



Education

HIV Infection and AIDS

What are HIV and AIDS?

HIV is the abbreviation used for the human immunodeficiency virus. HIV is the virus that causes AIDS (acquired immunodeficiency syndrome), a life-threatening disease.

HIV attacks the body's immune system. The infection-fighting cells of the immune system are called CD4 cells or T-helper cells. Months to years after a person is infected with HIV, the virus destroys the CD4 cells. When the CD4 cells are destroyed, the immune system can no longer defend the body against infections and cancers.

HIV infection becomes AIDS when you lose your ability to fight off serious infections or tumors. Various infections called opportunistic infections develop. They are called opportunistic because they take advantage of the weakened immune system. These infections would not normally cause severe or fatal health problems. However, when you have AIDS, the infections and tumors are serious and can be fatal.

How does it occur?

HIV is **not** spread through the air, in food, or by casual social contact such as shaking hands or hugging. The virus is passed on only when blood or sexual secretions, such as semen, enter another person's body. HIV can also be spread to babies by the breast milk of an infected mother. Spread of the virus can occur during such activities as:

- unprotected sexual activity
- sharing IV needles
- being born to or breast-fed by an HIV-infected mother
- blood transfusions (now rare in the US because of current screening tests).

The following groups have the highest risk for HIV infection and the development of AIDS:

- sexually active homosexual men
- bisexual men and their partners
- IV drug users and their sexual partners
- people who share needles (for IV drug use, tattooing, or piercing)
- heterosexual men and women with more than one sexual partner
- people given transfusions of blood or blood products in countries where the blood is not rigorously tested
- immigrants from areas with many cases of AIDS (such as Haiti and east central Africa)
- people who have sex with an HIV-infected partner or with anyone in the above groups if they do not always use a latex or polyurethane condom
- babies born to HIV-infected mothers.

What are the symptoms?

The symptoms of HIV infection and AIDS are usually the symptoms of the diseases that attack the body because of a weakened immune system:

- fever that lasts from a few days to longer than a month
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- loss of appetite or weight, especially loss of more than 10% of body weight
- nausea and vomiting
- tiredness
- prolonged swelling of the lymph nodes
- sore throat
- long-lasting or multiple viral skin problems, such as herpes sores or plantar warts
- repeated, severe yeast infections in your mouth or vagina despite treatment
- chronic muscle and joint pain
- diarrhea, especially if it lasts longer than a month
- headache.

The serious opportunistic diseases that most often affect someone with AIDS include a type of cancer called Kaposi's sarcoma and these infections: Pneumocystis carinii pneumonia (PCP), tuberculosis, meningitis, and herpes simplex infections.

How is it diagnosed?

Usually the first test, the ELISA test, is a blood test although in some hospitals and facilities a new test that involves swabbing the gums may be done. The ELISA test is done to see if you are infected with HIV. If this test is positive, another more specific blood test, usually the Western blot test, is done to confirm the results.

Once you have confirmed positive HIV test results, you must have a thorough medical exam. Your health care provider will ask about your medical history and symptoms and will examine you.

The medical history and physical exam includes discussing your history of sexual practices and sexually transmitted diseases. Your health care provider will also ask about any history of drug abuse.

You will have some lab tests. Comparing the results of the physical exam and these first lab tests with results weeks or months from now can help your health care provider diagnose new symptoms you may have in the future. It can also help your provider know how well your medicines are working.

You will be tested for certain infections, such as tuberculosis (TB), syphilis, and hepatitis B. These infections can worsen rapidly when you have HIV. They also pose a serious risk to others.

HIV-positive women should have a Pap test according to the schedule recommended by their health care provider (usually every 6 to 12 months).

How is it treated?

Your treatment depends on if it is known when you became infected with HIV and whether you have symptoms. Your treatment may include:

- antiviral medicines, such as zidovudine (also called ZDV or AZT), didanosine (ddI), and lamivudine (3TC), and protease inhibitors, such as indinavir (Crixivan), lopinavir/ritonavir (Kaletra), ritonavir (Norvir), saquinavir (Fortovase), and nelfinavir (Viracept)
- lab tests every few weeks to see how well your immune system is working, to measure the amount of HIV in your blood, and to screen for infections or other medical problems
- regular dental exams because people who are HIV positive often have mouth problems, including gum disease
- preventive treatment for such diseases as:
 - Pneumocystis carinii pneumonia (PCP)
 - tuberculosis
 - toxoplasmosis (be sure to avoid raw meat and cat litter boxes)
 - tetanus
 - hepatitis B
 - pneumococcal infections
 - influenza
- treatment for infections and tumors as they develop.

Your health care provider will probably recommend starting treatment with antiviral drugs and antipneumonia drugs if you are having symptoms of HIV infection. Even if you are not having symptoms, your provider may recommend starting treatment if:

- Your CD4 cell count is below 350 cells per cubic millimeter, or
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- Your viral load is over 30,000 copies per milliliter (mL) as measured by the branched DNA test, or more than 55,000 copies/mL as measured by the RT-PCR test.

The **CD4 cell count** is a good way to know how well the immune system is working. (CD4 cells are a type of white blood cell.) You should have this lab test every 4 to 6 months. When the count begins to decrease, you will need to have the test more often. The **viral load test** measures the amount of HIV in your blood.

Antiviral medicines can slow the progress of the disease, but they are not a cure. Many new drug treatments and combinations are being prescribed or studied.

Vision problems are often an early sign of opportunistic infection in HIV-positive individuals. Tell your health care provider promptly about any eye symptoms, especially if you keep having blurry vision or a loss of vision.

Getting care in an office or clinic that uses the case management concept of care is perhaps the most important aspect of your treatment. This approach emphasizes team care coordinated by a case manager. The case manager helps you communicate with all who are caring for you. Other advantages include:

- Up-to-date medical care will be available to you.
- Treatment of the medical and social aspects of your illness will be brought together.
- You will have help in finding resources (medical, social, financial).

How long do the effects last?

The full effects of AIDS may not appear until 5 to 10 years after you are first infected with HIV. Although AIDS is a fatal disease, life expectancy has increased as new treatments are developed.

How can I take care of myself?

If you are in a high-risk group but have not tested positively for HIV, see your health care provider regularly. He or she will examine you for signs of HIV-associated infections and will recommend how often your blood should be tested for HIV infection.

If you are HIV positive:

- Discuss your treatment with your health care provider.
- See your provider on a regular schedule to keep up to date on new treatments.
- Contact a local AIDS support network. Your provider should be able to help you find one.

Call or see your health care provider if:

- You have new or persistent symptoms.
- You notice a change in body function that concerns you.
- You are having side effects from your medicine.

How can I help prevent HIV infection?

To prevent becoming infected, ask any new sexual partner about his or her sexual history. Be careful to practice safe sex, use latex or polyurethane condoms, and seek HIV testing. Do not share IV needles.

If you are HIV positive, you can help prevent spreading the virus if you:

- Practice safe sex: Avoid exposure to blood, vaginal secretions, semen, and other sexual secretions during foreplay and intercourse. Carefully use latex or polyurethane condoms for every oral, vaginal, or anal sexual activity.
 - Ask sexual partners to be tested for HIV.
 - Tell your health care providers that you are HIV positive. (Discuss any concerns you may have about confidentiality with your health care provider.)
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In addition:

- **Do not** share needles for drug use, tattooing, or body piercing.
- **Do not** donate blood, plasma, or semen.
- Do not plan to donate organs, such as corneas. (If you were previously planning to donate organs, have that statement removed from your driver's license.)

To avoid passing HIV to a baby, women should talk to their health care providers before becoming pregnant.

Antiretroviral drugs may be used to prevent HIV infection if you have been exposed to HIV through sexual intercourse, sexual assault, injection drug use, or an accident. The treatment must be started no more than 72 hours after a high-risk exposure to someone known to be HIV-infected. The treatment lasts 28 days. This preventive treatment is not recommended for people who are often at risk of exposure to HIV, like those who have HIV-infected sex partners and rarely use condoms, or injection drug users who often share equipment.

How can I keep up to date on treatments for HIV infection?

Researchers are learning more about HIV. As a result, recommended treatments change often. Keeping up with these changes can be difficult and frustrating. Two ways you can seek up-to-date information and care are:

- Obtain health care from a case management model facility and follow the recommended appointment schedule.
- Contact the AIDS Hotline with specific questions or to find other resources. The National AIDS Hotline: 1-800-342-AIDS (1-800-342-2437), 24 hours, 7 days a week TDD: 1-800-243-7889 (10 a.m. to 10 p.m., EST, Monday through Friday Spanish National AIDS hotline: 1-800-344-7432, 8 a.m. to 2 a.m., EST, 7 days a week These hotlines are provided by the US Centers for Disease Control and Prevention.

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