people who have AIDS are unable to fight off many infections, particularly tuberculosis and other kinds of otherwise rare infections of the lung (such as *Pneumocystis carinii* pneumonia), the surface covering of the brain (meningitis), or the brain itself (encephalitis). People who have AIDS tend to keep getting sicker, especially if they are not taking antiviral medications properly.

AIDS can affect every body system. The immune defect caused by having too few CD4 cells also permits some cancers that are stimulated by viral illness to occur — some people with AIDS get forms of lymphoma and a rare tumor of blood vessels in the skin called Kaposi's sarcoma.

Because AIDS is fatal, it's important that doctors detect HIV infection as early as possible so a person can take medication to delay the onset of AIDS.

How Do People Know They Have HIV?

Severe symptoms of HIV infection and AIDS may not appear for as long as 10 years (or more for some people). For years leading up to that, people with HIV may not notice any signs that they have the virus.

How long it takes for symptoms of HIV/AIDS to appear varies from person to person. Some people may feel and look healthy for years while they are infected with HIV. **It is still possible to infect others with HIV, even if the person with the virus has absolutely no symptoms.** You cannot tell simply by looking at someone whether he or she is infected.

Doctors diagnose someone with AIDS when that person's blood lacks the number of CD4 cells required to fight infections. Doctors also diagnose AIDS if the person has signs of specific illnesses or diseases that occur in people with HIV infection.

When a person's immune system is overwhelmed by AIDS, he or she might notice:

- extreme weakness or fatigue
- rapid weight loss
- frequent fevers that last for several weeks with no explanation
- heavy sweating at night
- swollen lymph glands
- minor infections that cause skin rashes and mouth, genital, and anal sores
- white spots in the mouth or throat
- chronic diarrhea
- a cough that won't go away
- trouble remembering things
- in girls, severe vaginal yeast infections that don't respond to usual treatment

How Can It Be Prevented?

One of the reasons that HIV is so dangerous is that a person can have the virus for a long time without knowing it. That person can then spread the virus to others through high-risk behaviors.

HIV transmission can be prevented by:

- not having oral, vaginal, or anal sex (abstinence)
- always using latex condoms for all types of sexual intercourse
- avoiding contact with the bodily fluids through which HIV is transmitted
- never sharing needles

How Do Doctors Test for and Treat HIV?

Doctors now recommend that all people have at least one HIV test by the time they are teens. **If you are having sex, have had sex in the past, or shared needles with someone else, your doctor will probably recommend that you get tested at least once a year.**

If you have questions about HIV and want to get tested, you can talk to your family doctor, pediatrician, adolescent doctor, or gynecologist.

People also can get tested for HIV/AIDS at pretty much any clinic or hospital in the country. Clinics offer both anonymous testing (meaning the clinic doesn't know a person's name) and confidential testing (meaning they know who a person is but keep it private). Most clinics will ask you to follow up for counseling to get your results, whether the test is negative or positive.

The HIV test can be either a blood test or a swab of the inside of your cheek. Depending on what type of test is done, results may take from a few minutes to several days. Let the doctor know the best way to reach you confidentially with any test results.

If you had unprotected sex with someone you know has HIV or if you were raped or forced to have sex by someone, see your doctor or go to the emergency room right away. They might be able to give you

medications to prevent HIV infection (within 72 hours), and do the appropriate follow-up testing.

If you're not sure how to find a doctor or get an HIV test, you can contact the National AIDS Hotlines at (800) 342-AIDS (English) or (800) 344-7432 (Spanish). A specialist there will explain what you should do next.

There is no cure for HIV. That's why prevention is so important. Combinations of antiviral drugs and drugs that boost the immune system have allowed many people with HIV to resist infections, stay healthy, and prolong their lives, but these medications are not a cure. Right now there is no vaccine to prevent HIV and AIDS, although researchers are working on developing one.

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