

HIV & AIDS

WHAT IS HIV?

Human immunodeficiency virus (HIV) is a virus that infects and slowly destroys certain cells of the immune system.

The immune system

HIV infects white blood cells, known as helper T-cells, when it enters the bloodstream. These cells, also known as CD4 T lymphocytes, promote the response of other immune cells that help to destroy invading organisms and cancerous cells. HIV infects, reproduces within, and eventually kills helper T-cells and releases new virus particles that infect other T-cells.

WHAT IS AIDS?

AIDS is the acronym for Acquired Immune Deficiency Syndrome:

Acquired means an infection from outside the body.

Immune Deficiency means a weakness in the body's system that fights infection and diseases.

Syndrome means a group of health problems that make up a disease.

If you have a weakened immune system, such as with an HIV infection, you are more likely to develop health problems such as infections and cancer.

How does a person become infected with HIV?

- Having sex with an HIV-infected (positive) person (vaginal, rectal or oral).
- Transmission from an HIV-infected pregnant mother to her baby (vertical transmission):
 - Through the placenta ($\pm 10\%$);
 - During birth ($\pm 60\%$); and
 - From breastfeeding ($\pm 30\%$).
- Blood transfusions - this route is now extremely rare due to the vigilant screening of donated blood.
- Needle-prick, e.g. sharing of needles by drug users as well as accidental injuries (mostly in healthcare workers).

What are the symptoms of an early (acute) HIV infection?

If a person is infected, a non-specific acute viral infection typically follows about 2 to 4 weeks after the initial exposure to HIV. Signs and symptoms include:

- Fatigue
- Fever
- Diarrhoea
- Enlargement of the lymph nodes
- Muscle and joint pain
- Sore throat
- Headache
- Open sores or ulcers on mucous membranes and the skin
- Nausea and vomiting
- Lack of appetite and weight loss
- Rash

However, it should not be assumed that a person is infected with HIV just because any of these symptoms is present. Each of these symptoms can be caused by other illnesses. The only way to determine whether you are infected is to get tested for HIV by a pathology laboratory.

Testing for HIV

Age determines which laboratory tests are recommended for testing.

Adults and children older than 18 months of age:

A blood test known as an HIV ELISA which tests for antibodies produced by the body in response to the HIV virus. Screening HIV ELISA tests are designed to be extremely sensitive, to avoid missing an HIV infection. The downside to a sensitive screening test is that false positive results may occur in a small percentage of positive specimens, which is why international guidelines recommend that all positive screening HIV ELISA tests need to be confirmed by another confirmatory test. A positive HIV test result on a single blood specimen should be confirmed on a follow-up specimen to guard against the unlikely risk of false positive results due to mislabelled specimens or laboratory error.

HIV diagnosis and monitoring is also available on self referral for anyone over 18. Visit the Care Centre nearest you for assistance.



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Infants less than 18 months born to HIV-infected mothers:

A blood test known as a PCR is used to detect the presence of the genetic material (DNA) of the virus. This is because antibodies cross the mother's placenta and HIV ELISA tests can be positive in these infants even if they are not HIV-infected.

The window period

Antibodies that are specific to HIV are produced shortly after infection, usually from about 3 weeks after being infected.

The period from the point in time when the infection occurred to when antibodies are produced is known as the window period. A person in the window period may test HIV negative despite being infected with HIV. The window period is typically the first 2 to 3 weeks following the initial infection.

Viral loads and CD4+ counts

After the diagnosis of an HIV infection has been made, the severity of disease, rate of progression, prognosis and response to treatment can be assessed by measuring certain laboratory markers. Both the CD4+ T-cell count and the HIV viral load measurement are blood tests that have become widely regarded as essential for the optimum management of HIV-infected individuals. A baseline HIV viral load test (before HIV treatment is started) can also serve as a test to confirm the positive screening HIV ELISA test.

Treatment of HIV infection

HIV infection can be successfully treated with medication known as antiretroviral therapy (ART). This usually consists of three drugs that prevent replication of the virus. This prevents further damage to the immune system and allows for its partial recovery. The best outcome with ART is when treatment is started early, before the immune system is severely damaged. Frequent testing for HIV is advised to detect HIV infections early, allowing for successful antiretroviral therapy.

What are opportunistic infections?

Due to a failing immune system, those infected with HIV may develop infections with certain organisms that usually do not cause disease in people with healthy immune systems. These are known as opportunistic infections. Examples of opportunistic infections include an overgrowth of *Candida* in the mouth and tuberculosis.

Is there a cure for HIV and AIDS?

AIDS is the last stage of an HIV infection where the immune system has been severely weakened and a person develops opportunistic infections. There is no cure for HIV/AIDS. Antiretroviral treatment will prevent further damage to the immune system and should prevent the development of AIDS if started early enough.

Before you risk it

- Get the facts
- Get tested
- Know the risks
- Protect yourself and others

Prevention of HIV infection

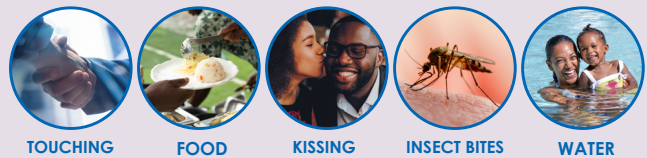
There are several ways to prevent HIV transmission:

- Treat HIV-infected persons with antiretroviral medication to reduce the possibility of transmission to an HIV negative partner.
- Use preventative measures, such as condoms, sterile needles and pre-exposure prophylaxis (PrEP).
 - PrEP is an HIV prevention strategy where HIV negative people take medications daily to prevent them from becoming positive if they are exposed to the virus.
- Use post-exposure prevention with antiretroviral medication. This is when medication is taken after exposure to prevent an infection such as after unprotected sex or rape.
- Voluntary and confidential HIV testing (VCT) with pre- and post-test counselling is a vital component of HIV/AIDS prevention.
- Pregnant HIV-infected women and HIV-infected couples who wish to have children can be advised on how to prevent their baby from becoming infected.

HIV/AIDS IS TRANSMITTED THROUGH



HIV/AIDS IS NOT TRANSMITTED THROUGH



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Certain test results require an explanation by your doctor first and will only be available on the App later.

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