

HIV

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HIV is a virus spread through body fluids that attacks the body's immune system, specifically the CD4 cells, often called T cells. These special cells help the immune system fight off infections. Left untreated, HIV reduces the number of CD4 cells (T cells) in the body. Over time, HIV can destroy so many of these cells that makes it harder and harder for the body to fight off infections and some other diseases. Opportunistic infections or cancers take advantage of a very weak immune system and signal that the person has AIDS.

Around the world, nearly 37 million people are living with HIV. Approximately 20 million people take daily, life-sustaining medications which have turned this once thought of as a fatal disease into one now treated as chronic. The demographics of HIV infection have changed over the years and in the US the newest numbers show around 50 thousand new cases per year. It is estimated that 21% of case are undiagnosed and the prevalence is around 1.1 million living with HIV.

There are three recognized stages of HIV:

Stage 1: Acute HIV infection

Within 2 to 4 weeks after infection with HIV, people may experience a flu-like illness, which may last for a

few weeks. This is the body's natural response to infection. When people have acute HIV infection, they have a large amount of virus in their blood and are very contagious. But people with acute infection are often unaware that they're infected because they may not feel sick right away or at all. To know whether someone has acute infection, either a fourth-generation antibody/antigen test or a nucleic acid (NAT) test is necessary.

Stage 2: Clinical latency (HIV inactivity or dormancy)

This period is sometimes called asymptomatic HIV infection or chronic HIV infection. During this phase, HIV is still active but reproduces at very low levels. People may not have any symptoms or get sick during this time. For people who aren't taking medicine to treat HIV, this period can last a decade or longer, but some may progress through this phase faster. People who are taking antiretroviral therapy (ART) medicine to treat HIV the right way, every day, may be in this stage for several decades. It is important to remember that people can still transmit HIV to others during this phase, although people who are on ART and stay virally suppressed (having a very low level of virus in their blood) are much less likely to transmit HIV than those who are not virally suppressed. At the end of this phase, a person's viral load starts to go up and the CD4 cell count begins to go down. As this happens, the person

may begin to have symptoms as the virus levels increase in the body, and the person moves into Stage 3.

Stage 3: Acquired immunodeficiency syndrome (AIDS)

AIDS is the most severe phase of HIV infection. People with AIDS have such badly damaged immune systems that they get an increasing number of severe illnesses, called opportunistic illnesses. Without treatment, people with AIDS typically survive about 3 years. Common symptoms of AIDS include chills, fever, sweats, swollen lymph glands, weakness, and weight loss. People are diagnosed with AIDS when their CD4 cell count drops below 200 cells per cubic millimeter, or if they develop certain opportunistic illnesses. People with AIDS can have a high viral load and be very infectious.

It was in the mid-1990s that treatment with a "cocktail" of more than one antiviral was necessary to achieve good results. Now the sophistication in treatment has advanced to the point that zero viral load is most often attained in individuals compliant with their therapy. As with other preventable diseases, HIV is one that clinicians cannot afford to ignore. The cost to society and the individual is too great. Many laboratories test for HIV by immunoassay, looking for antibodies to HIV-1 and HIV-2 infection, and it is a reliable and easy way to screen for the disease.