

## HIV/AIDS

### What is HIV/AIDS?

HIV infection is a condition caused by the human immunodeficiency virus, HIV. The condition gradually destroys the body's immune system, which makes it harder for the body to fight infections and cancers.

AIDS is the final stage of HIV disease, causing severe damage to the body's immune system. Common bacteria, yeast, parasites and viruses infections that ordinarily do not cause serious disease in people with healthy immune systems may cause serious illnesses in people with AIDS.

### What causes HIV/AIDS?

HIV is present to variable degrees in the blood and genital secretions of virtually all individuals infected with HIV, regardless of whether or not they have symptoms. The spread of HIV can occur when these secretions come in contact with tissues such as those lining the vagina, anal area, mouth, or eyes (the mucus membranes), or with a break in the skin, such as from a cut or puncture by a needle.

The human immunodeficiency virus, HIV, can be spread (transmitted) by the following:

1. Through sexual contact- including oral, vaginal, or anal sex.
2. Through blood- via blood transfusions, or needle sharing.
  - a. HIV also can be spread by sharing needles for e.g. anabolic steroids to increase muscle, tattooing, and body piercing. To prevent the spread of HIV, as well as other diseases including hepatitis, needles should never be shared.
  - b. Because blood is tested for both antibodies to HIV and the actual virus before transfusion, the risk of acquiring HIV from a blood transfusion is extremely small and is considered insignificant.
3. From mother to child- a pregnant woman can transmit the virus to her foetus through their shared blood circulation, during the birth process or a nursing mother can pass it to her baby in her breast milk.

Other methods of spreading the virus are rare and include accidental needle injury, artificial insemination with infected donated sperm and organ transplantation with infected organs.

### How is HIV infection diagnosed?

The HIV Elisa test is a blood test that detects antibodies to the HIV virus in the blood. Having the antibodies means that a person is infected with HIV.

- If the test is negative (no antibodies found) and the person has risk factors for HIV infection, the person should be retested in 3 months
- If the HIV Elisa test is positive other blood tests can be done to determine how much HIV is in the bloodstream

### How is HIV infection diagnosed?

Possible complications of HIV/AIDS:

- Chronic wasting (weight loss)
- HIV dementia
- HIV lipodystrophy
- Herpes simplex virus and herpes zoster.
- Opportunistic infections may include: Candidiasis, Tuberculosis, Cytomegalovirus infection plus more

AIDS causes severe damage to the immune system which may be irreversible.

CD4 cells are a type of immune cell in the body. They are also called T cells or helper cells. The CD4 cell count is used as a laboratory indicator of the immune status of a person with HIV infection. During the asymptomatic period, the HIV

### What are the symptoms?

Symptoms related to HIV are usually due to an infection in parts of the body. Some symptoms related to HIV infection include:

- Diarrhoea
- Fatigue
- Fever
- Frequent vaginal yeast infections
- Headache
- Mouth sores, including yeast infection (thrush)
- Muscle stiffness or aching
- Rash of different types, including seborrheic dermatitis
- Sore throat
- Swollen lymph glands
- Weight loss

**Note:** when people are diagnosed with HIV infection, many people have not had any symptoms.

Acute HIV infection progresses over time to asymptomatic HIV infection (no symptoms) and then to early symptomatic HIV infection. Later it progresses to AIDS. The symptoms of AIDS are primarily the result of infections that do not normally develop in individuals with healthy immune systems. These are called opportunistic infections.

virus is active, constantly replicating and damaging the immune system. The control or the progression of the HIV infection must be regularly evaluated. The HIV patient's clinical condition is assessed and is supplemented by the CD4 cell count and the HIV Viral load.

The following table outlines the development of various phases of HIV infection in relation to the body's immune status. In healthy uninfected adults, the CD4 count is normally between 500-2000 cells/ul and the CD% between 30-60%.

Stage	Clinical Condition	CD4 Cell Count (Approx)
Stage 1	Well with no symptoms	>500-600 cells/ul
Stage 2	Minor symptoms	350-500 cells/ul
Stage 3	Major symptoms and opportunistic diseases	200-350 cells/ul
Stage 4- AIDS	AIDS	<200 cells/ul

## Management of HIV/AIDS:

HIV is a chronic medical condition that can be treated, but not yet cured. There are effective ways to prevent complications and delay, but not always prevent the progression to AIDS (acquired immune deficiency syndrome) which is the final stage of HIV infection.

Non-drug therapy:

- The most important aspect of managing HIV infection is to prevent transmission of the HIV to other people:
  - Avoid injecting illicit drugs
  - Avoid sharing of needles
  - Avoid oral, vaginal or anal contact with semen from HIV infected people.
  - Always use protection for sexual behaviour i.e. condoms
  - Do not donate blood, plasma, body organs or sperm
- In pregnancy, avoid transmission of the virus to the baby
- Make sure your immune status is as strong as possible to ensure that your body is able to fight infections. This may be achieved by:
  - Eating healthy foods such as fresh fruit and vegetables
  - Exercise regularly
  - Get enough rest
- Encourage your sexual partners to get tested for HIV as well
- Visit your doctor regularly e.g. at least twice a year in order that your doctor will evaluate your condition and assess the need for antiretroviral treatment. Your doctor will take a blood sample to obtain readings of your CD4 cell count and viral load

The following table lists the most commonly prescribed HIV treatments in South Africa:

NRTI	NNRTI	PI	Integrase Inhibitors
Abacavir	Efavirenz	Atazanavir	Raltegravir
Didanosine	Etravirine	Darunavir	Dolutegravir
Emtricitabine	Nevirapine	Indinavir	
Lamivudine	Ripilvirine	Fosamprenavir	
Stavudine		Lopinavir	
Tenofovir		Nelfinavir	
Zidovudine		Ritonavir	
		Saquinavir	

HIV infected people on anti-retroviral therapy can still transmit the virus to other people even though the virus levels are suppressed by antiretroviral therapy. They should therefore continue to use protection to prevent transmission of the virus.

The HIV virus can become resistant to anti-retroviral therapy and people should therefore take their medicine daily according to the way the doctor has prescribed it. The HIV medicines can cause some side effects. Some common side effects are:

- collection of fat on the back and stomach
- general sick feeling and tiredness
- headache
- nausea

Many of the opportunistic infections should be treated with appropriate medicines when they occur. If you have been exposed to HIV, seek medical attention immediately. There is some evidence that an immediate course of antiretroviral treatment can reduce the chances that you will be infected. This is called post exposure prophylaxis.

## Your role in managing HIV/AIDS:

- Practice safe sex to protect yourself from re-infection and your sexual partner
- Talk to your doctor or counsellor regarding your concerns and queries about HIV
- Get plenty of exercise, rest and eat healthy fresh fruit and vegetables.
- Go to your doctor regularly for a check-up
- Get your CD4 cell count and viral load tests performed regularly
- Cover sores and cuts with a plaster. Avoid contact with another person's blood
- Do not share shaving equipment, razors, needles etc

## Drug therapy:

The HIV virus cannot be eradicated with current anti-retroviral therapy (ART); however the therapy can suppress the virus replicating, which can lead to rapid progression of HIV infection. The primary goals of antiretroviral therapy are:

- Maximal and sustained suppression of viral load
- Preservation and preferable restoration of the body's immune function
- Reduction of HIV related morbidity and mortality
- Improvement in quality of life
- Prevention of childhood infection of HIV e.g. mother to child transmission
- The provision of post exposure prophylaxis

It is currently recommended that all patients infected with HIV use ART lifelong. Deciding when to start ART is usually based on the readiness of the patient to start treatment and also on HIV disease symptoms:

- A patient who is Stage 4 HIV infection should start treatment
- A patient who has HIV related disorders such as thrombocytopenia, polymyositis, lymphocytic interstitial pneumonitis, irrespective of the stage of HIV infection, should begin treatment
- Pregnancy and continue after delivery, in order to reduce the risk of transmission of HIV to the baby

The current treatment available for the management of HIV/AIDS is a combination of three products.

- First line regimen: Use two NRTIs (nucleoside reverse transcriptase inhibitors) and one NNRTI (non-nucleoside reverse transcriptase inhibitors) or an Integrase Inhibitor in combination
- Second line and subsequent treatments: add one of the Protease inhibitors (PI)

If your doctor decides to start anti-retroviral therapy, it should not be considered as an emergency and the doctor may very careful before deciding on a particular drug. There are a number of factors to be considered when deciding on drug therapy i.e. number of pills taken per day, how often they need to be taken, the potential toxicity of the drug and its interaction with other medicines.

**It is very important to continue taking antiretroviral treatment as instructed by your doctor. Anti-retroviral medicine needs to be taken lifelong. There are now single tablet products available that contain three drugs in one tablet.**

- Do not donate blood, plasma, semen, or body organs
- If pregnant, have yourself tested for HIV to prevent passing the virus to the unborn child
- HIV infected women should avoid breast feeding to prevent the HIV passing through the breast milk to their child
- Make sure you take your antiretroviral medicines daily as instructed by your doctor
- Inform your sexual partner regarding your HIV status so that your partner is aware of HIV and encourage your partner to also test or HIV
- If you have been exposed to HIV, seek medical attention immediately

## DISCLAIMER

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