Human immunodeficiency virus, or HIV, is the virus that causes acquired immune deficiency syndrome (AIDS). The virus weakens a person's ability to fight infections and cancer. People with HIV are said to have AIDS when they develop certain infections or cancers or when their CD4 (T-cell) count is less than 200. CD4 count is determined by a blood test in a doctor's office.

Having HIV does not always mean that you have AIDS. It can take many years for people with the virus to develop AIDS. HIV and AIDS cannot be cured. However with the medications available today, it is possible to have a normal lifespan with little or minimal interruption in quality of life. There are ways to help people stay healthy and live longer.

How Does HIV and AIDS Cause Illness?

HIV attacks and destroys a type of white blood cell called a CD4 cell, commonly called the T-cell. This cell's main function is to fight disease. When a person's CD4 cell count gets low, they are more susceptible to illnesses.

What Is AIDS?

AIDS is the more advanced stage of HIV infection. When the immune system CD4 cells drop to a very low level, a person's ability to fight infection is lost. In addition, there are several conditions that occur in people with HIV infection with this degree of immune system failure -- these are called AIDS-defining illnesses.

According to the CDC, 1,051,875 people in the U.S. have been diagnosed with AIDS since the disease was first diagnosed in 1981. They also estimate that 583,298 have died from the disease in the U.S.

How Do People Get HIV?

A person gets HIV when an infected person's body fluids (blood, semen, fluids from the vagina or breast milk) enter his or her bloodstream. The virus can enter the blood through linings in the mouth, anus, or sex organs (the penis and vagina), or through broken skin.

Both men and women can spread HIV. A person with HIV can feel OK and still give the virus to others. Pregnant women with HIV also can give the virus to their babies.

Common ways people get HIV:

- Sharing a needle to take drugs.
- Having unprotected sex with an infected person.

You cannot get HIV from:

- Touching or hugging someone who has HIV/AIDS.
- Public bathrooms or swimming pools.
- Sharing cups, utensils, or telephones with someone who has HIV/AIDS.
- Bug bites.

Who Can Get HIV?

Anyone can get HIV if they engage in certain activities. You may have a higher risk of getting HIV if you:

Have unprotected sex. This means vaginal or anal intercourse without a condom or oral sex without a latex barrier with a person infected with HIV.

Share needles to inject drugs or steroids with an infected person. The disease can also be transmitted by dirty needles used to make a tattoo or in body piercing.

Receive a blood transfusion from an infected person. This is very unlikely in the U.S. and Western Europe, where all blood is tested for HIV infection.

Are born to a mother with HIV infection. A baby can also get HIV from the breast milk of an infected woman.

If you fall into any of the categories above, you should consider being tested for HIV.

Health care workers are at risk on the job and should take special precautions. Some health care workers have become infected after being stuck with needles containing HIV-infected blood or less frequently, after infected blood comes into contact with an open cut or through splashes into the worker's eyes or inside their nose.

HIV Tests

The only way to know if you have HIV is to take an HIV test. Most tests looks for signs of HIV in your blood. A small sample of blood is taken from your arm. The blood is sent to a lab and tested for HIV.

Clinics that do HIV tests keep your test results secret. Some clinics even perform HIV tests without ever taking your name (anonymous testing). You must go back to the clinic to get your results. A positive test means that you have HIV. A negative test means that no signs of HIV were found in your blood.

Before taking an HIV test:

Ask the clinic what privacy rules it follows.

Think about how knowing you have HIV would change your life.

Ask your doctor or nurse any questions you have about HIV, AIDS, or the HIV test.

Home HIV test kits are sold online or at your local drugstore. The FDA has approved the Home Access HIV-1 Test System. To use this home test, prick a finger with a special needle and put a few drops of blood on a collection card. Then you mail the card to a lab. In about a week, you call a toll-free number to get the results. The whole process is anonymous because you use just the personal identification number in your kit when calling in for results.

The OraQuick In-Home HIV Test is also approved by the FDA. This test can detect antibodies of the virus from a saliva sample. It can provide results without a laboratory in 20 minutes. A positive result doesn't mean a definite infection with HIV, but rather that additional testing should be done in a medical setting. Also, a negative result doesn't mean that you are definitely not infected with HIV, particularly when exposure may have been within the previous three months.

HIV and AIDS

Who Should Be Tested for HIV?

Recently, the CDC changed testing recommendations. All adults should be screened at least once. People who are considered high risk (needle drug users, multiple sex partners, for example) should be tested more often. All pregnant women should be tested. Anyone who has sustained a needle stick or significant blood exposure from a person known to have HIV or from an unknown source should be tested, too.

Does HIV Have Symptoms?

Some people get flu-like symptoms within a month after they have been infected. These symptoms often go away within a week to a month. A person can have HIV for many years before feeling ill.

As the disease progresses, both women and men may experience yeast infections on the tongue (thrush), and women may develop severe vaginal yeast infections or pelvic inflammatory disease. Shingles is often seen early on, often before someone is diagnosed with HIV.

Signs that HIV is turning into AIDS include:

- A fever that won't go away
- Sweating while you sleep
- Feeling tired all the time (not from stress or lack of sleep)
- Feeling sick all the time
- Losing weight
- Swollen glands (neck, groin, or underarms)
- Oral thrush

What Infections Do People With AIDS Get?

People with AIDS are extremely vulnerable to infection, called AIDS-defining illnesses, and often exhibit the following conditions:

- Kaposi's sarcoma, a skin tumor that looks like dark or purple blotches on the skin or in the mouth
- Mental changes and headaches caused by fungal infections or tumors in the brain and spinal cord
- Shortness of breath and difficulty breathing because of infections of the lungs
- Dementia
- Severe malnutrition
- Chronic diarrhea

How Is AIDS Diagnosed?

If a person with HIV infection has a CD4 count that drops below 200 -- or if certain infections appear (AIDS-defining illnesses) -- that person is considered to have AIDS.

How Is HIV Treated?

We've come a long way from the days when diagnosis with HIV equaled a death sentence. Today, there are a variety of treatments that, when used in combination can significantly slow down and in some cases stop altogether, the progression of HIV infection.

After HIV infection is confirmed, your doctor will start you on a drug regimen consisting of several drugs; combinations of different types of anti-HIV drugs sometimes are called HAART, for <u>highly-active antiretroviral therapy</u> (HIV is a kind of virus called a retrovirus).

Taking HAART therapy is very manageable yet isn't necessarily easy. These drugs must be taken at the right time, every single day. Also, a range of side effects may occur, including: diarrhea, nausea, rash, vivid dreams, or abnormal distribution of body fat. And, especially if medications are taken incorrectly or inconsistently, the virus can mutate, or change, into a strain resistant to treatment. The good news is that there are now several HIV medications that are only taken once a day. If there is resistant virus, however, these may not work and other medication options must be used.

If your disease has progressed to AIDS, your treatment may also include drugs to combat and prevent certain infections.

How Do I Know If the HIV Treatments Are Working?

Your doctor can monitor how well you're HIV treatment is working by measuring the amount of HIV in your blood (also called the viral load.) The goal of treatment is to get the viral load undetectable on labs tests; ideally less than 20 copies. This does not mean the virus is gone or cured, it means the medication is working and must be continued.

The best way to protect yourself from HIV is to avoid activities that put you at risk. There's no way to tell by looking at someone if he or she has HIV. Always protect yourself.

- Use latex condoms (rubbers) whenever you have any type of sex (vaginal, anal, or oral).
- Don't use condoms made from animal products.
- Use water-based lubricants. Oil-based lubricants can weaken condoms.
- · Never share needles to take drugs.
- Avoid getting drunk or high. People who are drunk or high may be less likely to protect themselves.

How Can I Prevent HIV From Progressing to AIDS?

You can help prolong your life by taking good care of yourself and developing a good relationship with an experienced doctor specializing in HIV and AIDS. Also, be consistent about taking your HIV medications as prescribed and getting regular lab work to catch any problems early.

What Is the Outlook for Someone With HIV or AIDS?

It depends on if that person is on treatment and how the virus responds to early treatment. When treatment fails to decrease the replication of the virus, the effects can become life threatening, and the infection can progress to AIDS.

Even with treatment, some people seem to naturally experience a more rapid course towards AIDS. However, the majority of HIV patients who receive appropriate treatment do well and live healthy lives for years.

For more information contact the CDC National AIDS Hotline: 1 (800) CDC-INFO (232-4636)

Your options

- Have a blood or saliva test for HIV.
- Do not have the test.

If you believe you've been exposed to HIV, it's important to be tested.

Key points to remember

- Health experts recommend having a screening test for HIV if you have a high risk for infection. HIV
 tests are also recommended for all pregnant women. Some experts, including the CDC, recommend
 screening for everyone.
- You may not need to be screened for HIV if you aren't sexually active and if you and your doctor have determined that you have a very low risk of getting HIV.
- HIV may not cause symptoms early on. And people who have early symptoms may mistake them for the flu or mononucleosis. So without a test, you may not know that you have an infection.
- If you have a test that shows that you have HIV, you can take steps to prevent spreading HIV to others.
- You may be afraid to be tested for HIV. But if there's any chance you could be infected, it's very
 important to find out. HIV can be treated, and early treatment can slow down the virus and help you
 stay healthy.
- Getting treatment may lower the chance that you will give the infection to a sex partner who doesn't have the infection or to your baby, if you are pregnant.¹
- It can take as little as 2 weeks or as long as 6 months from the time you become infected with HIV for the antibodies to be found in your blood. If you think you have been exposed to HIV but you test negative for it, you should be tested again. Tests given at 6, 12, and 24 weeks can be done to be sure you aren't infected.
- If your test shows that you have HIV, your sex partner(s) will need to know and get tested.

Human immunodeficiency virus, or HIV, is a virus that attacks the immune system. This makes it hard for the body to fight infection and disease. HIV is the virus that causes AIDS (acquired immunodeficiency syndrome). But having HIV doesn't mean that you have AIDS.

HIV often causes flu-like symptoms soon after a person gets infected. These early symptoms go away in a few weeks. After that, signs of illness may not appear for many years. But as the virus multiplies in the body, symptoms reappear and then remain. Fatigue, weight loss, fever, night sweats, diarrhea, and other symptoms are common.

Treatment of HIV may prevent or delay HIV from developing into AIDS. If HIV isn't treated and progresses to AIDS, symptoms get worse and the body is less and less able to fight infections like pneumonia and tuberculosis.

Medicines are the main treatment for HIV. A doctor would likely prescribe several antiretroviral medicines, sometimes called antiretroviral therapy, or ART. By fighting the virus, these medicines can help the immune system stay healthy and delay or prevent AIDS. And they may help a person live longer.

What is the test for HIV?

An HIV test checks for HIV antibodies in the blood. If HIV antibodies are found, the test is considered positive.

Most doctors use two blood tests, called the ELISA and the Western blot assay. If the first ELISA is positive (meaning that HIV antibodies are found), the blood sample is tested again. If the second test is positive, the doctor will do a Western blot to be sure.

Most test facilities will have the ELISA test results in 2 to 4 days. Results of the Western blot take longer, 1 to 2 weeks. Rapid antibody tests are available that give results right away. But positive results of the rapid test need to be confirmed by the ELISA or Western blot test.

Even if HIV antibodies aren't found, you may need to be tested again, especially if you think you have been exposed. This is done to make sure that HIV antibodies don't appear at a later time. It can take as little as 2 weeks or as long as 6 months from the time you become infected with HIV for the antibodies to be found in your blood. Tests given at 6, 12, and 24 weeks can be done to be sure you aren't infected.

During this period, an infected person can still spread the infection even though his or her test was negative.

You can get HIV testing in most doctors? offices, public health clinics, hospitals, and Planned Parenthood clinics. You can also buy a home HIV test kit (saliva test) in a drugstore or by mail order. But be very careful to choose only a test that has been approved by the U.S. Food and Drug Administration (FDA). If a home test is positive, you'll need to see a doctor to have the result confirmed and to find out what to do next.

Who should consider having an HIV test?

Experts don't fully agree on who should be tested for HIV:

The U.S. Centers for Disease Control and Prevention (CDC) recommends that all people should get tested for HIV as part of their regular medical care.

The U.S. Preventive Services Task Force (USPSTF) recommends HIV tests for all adults and adolescents who have a high risk for HIV. The agency recommends screening if:

- You or your sex partner(s) engages in high-risk behavior.
- You're pregnant.
- You've been to a sexually transmitted infection (STI) clinic or a tuberculosis (TB) clinic.

High-risk behavior means that you:

- Are a man who has sex with other men.
- Have multiple sex partners, especially partners who inject drugs.
- Inject drugs or steroids, especially if you share needles, syringes, cookers, or other equipment used to inject drugs.
- Have high-risk partner(s) (a man or woman who has multiple sex partners or injects drugs, or a man
 who has sex with men).
- Have or have recently had a sexually transmitted infection, such as syphilis or genital herpes.

Some expert opinions may vary, and your doctor may recommend testing based on your personal history.

Even if you don't think you're at risk, it's worthwhile getting tested once. In some cases people who've had a positive test didn't believe they had a high risk before having the test.

Getting tested can help find an infection early or when you have no symptoms. This is important so that:

- You can take steps to avoid spreading the infection.
- You can tell your sex partner(s) so they can be tested, get treatment if needed, and avoid spreading the infection.
- You can start treatment right away or as soon as needed. Treatment can help your immune system stay healthy and delay or prevent AIDS. And it may help you live longer. AIDS is the last and most severe stage of HIV infection. Treatment also lowers the chance that you will give the infection to a sex partner who doesn't have the infection.²
- If you are pregnant, you can get early treatment that can reduce the risk of passing HIV to your baby.

What are the risks of getting tested?

If your test shows that you have HIV, your sex partner(s) will need to know and get tested, which may affect your relationship.

If you have HIV, state law may require your doctor or the place where you had the test to report it to the state health department. Some states allow anonymous reporting (the person's name or other identifying information is not provided). Other states require confidential reporting (identifying information is provided but only to authorized public health officials).

With an ELISA test, you could have a false-positive test result, which shows that you have the disease when you actually don't. This could cause you unneeded worry until you have more tests to confirm that you don't have the disease.

If you use a home test kit, you could get a fast result, but it will still need to be confirmed with a test that can take several weeks.

Why might your doctor recommend that you have an HIV test?

Your doctor may want you to be tested if:

- You're sexually active.
- You have never had an HIV test.
- You have a high risk for getting HIV.
- You're pregnant.

African Kaposi Sarcoma

- African Kaposi sarcoma is a fairly common form of the disease found in young adult males who live near the equator in
 Africa. Symptoms of African Kaposi sarcoma can be the same as classic Kaposi sarcoma. However, African Kaposi
 sarcoma can also be found in a much more aggressive form that may cause sores on the skin and spread from the skin to
 the tissues to the bone. Another form of Kaposi sarcoma that is common in young children in Africa does not affect the
 skin but spreads through the lymph nodes to vitalorgans, and quickly becomes fatal.
- This type of Kaposi sarcoma is not common in the United States and treatment information is not included in this summary.

Classic Kaposi Sarcoma

- Classic Kaposi sarcoma is found most often in older men of Italian or Eastern European Jewish origin.
- Classic Kaposi sarcoma is a rare disease that gets worse slowly over many years.
- Recommended Related to Cancer
- Metastatic Pheochromocytoma
- Note: Some citations in the text of this section are followed by a level of evidence. The PDQ editorial boards use a formal
 ranking system to help the reader judge the strength of evidence linked to the reported results of a therapeutic strategy.
 (Refer to the PDQ summary on Levels of Evidence for more information.) Treatment Options The most common sites of
 metastasis for pheochromocytoma or extra-adrenal paraganglioma are lymph nodes, bones, lungs, and liver. Patients with
 known or suspected...
- Read the Metastatic Pheochromocytoma article > >
- Symptoms of classic Kaposi sarcoma may include slow-growing lesions on the legs and feet.
- Patients may have one or more red, purple, or brown skin lesions on the legs and feet, most often on the ankles or soles
 of the feet. Over time, lesions may form in other parts of the body, such as the stomach, intestines, or lymph nodes. The
 lesions usually don't cause any symptoms, but may grow in size and number over a period of 10 years or more. Pressure
 from the lesions may block the flow of lymph and blood in the legs and cause painful swelling. Lesions in the digestive
 tract may cause gastrointestinal bleeding.
- Another cancer may develop.
- Some patients with classic Kaposi sarcoma may develop another type of cancer before the Kaposi sarcoma lesions
 appear or later in life. Most often, this second cancer is non-Hodgkin lymphoma. Frequent follow-up is needed to watch for
 these second cancers.

Epidemic Kaposi Sarcoma

Epidemic Kaposi sarcoma is found in patients who have acquired immunodeficiency syndrome (AIDS).

Epidemic Kaposi sarcoma occurs in patients who have acquired immunodeficiency syndrome (AIDS). AIDS is caused by the human immunodeficiency virus (HIV), which attacks and weakens the immune system. When the body's immune system is weakened by HIV, infections and cancers like Kaposi sarcoma can develop.

Recommended Related to Cancer

The Caregiver's Point of View

Caregivers need help and emotional support. A caregiver responds in his or her own way to the cancer patient's diagnosis and prognosis. The caregiver may feel emotions that are as strong as or stronger than those felt by the patient. The caregiver's need for information, help, and support is different from what is needed by the patient. The life of a family caregiver changes in many ways when cancer is diagnosed. These changes affect most parts of life and continue after treatment ends. The...

Read the The Caregiver's Point of View article > >

Most cases of epidemic Kaposi sarcoma in the United States have been diagnosed in homosexual or bisexual men with HIV infection.

Symptoms of epidemic Kaposi sarcoma include lesions that may spread to many parts of the body.

Symptoms of epidemic Kaposi sarcoma include lesions on different parts of the body, including any of the following:

- Skin.
- Lining of the mouth.
- Lymph nodes.
- Stomach and intestines.
- Lungs and lining of the chest.
- Liver.
- Spleen.

Kaposi sarcoma is sometimes found in the lining of the mouth during a regular dental check-up.

In most patients with epidemic Kaposi sarcoma, the disease will spread to other parts of the body over time. Fever, weight loss, or diarrhea can occur. In the later stages of epidemic Kaposi sarcoma, life-threatening infections are common.

The use of drug therapy called HAART reduces the risk of epidemic Kaposi sarcoma in HIV-infected patients.

HAART (highly active antiretroviral therapy) is a combination of several drugs that block HIV and slow down the development of AIDS and AIDS-related Kaposi sarcoma. For information about AIDS and its treatment, see the AIDSinfo Web site.

General Information About Kaposi Sarcoma

Kaposi sarcoma is a disease in which malignant (cancer) cells form in the tissue lining the lymph vessels under the skin or in mucous membranes.

Kaposi sarcoma is a cancer that causes lesions (abnormaltissue) to grow under the skin, in the lining of the mouth, nose, and throat, or in other organs. The lesions are usually purple and are made of cancer cells, new blood vessels, and white blood cells. Kaposi sarcoma is different from other cancers in that lesions may begin in more than one place in the body at the same time.

Recommended Related to Cancer

Regional Pheochromocytoma

Treatment Options Surgical resection is the definitive treatment for pheochromocytoma or extra-adrenal paraganglioma that is regionally advanced (e.g., from direct tumor extension into adjacent organs or because of regional lymph node involvement). Data to guide management are limited because regional disease is diagnosed in very few patients who present with pheochromocytoma.[1] However, aggressive surgical resection to remove all existing disease can render patients symptom free.[2] Surgical...

Read the Regional Pheochromocytoma article > >

Human herpesvirus-8 (HHV-8) is found in the lesions of all patients with Kaposi sarcoma. This virus is also called Kaposi sarcoma herpesvirus (KSHV). Most people infected with HHV-8 do not get Kaposi sarcoma. Those infected with HHV-8 who are most likely to develop Kaposi sarcoma have immune systems weakened by disease or by drugs given after an organ transplant.

There are several types of Kaposi sarcoma, including:

- Classic Kaposi sarcoma.
- African Kaposi sarcoma.
- Immunosuppressive treatment-related Kaposi sarcoma.
- Epidemic Kaposi sarcoma.
- Nonepidemic Kaposi sarcoma.

Tests that examine the skin, lungs, and gastrointestinal tract are used to detect (find) and diagnose Kaposi sarcoma.

The following tests and procedures may be used:

- Physical exam and history: An exam of the body to check general signs of health, including checking skin and lymph nodes for signs of disease, such as lumps or anything else that seems unusual. A history of the patient's health habits and past illnesses and treatments will also be taken.
- Biopsy: The removal of cells or tissues so they can be viewed under a microscope by a pathologist to check for signs of cancer.
- Chest x-ray: An x-ray of the organs and bones inside the chest. An x-ray is a type of energy beam that can go through the body and onto film, making a picture of areas inside the body. This is used to find Kaposi sarcoma in the lungs.
- Endoscopy: A procedure to look at organs and tissues inside the body to check for abnormal areas. An endoscope is inserted through an incision (cut) in the skin or opening in the body, such as the mouth. An endoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool to remove tissue or lymph node samples, which are checked under a microscope for signs of disease. This is used to find Kaposi sarcoma lesions in the gastrointestinal tract.
- Bronchoscopy: A procedure to look inside the trachea and large airways in the lung for abnormal
 areas. A bronchoscope is inserted through the nose or mouth into the trachea and lungs. A
 bronchoscope is a thin, tube-like instrument with a light and a lens for viewing. It may also have a tool
 to remove tissue samples, which are checked under a microscope for signs of cancer.

There are three ways that cancer spreads in the body.

The three ways that cancer spreads in the body are:

- Through tissue. Cancer invades the surrounding normal tissue.
- Through the lymph system. Cancer invades the lymph system and travels through the lymph vessels to other places in the body.
- Through the blood. Cancer invades the veins and capillaries and travels through the blood to other places in the body.

When cancer cells break away from the primary (original) tumor and travel through the lymph or blood to other places in the body, another (secondary) tumor may form. This process is called metastasis. The secondary (metastatic) tumor is the same type of cancer as the primary tumor. For example, if breast cancer spreads to the bones, the cancer cells in the bones are actually breast cancer cells. The disease is metastatic breast cancer, not bone cancer.

Certain factors affect prognosis (chance of recovery) and treatment options.

The prognosis (chance of recovery) and treatment options depend on the following:

- The type of Kaposi sarcoma.
- The general health of the patient, especially the immune system.
- Whether the cancer has spread.
- Whether the cancer has just been diagnosed or has recurred (come back).

Immunosuppressive Treatment-related Kaposi Sarcoma

• Immunosuppressive treatment-related Kaposi sarcoma is found in patients who have had an organtransplant (for example, a kidney, heart, or liver transplant). These patients take drugs to keep their immune systems from attacking the new organ. When the body's immune system is weakened by these drugs, diseases like Kaposi sarcoma can develop.

- Immunosuppressive treatment-related Kaposi sarcoma often affects only the skin, but may also occur in the mucous membranes or other organs.
- Recommended Related to Cancer
- Metastatic Pheochromocytoma
- Note: Some citations in the text of this section are followed by a level of evidence. The PDQ editorial boards use a formal
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 metastasis for pheochromocytoma or extra-adrenal paraganglioma are lymph nodes, bones, lungs, and liver. Patients with
 known or suspected...
- Read the Metastatic Pheochromocytoma article > >
- This type of Kaposi sarcoma is also called transplant-related or acquired Kaposi sarcoma.

Nonepidemic Gay-related Kaposi Sarcoma

- There is a type of nonepidemic Kaposi sarcoma that develops in homosexual men who have no signs or symptoms of HIVinfection. This type of Kaposi sarcoma progresses slowly, with new lesions appearing every few years. The lesions are most common on the arms, legs, and genitals, but can develop anywhere on the skin.
- This type of Kaposi sarcoma is rare and treatment information is not included in this summary.

Recurrent Kaposi Sarcoma

RecurrentKaposi sarcoma is cancer that has recurred (come back) after it has been treated. The cancer may come back in the skin or in other parts of the body.