

HIV stands for human immunodeficiency virus. If left untreated, HIV can lead to the disease AIDS (acquired immunodeficiency syndrome). AIDS is the final stage of HIV infection, and not everyone who has HIV advances to this stage. AIDS is the stage of infection that occurs when your immune system is badly damaged and you become vulnerable to *opportunistic infections*. When the number of your CD4 cells falls below 200 cells per cubic millimeter of blood (200 cells/mm³), you are considered to have progressed to AIDS. (Normal CD4 counts are between 500 and 1,600 cells/mm³.) You can also be diagnosed with AIDS if you develop one or more opportunistic infections, regardless of your CD4 count. Without treatment, people who are diagnosed with AIDS typically survive about 3 years. Once someone has a dangerous opportunistic illness, life expectancy without treatment falls to about 1 year. People with AIDS need medical treatment to prevent death.

Unlike some other viruses, the human body can't get rid of HIV completely. So once you have HIV, you have it for life.

HIV attacks the body's immune system, specifically the CD4 cells (T cells), which help the immune system fight off infections. If left untreated, HIV reduces the number of CD4 cells (T cells) in the body, making the person more likely to get infections or infection-related cancers. Over time, HIV can destroy so many of these cells that the body can't fight off infections and disease. These opportunistic infections or cancers take advantage of a very weak immune system and signal that the person has AIDS, the last state of HIV infection.

No effective cure for HIV currently exists, but with proper treatment and medical care, HIV can be controlled. The medicine used to treat HIV is called antiretroviral therapy or ART. If taken the right way, every day, this medicine can dramatically prolong the lives of many people with HIV, keep them healthy, and greatly lower their chance of transmitting the virus to others. Today, a person who is diagnosed with HIV, treated before the disease is far advanced, and stays on treatment can live a nearly as long as someone who does not have HIV

HIV IN THE UNITED STATES: *AT A GLANCE*

FAST FACTS

More than 1.2 million people in the United States are living with HIV infection, and almost 1 in 8 (12.8%) are unaware of their infection.

Gay, bisexual, and other men who have sex with men (MSMa), particularly young black/African American MSM, are most seriously affected by HIV.

By race, blacks/African Americans face the most severe burden of HIV.

CDC estimates that 1,218,400 persons aged 13 years and older are living with HIV infection, including 156,300 (12.8%) who are unaware of their infection. Over the past decade, the number of people living with HIV has increased, while the annual number of new HIV infections has remained relatively stable. Still, the pace of new infections continues at far too high a level—particularly among certain groups.

HIV Incidence (new infections): The estimated incidence of HIV has remained stable overall in recent years, at about 50,000 new HIV infections per year. Within the overall estimates, however, some groups are affected more than others. MSM continue to bear the greatest burden of HIV infection, and among races/ethnicities, African Americans continue to be disproportionately affected.

HIV Diagnoses (new diagnoses, regardless of when infection occurred or stage of disease at diagnosis): In 2013, an estimated 47,352 people were diagnosed with HIV infection in the United States. In that same year, an estimated 26,688 people were diagnosed with AIDS. Overall, an estimated 1,194,039 people in the United States have been diagnosed with AIDS.

Deaths: An estimated 13,712 people with an AIDS diagnosis died in 2012, and approximately 658,507 people in the United States with an AIDS diagnosis have died overall. The deaths of persons with an AIDS diagnosis can be due to any cause—that is, the death may or may not be related to AIDS.

LAB TYPES AND WHY THEY ARE IMPORTANT

CHECKLIST FOR HIV laboratory tests.

- **CD4/T-cell count:** A count of your CD4 cells gives a general measure of the health of your immune system, and is a good measurement of immunosuppression. A normal CD4 cell count is more than 500 cells per cubic millimeter (mm³) of blood. If you have a CD4 count of fewer than 200/mm³, you will be diagnosed as having AIDS.

Why it's important: This is a good measure of your risk of opportunistic infections and the strength of your immune system. CD4 count is also used to help decide when to start antiretroviral therapy (ART).

THE HIGHER YOUR CD4 COUNT, THE BETTER.

When the amount of HIV in your blood is lowered by ART, it allows the CD4 cells to reproduce and increase in number. The higher your CD4 count, the better able you are to fight HIV and other infections.

- **CD4 Percentage:** This measures how many of your white blood cells are actually CD4 cells. This measurement is more stable than CD4 counts over a long period of time, but, for most people, the CD4 count remains a more reliable measure of immune function than CD4 percentage.
Why it's important: This measurement is less likely to vary in between blood tests than CD4 counts (which can vary from month to month or day to day).
- **Viral Load (VL):** This test measures the amount of HIV in your blood.
Why it's important: The goals of HIV treatment are to keep your viral load at undetectable levels and to keep your CD4 count high. A viral load test offers a good indicator of how well your treatment is working to achieve those goals.
 - A viral load test is a lab test that measures the number of HIV virus particles in a milliliter of your blood. These particles are called "copies."
 - A viral load test helps provide information on your health status and how well antiretroviral therapy (ART – treatment with HIV medicines) is controlling the virus.
 - ART involves taking a combination of HIV medicines (called an HIV regimen) every day. ART can't cure HIV, but it can help you live a longer, healthier life and reduce your risk of HIV transmission.

- The goal of ART is to move your viral load down, ideally to undetectable levels. In general, your viral load will be declared "undetectable" if it is under 40 to 75 copies in a sample of your blood. The exact number depends on the lab that analyzes your test.
 - Having an "undetectable" viral load doesn't mean that the virus is completely gone from your body, just that it is below what a lab test can find. You still have HIV and need to stay on ART to remain healthy.

- **Complete Blood Count (CBC):** This is a measure of the concentration of red blood cells, white blood cells, and platelets in a sample of your blood.

Why it's important: A CBC is one of the most commonly ordered blood tests. It can reveal infections, anemia (abnormality in your red blood cells), and other medical issues.
- **Serum Chemistry Panel:** This test helps provide information about your body's metabolism. It gives your doctor information about how your kidneys and liver are working, and can be used to evaluate your blood sugar levels, calcium levels, etc.

Why it's important: Some HIV medications can have serious side effects, and this test helps your healthcare provider to monitor the impact of your medications on your body's ability to function normally.
- **Sexually Transmitted Disease (STD) Screening:** These screening tests check for syphilis, gonorrhea and chlamydia.

Why it's important: Having an STD, can make it easier to pass HIV to others. Untreated STDs can also be damaging to your own immune system.
- **PAP Smear (Cervical and Anal):** This is a screening test for abnormal cells that could become cancerous. It involves using a swab to take cell samples directly from the cervix and anus.

Why it's important: For women living with HIV, abnormal cell growth in the cervix is common, and abnormal anal cells are common for both men and women who are HIV-positive. These abnormal cells may become cancerous if they aren't treated.
- **Hepatitis A, B, and C tests:** These blood tests check for current or past infection with Hepatitis A, B, or C...

Why it's important: Some people who are living with HIV are also coinfecting with hepatitis. Checking you for hepatitis A, B, and C can help your provider to determine if you need to be treated, or if you are a candidate for one of the existing hepatitis vaccines.
- **Tuberculosis (TB) Skin Test:** This skin test checks for exposure to TB. A positive skin test does not mean you have active TB, but it means you will need further evaluation and possible treatment.

Why it's important: Untreated TB can be a deadly disease for people living with HIV. Early screening and treatment will help limit your risk of severe illness, as well as lower your chances of transmitting TB to others if you do have it.

- **Toxoplasmosis Screening:** This test checks for exposure to a parasite that can cause severe damage to the brain, eyes, and other organs in people with weakened immune systems.

Why it's important: Toxoplasmosis can be a deadly opportunistic infection for people living with HIV. Your clinician needs to know if you have been exposed to the parasite that causes toxoplasmosis or are at risk for exposure. This will help your healthcare provider to decide if you need preventative treatment. If your CD4 count falls below 100/mm³, you will probably need to do another screening, even if your earlier screens were negative.

- **Fasting Lipid Panel (Cholesterol and Triglycerides):** These tests measure your total cholesterol level, as well as give you information about the different types of fat proteins in your body.

Why it's important: Some HIV medications can affect your cholesterol levels and the way your body processes and stores fat. This can make you prone to other medical problems, including heart problems.

- **Fasting Glucose (blood sugar):** This test measures your blood sugar levels to check for signs of pre-diabetes or diabetes.

Why it's important: Some HIV medications can affect blood sugar levels, potentially leading to complications like diabetes.

SHORT-TERM SIDE EFFECTS

Almost all medicines have side effects, including HIV medicines. While your HIV meds are controlling the virus in your body, they may also cause:

- Anemia (abnormality in red blood cells)
- Diarrhea
- Dizziness
- Fatigue
- Headaches
- Nausea and vomiting
- Pain and nerve problems
- Rash

LONG-TERM SIDE EFFECTS

HIV medications can have some significant, long-term side effects. While many of these side effects are treatable, some can be long-term. You need to tell your healthcare provider about any side effects, so that he or she can decide the best course of treatment for both your HIV disease and the side effects. Always let your healthcare provider know if your side effects are severe, especially if you are finding it difficult to stay on your treatment plan.

Some of the most common long-term side effects of HIV treatment include:

- **Lipodystrophy**—A problem in the way your body produces, uses, and stores fat. (Also called “fat redistribution”). These changes can include losing fat in the face and extremities, and gaining fat in the abdomen and back of the neck
- **Insulin Resistance**—A condition that can lead to abnormalities in your blood sugar levels and, possibly, diabetes. Lab tests which look at your sugar levels are usually the best indicators that you have insulin resistance
- **Lipid abnormalities**—Increases in cholesterol or triglycerides. Like with insulin resistance, lab tests (cholesterol and triglycerides) are the best indicators of lipid abnormalities
- **Decrease in bone density**—Can be a significant issue, especially for older adults with HIV. This can lead to an increase risk of injury and fractures
- **Lactic acidosis**—A buildup of lactate, a cellular waste product, in the body. This can cause problems ranging from muscle aches to liver failure. Alert your health care provider immediately

Underwriting considerations

- Check for CD 4 count.
- Check for ART regime in place
- Check for Viral load. Undiagnosed indicates a good prognosis.
- Look out for any side -effects
- Look out for opportunistic infections and the checklist mentioned above

Underwriting decisions can vary from standard cases to highly rated depending on the considerations above. Please Refer cases when second opinion is required.