health
Department:
Health
PROVINCE OF KWAZULU-NATAL
FIGHTING DISEASE, FIGHTING POVERTY, GIVING HOPE

MEDECINS SANS FRONTIERES
DOCTORS WITHOUT BORDERS

CHW TB/HIV COUNSELLING AND TESTING TRAINING

ESHOWE- KZN
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Basic HIV/AIDS information

CONTENT:
HIV stands for *Human Immunodeficiency Virus.*
H = Human (refers to us)
I = Immunodeficiency (lack of protection from getting sick)
V = Virus (a type of germ in the body that can't be cured)

AIDS: stands for *Acquired Immune Deficiency Syndrome.*
A = Acquire (to get something)
I = Immune (the way the body fights disease)
D = Deficiency (not enough of something – in this case lack of protection from getting sick)
S = Syndrome (a group of symptoms or illnesses)

Some basic definitions:

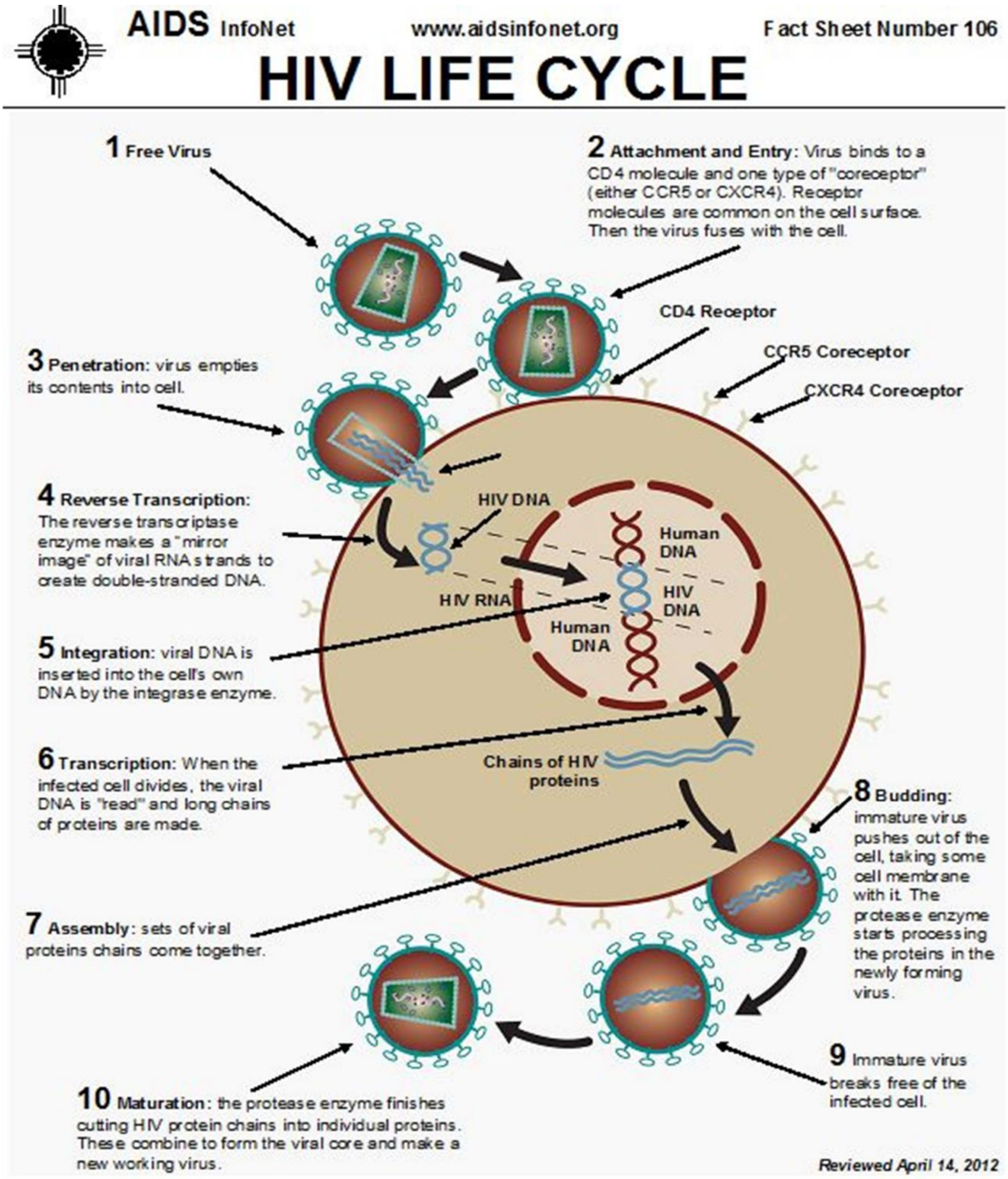
- **HIV** is the virus that gets into the body,
- **HIV-infected** is when HIV has entered a person's body. A person who is HIV infected might be very healthy and not have any signs of illness for a long time, but they can pass the virus to others. The average time from HIV-infection to developing AIDS can be many years. This is why the only way to tell if a person has HIV is with a blood test, not by looking at them.
- **AIDS** is a group of serious illnesses and opportunistic infections that develop after more and more HIV develops in the body and the body is too weak to fight back.
- **HIV infection** can be diagnosed with a simple blood test. This is usually called "HCT" or HIV testing and counseling. Pregnant women are usually given an HIV test as a routine part of antenatal care. Remember, you can't tell if a person has HIV by looking at them!

What does HIV do to the immune system?

- The immune system is the body's natural defense against diseases.
- The human body is made up of many tiny cells. Cells are the basic building blocks in our body – they give us energy and keep us healthy and alive.
- In a healthy person, the immune system fights off diseases that enter the body to keep the person healthy. A type of cell called the CD4 cell helps the body fight infections. Some people talk about the CD4 cells as "soldiers" that defend the body.
- HIV enters the blood stream and starts to attack CD4 cells.

Stages of HIV/AIDS:

1. **HIV enters:** Virus enters the body.
2. **HIV-positive, high CD4 count, no major symptoms:** Person carries HIV and can spread it to others, but feels healthy and has a lot of CD4 soldier cells. The person will not know they are HIV-positive unless they get tested. This stage can last up to 10 years in adults, but a much shorter time in children who usually become sick quickly.
3. **HIV-positive, less CD4 cells, some symptoms:** Person is healthy most of the time, but may start losing weight and getting sick more often as they have less and less CD4 soldiers. Also takes longer to feel healthy after being sick.
4. **AIDS, very few CD4 cells, lots of symptoms and infections:** Person has many opportunistic infections and has a hard time getting rid of them, CD4 count drops , and amount of HIV increases in the body. This process is a bit different for babies and children with HIV, who progress from HIV to AIDS very quickly without treatment.



AIDS InfoNet www.aidsinfonet.org Fact Sheet Number 106

HIV LIFE CYCLE

1 Free Virus

2 Attachment and Entry: Virus binds to a CD4 molecule and one type of "coreceptor" (either CCR5 or CXCR4). Receptor molecules are common on the cell surface. Then the virus fuses with the cell.

3 Penetration: virus empties its contents into cell.

4 Reverse Transcription: The reverse transcriptase enzyme makes a "mirror image" of viral RNA strands to create double-stranded DNA.

5 Integration: viral DNA is inserted into the cell's own DNA by the integrase enzyme.

6 Transcription: When the infected cell divides, the viral DNA is "read" and long chains of proteins are made.

7 Assembly: sets of viral proteins chains come together.

8 Budding: immature virus pushes out of the cell, taking some cell membrane with it. The protease enzyme starts processing the proteins in the newly forming virus.

9 Immature virus breaks free of the infected cell.

10 Maturation: the protease enzyme finishes cutting HIV protein chains into individual proteins. These combine to form the viral core and make a new working virus.

Reviewed April 14, 2012

HIV Mechanism

1. The body's immune system is made up of many types of cells, the cells affected by the HIV/AIDS virus are type M, T and B, which are cells in the immune system that function as a group.
2. When the body is infected, M cells will surround the infection. M cells usually manage to suppress the infection effectively if it is mild. If the infection is severe, M cells will send a signal to the T cells. The T cells are metabolized to function as a general commanding cell, they will call M cells nearby to come and help destroy the infection. Simultaneously, the T cell also commands B cells to produce antibodies to help kill the infection. The time it will take B cells to produce antibodies differs for different types of infections. Once a body creates antibodies, B cells remember how to reproduce that particular antibody if the body is re-infected.

3. If we magnify the T cell, it would appear as a sphere-shaped structure with CD4 arms coming out of it. While its nucleus consists of double-strand genes.
4. This T cell with CD4 arms is called “CD4”
5. If we magnify the HIV virus, it would appear as a sphere-shaped structure with small round ended arms and a single-strand gene inside
6. The virus arms match the CD4 arms
7. When HIV virus attaches to the CD4 arms, it will undergo the process of detaching from its shell and its single-strand gene is then injected inside the host cell. Once, inside the host, the virus changes itself into a double-strand gene to simulate the CD4 genes. To do this, the virus needs a chemical to facilitate its passage into the nucleus.
8. The virus replicates itself by dividing itself from the long chain of gene strand. The virus uses an enzyme to break the chain into smaller chains, which may differ in sizes. By reforming itself, it then becomes a full HIV virus again. This process can replicate thousands of HIV cells. Under normal conditions, the occurrence of mutations is only occasional, but if conditions become threatening to its existence, then HIV cells will reproduce in a mutated form.
9. The mechanism of the immune system in responding to HIV infection is the same as when responding to other forms of infection. So once the HIV virus enters the body, M cells will surround it. If there is only a small amount of the virus, M cells will be able to manage it. But if the amount of virus is more than the M cells can handle, it will send a signal to type T cells to recruit more M cells nearby while simultaneously signaling B cells to produce antibodies. The time from the introduction of infection until B cells are able to produce enough antibodies that can be detected in a rapid HIV test can be up to 3 months.
10. Because the virus mutates, it becomes a new type of virus. Therefore previous antibodies produced before its mutation will not be automatically produced. So the body will then have to repeat the process of producing a new antibody all over again. This means that the new HIV virus will attach to the CD4 cell and replicate and mutate into a new form again up to a point when the immune system can no longer fight the ever changing virus.
11. Infected CD4 cells cannot function in fighting new infections. The cells burst and are greatly reduced in quantity and our body cannot cope with the need to reproduce new cells.

Blood Tests

- In testing for the presence of HIV virus, medical staff checks for antibodies instead of looking for the virus itself.
- To check CD4 cells, the number of T cells with CD4 arms in 1drop of blood is counted.
- To check Viral Load, the number of free virus in 1 drop of blood is counted.

Factors accelerating illness in HIV patients

- The patient’s immune system, which can not be corrected or changed
- The quantity and sensitivity of the HIV virus present. Further infection and transformation of a new virus may be minimized by avoiding practices that would lead to an increased number of viruses and by taking ARV drugs.
- The presence of opportunistic infections. Preventing or treating Opportunistic Infections is the most important factor to control the reduction of CD4 cells. Patients with opportunistic infections especially if the infection is severe, provide a favorable condition for the virus to multiply rapidly. To prevent the rapid decrease of CD4 cells, a patient must receive standard preventive treatment or take Anti-retroviral medication.
- The patients’ physical and mental health. By maintaining good physical and mental health, the progress of the disease is slowed down. Patients should consider modifying their lifestyle to avoid activities such as heavy smoking, excessive alcohol and drug use and not having enough rest.

Making sense of CD4 test results:

- When a person's CD4 count goes below 350, they will usually become quite sick and now need start cotrimoxazole to stay healthy. I

HIV can be transmitted in these body fluids:

- Semen
- Vaginal fluids
- Blood
- Birthing fluids
- Breast-milk

HIV is not transmitted in these body fluids (unless there is also blood present)**:**

- Urine
- Feces
- Saliva
- Sweat
- Mucous (snot)

Ways HIV is transmitted:

- **Sexual transmission:**

- Unprotected sexual intercourse with infected person
- Direct contact with body fluid of infected person (blood, semen, vaginal secretions)
- *Note: sexual transmission accounts for 87% of HIV transmission worldwide*

- **Mother-to-child transmission:**

- During pregnancy
- During labor and delivery *(note: most mother-to-child transmission happens at this stage)*
- During breastfeeding

- **Blood-to-blood transmission:**

- Transfusion with infected blood
- Direct contact with infected blood/body fluids

- **Use of unsafe sharp objects:**

- Injecting drugs and sharing needles with an infected person
- Piercing, tattooing, or cutting with unclean knives or other objects.

Ways HIV is NOT transmitted:

- Sharing food or a drinking cup
- Hugging
- Kissing
- Shaking hands
- Coughing or sneezing
- Being near a PLWHA
- Sharing a latrine/toilet
- Using condoms
- Mosquitoes or insect bites – even if they carry human blood, HIV cannot live outside of humans

Prevention of HIV

Health care workers have an important role to play in teaching people how to prevent HIV for themselves, their families, and in their communities.

The ABCs of preventing sexual transmission

- **A:** Abstinence – for young people
- **B**: Be faithful to one uninfected partner
- **C**: Consistent and correct condom use (male or female) - every time - for "dual protection" against pregnancy and HIV
- **D**: Delay sexual debut
- **E**: Early and complete treatment of sexually transmitted infections (STIs)
- **F**: Free and open communication between partners about sex
- **G**: Get to know you HIV status
- Male circumcision can also reduce the risk of sexual transmission, but should not be used as the only risk reduction method. People still need to use condoms and get tested for HIV even if the man is circumcised. Circumcisions should only be done by trained doctors at a health facility.

Prevention of mother-to-child transmission (PMTCT)

- Prevention of unwanted pregnancies in the first place (good family planning and communication about family planning between couples)
- HIV testing before deciding to become pregnant
- Good, early antenatal care
- HIV testing as part of antenatal care
- Counseling for mothers and fathers on PMTCT
- Safer sex during and after pregnancy
- Family support and reducing stigma against pregnant women with HIV
- ARVs for mother during pregnancy and for the baby when it's born
- Safe, normal delivery at a facility
- Safe infant feeding – exclusive breastfeeding (no other fluids, foods, or herbs at all, including water) for as long as possible - 6 months is best. Then when the baby is 6 months old, giving others foods along with breast-milk
- Prevention and treatment of breast infections
- Regular follow-up of mother and baby

Prevention of blood-to-blood transmission

- Screen all blood and blood products for HIV (and Hepatitis)
- Follow infection prevention procedures at clinics
- Use protective equipment (like apron, gloves, eye shield)
- Throw out needles and other sharp instruments directly in sharps containers (or a can or bottle will work too)
- Clean and disinfect all surfaces with a solution of bleach and water

Prevention of unsafe sharp object use

- Don't share blades or knives in traditional ceremonies involving blood or cut on the skin.
- Don't inject drugs or share needles. If you have to, be sure to clean them every time with bleach mixed with water.
- Don't share piercing or tattooing tools, or clean them with bleach solution every time

Opportunistic infections:

Opportunistic infections, or OIs, are the infections that make PLWHA sick because the body's immune system is weakened and it cannot fight back. Remember that we discussed the impact of HIV on the CD4 "soldier" cells in the body – when the HIV attacks the CD4 cells, the person has trouble fighting back when a virus or germ enters their body. PLWHA, especially people not on ART, can get a lot of OIs. One of the best ways to live positively with HIV/AIDS, whether you are on ART or not, is to prevent opportunistic infections from happening in the first place or treating them right away if they do happen. Usually, a doctor or nurse will give PLWHA medicines to prevent these infections from happening. They will also give some medicines to babies born to mothers with HIV/AIDS to help prevent them from getting sick. Eating well, drinking clean water, sleeping enough, and practicing good hygiene also help prevent infections.

The most common OIs are:
- Tuberculosis (usually in the lungs; the person will have a bad cough, fever, and will lose weight; easily transmitted from person to person)
- Malaria (given to people by mosquitoes; causes high fever and weakness)
- Pneumonia or PCP (a very bad infection in the lungs that can develop quickly; causes coughing, weakness, shortness of breath; is often is what can kill a person with HIV if it's not treated)
- Meningitis (a deadly disease in the brain, can cause bad headaches)
- STIs (can cause infected sores in the genital area of men and women; can cause unusual discharrge, or sometimes have no symptoms; easy to spread through sex and need to be treated right away; PLWHA more likely to get STIs than people without HIV)
- Bad diarrhea (diarrhea that lasts more than a few days and causes dehydration and weight loss; especially dangerous if there is also fever)
- Vomiting (often a sign of other problems, especially if there is also fever and it doesn't go away after a couple of days; causes dehydration)
- Skin problems (like rashes or shingles, warts, or sore lesions; can be caused from fungus and be very uncomfortable)
- Oral sores (very common among PLWHA; can be very painful,
- Others…

More about TB
TB is the most common OI among PLWHA. TB and HIV are like brother and sister – about 50% of PLWHA also have TB and about 80% of people with TB also have HIV. Because TB and HIV are so closely linked, services to prevent and treat both also need to be linked.
TB usually infects the lungs, but it can also infect other areas. Usually people with TB have a bad cough that doesn't go away, fever, and they lose weight.

TB is spread through the air, especially from coughing, sneezing, and being in close quarters with a person with TB. It's made worse when there is not good air circulation like if there are no open windows. It's VERY easy to spread TB from person to person, and PLWHA are especially likely to get it if they are in contact with a person with TB. Little kids are at high risk for TB when they live with adults who have TB.

HCW should do the following to help Clients treat and avoid TB:
- Counsel PLWH on the risks of TB. Let them know they have a 50% risk of getting TB if they are exposed to it (like if a family member or someone at work has TB).
- Make sure PLWHA know how to prevent TB infection. This includes avoiding close contact with people who have a known case of TB, making sure there is a lot of fresh and moving air in living and working areas (open windows), and make sure always to always cover the mouth when coughing or sneezing (and ask that other people do the same).
- Go to the hospital or clinic right away if there are symptoms of TB, like a cough that won't go away, fever, or weight loss.
- TB treatment can last as long as 9 months, and as with ART, it's important to take the medicines the right way, every day to make sure they work.

- Explain that it is important to have a TB treatment supporter that can help remind the person to take the drugs every day.
- If a person has TB and HIV,they may take TB drugs and ART at the same time. TB treatment is usually started before the person goes on ART so the body has time to get used to these strong drugs. The doctor and nurse will check for TB during clinic visits.
- Medicines are available in the country to treat opportunistic infections.

The key points include:

- HIV testing and counseling is the entry point to care and treatment.
- HCW has a key role to play in post-test support, especially pregnant women who test positive.
- HCW should counsel all PLWHA to enroll in care services at the clinic or hospital, even if they feel healthy and are not on ART.
- Important components of care that can help all PLWHA include check-ups by health care workers, preventing and treating opportunistic infections, especially by taking Cotrimoxazole; regular CD4 tests to see if ART is needed, early infant testing for babies where available; counseling on positive living, nutrition, disclosure, etc., and referrals to support groups and community support.
- Coming back often for care also means that we can identify and start people on treatment as soon as they are eligible instead of waiting until they are very sick.
- One of the most important parts of HIV clinical care is to get a CD4 test done at least every 6 months, whether the person is on ART or not. If they are not on ART, the CD4 test results can help the team and the patient decide if ART is needed.
- OIs attack the body when the immune system is weak. PLWHA can get many OIs, like skin problems, TB, pneumonia, thrush or sores in the mouth, or bad diarrhea and vomiting.
- One of the best things PLWHA can do to stay healthy is to prevent OIs by living positively and taking certain medicines.
- TB and HIV are like brother and sister. TB is the most common OI among PLWHA and can be very dangerous if not treated right away.

Antiretroviral Therapy (ART)

Background of Antiretroviral Therapy (ART)

ARVs are the main type of treatment for HIV. It is not a cure, but it can stop people from becoming ill for many years and that have to be taken every day for the rest of a person's life.

ART keeps the amount of HIV in the body at a low level to stop any weakening of the immune system.

The drugs are often referred to as antiretroviral, ARVs OR anti-HIV or anti-AIDS drugs

ART prolongs and improves the quality of life of HIV infected individuals

Goals of ART treatment

The goals of treatment with antiretroviral drugs are to inhibit viral replication while minimizing toxicities and side effects associated with the drugs.

Inhibition of the virus replication allows for restoration of the immune system.

HAART if used, promotes growth in children and prolongs the survival of HIV infected clients.

The goals of ART are;

The suppression of HIV replication to as low as possible (viral load <20 copies per mm) for as long as possible.

The preservation or enhancement of immune function (CD4 restoration), thereby preventing or delaying the clinical progression of HIV disease.

Improvement in quality of life.

Reduction in HIV related morbidity and mortality.

Promotion of growth and neurological development in children

Reduction in HIV transmission

LIMITATIONS OF ART:

ARVs are not a cure for HIV **BUT** when used properly by both clients and health care providers they are associated with excellent quality of life.

ART has some general limitations which include;

Drug interactions and drug resistance decrease their potency.

Adverse reactions do occur in some clients on ART

The HIV drugs are still relatively expensive even thought the prices have significantly reduced.

Successful therapy is heavily dependent on adherence.

The medications have to be taken for life.

Children are dependent on adults for adherence to ART

How ART works

There are 3 major groups of antiretroviral drugs available;

The NRTIs: Nucleoside and Nucleotide Reverse Transcriptase Inhibitors (divided into NsRTI and NtRTI)

The NNRTI: this stands for 'Non-Nucleoside Reverse Transcriptase Inhibitors'

The PI: stands for protease inhibitors.

The nucleoside and non-nucleoside transcriptase inhibitors (NRTI and NNRTI) both prevent HIV from entering the infected cell's centre, so HIV cannot start making new copies.

Protease Inhibitors (PI): when the central part of the body cell makes the parts of the HIV virus after infection, these parts have to be cut and put together in the right way before the new HIV copies can leave the cell. Protease inhibitors prevent this 'cut and putting together' from happening correctly, so the newly produced virus cannot leave the infected cell and infect other cells

KEY MESSAGE:

- Protease inhibitors and nucleoside/non-nucleoside inhibitors work at different steps in the process that HIV goes through when it makes new copies of itself inside cells.
- Antiretroviral drugs attack the ability of HIV to infect healthy cells in five different ways and are today divided into five different classes. Entry Inhibitors, Integrase Inhibitors, NRTIs, NNRTIs and PIs
- The 3 most used classes of drugs are NRTIs, NNRTIs and PIs.

THE DIFFERENT ANTIRETROVIRAL DRUGS

The most commonly used ARVs are; ARV CLASS

NRTI NNRTI PI

Nucleoside reverse transcriptase inhibitors (NsRTI)	**Nucleotide reverse transcriptase inhibitor (NtRTI)**	**Non nucleoside reverse transcriptase inhibitors (NNRTI)**	**Protease inhibitors (PI)**
	PREDOMINANTLY USED IN ADULTS		
Zidovudine (AZT)	Tenofovir (TDF- Tenofovir-disoproxilfumarate)	Nevirapine (NVP)	Lopinavir (LPV)
Lamivudine (3TC)		Efavirenz (EFV)	Ritonavir (RTV), as booster*
Abacavir (ABC)			Atazanavir (ATV)

DRUGS USED ONLY IN PAEDS TODAY – Used in the past –You can still find patients

Stavudine (D4T)
Didanosine (ddi)(NO LONGER IN USE)

***ritonavir is used as a ‘helper’ for another PI in adults to strengthen the effect of the other PI.**

Why do we use a combination of 3 antiretroviral drugs?

Combination therapy means taking two or more antiretroviral drugs at a time.

A typical antiretroviral combination consists of two drugs from the NRTI (nucleoside/nucleotide reverse transcriptase inhibitor) class and one drug from another class (2NRTIs + 1 NNRTI)

Combination therapy is advisable for a number of reasons, importantly;

Three drugs together have a **powerful combined effect**.

ARVS from different drug classes attack the virus in different ways, at different steps of the life cycle process. Hitting two targets increases the chance of stopping HIV and protecting new cells from infection.

Using combinations of the ARVs/anti HIV drugs overcomes or delays resistance,the ability of HIV to change its structure in ways that make ARV drugs less effective

KEY MESSAGE:

HAART = Highly Active Anti-Retroviral Therapy

HAART is the powerful combination of 3 different ARV drugs. It is the standard of good therapy, with the greatest benefits for the longest time

Regimen Options for 1st and 2nd Line

First line therapy is the combination of drugs that a person is given at the beginning of ART. *Most commonly, a first line regimen will consist of **two NRTIs and one NNRTI.***

Second line therapy is given when HIV becomes resistant to the first line combination, or if side effects are particularly bad.

Second line therapy will ideally include a minimum of three new drugs, with at least one from a new class, in order to increase the likelihood of treatment success. *Usually the second-line regimen will consist of **two NRTI and one PI.***

The second line regimen is stronger.

1st LINE REGIMEN	**2ND LINE REGIMEN**	**COMMENTS**
Preferred		
TDF/3TC + EFV OR TDF/3TC + NVP	AZT + 3TC + LPV/r	Use of TDF, 3TC and EFV has low toxicity, OD administration, and effective against hepatitis B This combination is the preferred 1st line
Alternative		
AZT/3TC + NVP Or AZT/3TC + EFV	TDF + 3TC* + LPV/r	Relatively inexpensive 1st line regimen AZT may cause anaemia If client is anemic start with TDF
For clients with poor renal function and anaemia		
ABC/3TC + NVP or EFV	Correct anaemia and put on AZT/3TC* + ATV/r or LPV/r	This class of clients has limited options and if toxicities are not corrected they are candidates for 3rd line or salvage ART regimens

Eligibility for ART

Step 1: Clinical staging and CD4 count determine eligibility.

Eligible to start ART

- Everyone who is HIV Positive

OR

- Irrespective of CD4 count
  - All types of TB (In patients with TB/HIV drug resistant or sensitive TB, including extra pulmonary TB)
  - HIV positive women who are pregnant or breast feeding
- WHO stage 3 or 4 irrespective of CD4 count

OR

- All children below 5 years of age

Require fast track (Test and Treat)

- HIV positive women who are pregnant or breast feeding

OR

- HIV + Patients

OR

- Patients with Stage 4, irrespective of CD4 count

OR

- Patients with TB/HIV co morbidity with CD4 count < 50

Clinical Stage (see revised WHO clinical staging, Appendix 1)	CD4 cell count	Comments
I	CD4 guided	Treat if CD4 350
II	CD4 guided	Treat if CD4 350
III	Treat	Treat
IV	Treat	Treat

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Adherence and Retention WHAT HAPPENS TO HIV WHEN WE TAKE THE DRUGS CORRECTLY?

When we take the drugs correctly, the virus cannot make new copies of itself.

Both the 'normal' virus and its mutations are prevented by the strong combination of three drugs, constantly present in the blood at a sufficient level.

DRUG COMPLIANCE;

Drug compliance is the reliability of the patient in using a prescribed medication exactly as ordered by the physician.

Noncompliance occurs when a patient forgets or neglects to take the prescribed dosages at the recommended times or decides to discontinue the drug without consulting the physician

Adherence

Adherence is the extent to which a persons' behaviour in terms of taking medication coincides with medical advice. It's an interactive process, while the ultimate responsibility for adherence to treatment rests with the patient. Achieving adherence is not a one –time-only event. Its on-going process that a patient negotiates each time a dose of medication must be taken. Ongoing attention to, and reinforcement of adherence throughout the entire course of ART is an essential part of any successful treatment program. Health Care Workers should ensure that all clients attain adherence level > 95%

Consequences of Non Adherence:

The result will be that the drugs will lose their effect.

This means that, slowly, the virus will begin to multiply, number of CD4 will decrease again, and after several months, the patient will start having new opportunistic infections. The patient will become more sick! This is what we call **treatment failure**

Key message:
When a patient is not adhering s/he will develop treatment failure and become sick again

***Example of what needs to be explained to the patient**:*
*If s/he forgets more than **three pills per month**, resistance will develop gradually*

A patient who takes their ART medication once daily should not miss more than one dose a month to maintain their adherence level at above 95%.
After the patient has begun ARVs, how do assess adherence?
Check if the patient takes the dose everyday by asking: How many pills did you use this week?
Check if the patient takes the dose at the same time by asking: What time do you take your ARVs at?
Remember: A client is more likely to be retained in care and adhere to his/her own and her baby's care and medicines if he/she receives on-going information, education, and support at the clinic, in her community, and at home.

HIV Monitoring – VIRAL LOAD Testing

VIRAL LOAD is essential monitoring, each patient should know when the Viral load is due and how to interprete the results.

Viral Load (VL)	**Response**
<400 copies/ml	Routine adherence support **Repeat viral load every year**
400-1000 copies/ml	Assess adherence carefully **Repeat viral load at 6 months**
>1 000 copies/ml	Intense adherence assessment -ENHANCED ADHERENCE **Repeat viral load in 2-3 months** If <1000, return to routine 6-monthly monitoring If > 1000 and adherence issues addressed, switch to second line therapy after hepatitis B status checked.

ART Side Effects and how to manage Side Effects.

Symptom: a physical condition which shows that you have a disease; the condition is a result of the disease.

Side effect: an effect that a drug has on your body in addition to treating an illness.

The tolerability of HIV treatment regimens is one of the important factors of treatment success. Being aware of these side effects beforehand has been shown to help clients understand, accept and continue on their medication through the challenges of the side effects. Therefore, it is important to talk with clients about the potential side effects and give the client tips for how to deal with them.
Adjustment Period:
• When starting a new HIV treatment regimen, there is a period of time when the body is adjusting and adapting to the new drug. This period is called the adjustment period.

Symptoms of the adjustment period:
o Headache
o Nausea
o Fatigue (tiredness)
o Muscle pain in the arms
o Occasional dizziness
• These symptoms may start about one week after beginning HIV treatment and last up to 4 – 6 weeks.
• Most of these side effects will disappear once the body has adjusted to the new medication.
• Warning clients about these adjustment side effects can prepare them and ease their concerns if they experience some of these side effects.

Bottom Line: All clients must consult their doctor if they think they are experiencing drug side effects. Some of the side effects may be very serious, and even potentially fatal.

Effects: What to Look For and What to Do

1. Fatigue: This is tiredness even after you have rested. Tiredness, both physical and psychological, i.e. having trouble concentrating, that does not go away.

- **What to look for:** Take note of how long you have been feeling this way, when, i.e. is it only in the morning?, how often and how it affects you and your functioning.
- Fatigue can be caused by the HIV itself or other factors besides the medication. Other factors could include: stress, alcohol, poor diet, lack of sleep, overwork or other medical conditions.

Tips/What to do about Fatigue:

o Go to sleep and wake up at the same time every day. Changes in your sleep schedule can actually make you more tired.
o Avoid alcohol, as it worsens the fatigue.
o Try to get some exercise. Exercise eases stress and often makes you feel stronger and more energetic.
o Keep easy to prepare, nutritious foods on hand for times when you are too tired to cook. It is important to eat well.

2. Peripheral Neuropathy: Numbness, tingling or burning in the hands, arms, feet or legs. This is caused by damage to the nerves. It may be caused by the HIV itself or be a side effect of the medication; it is primarily a side effect of D4T and ddI.

- **What to look for**: Burning, stinging, stiffness, tickling or numbness in the feet, toes or hands

NOTE: Peripheral neuropathy can be very serious. Tell your doctor about any symptoms, as nerve damage is permanent.

Tips/What to do about Peripheral Neuropathy:

o Tell your doctor.
o Wear loose-fitting shoes and cotton socks. Wear padded slippers around the house. Good circulation around the feet can help reduce the effects.
o Massage your feet. This reduces pain temporarily.
o Soak your feet in cool water.
o Do not walk too much at a time.
o Keep feet uncovered in bed

3. Anaemia: This is a depletion, or a shortage, of red blood cells that supply oxygen to different parts of the body. The result of insufficient oxygen in your blood is fatigue. Anaemia is a common symptom of HIV and a side effect of AZT.

- **What to look for**: Tiredness or fatigue (also see Fatigue)

Tips/What to do about Anaemia:
o Tell your doctor.
o Anaemia can be monitored by regular blood tests.

4. Nausea and Vomiting: This is very common during the adjustment period. However, persistent vomiting can lead to serious medical problems, such as dehydration, chemical imbalance, weight loss, etc.

- What is the difference between nausea and vomiting? Nausea means the person feels like vomiting but very often does not.
- **What to look for**: If a client is experiencing severe abdominal pain, trouble breathing and disorientation, refer him/her to the doctor. If vomiting more that three times a day, also refer client to the doctor. Vomiting may interfere with your ability to take your medicine and keeping the correct balance of medicine in your body, i.e. vomiting up the medicine.

Tips/What to do about nausea and vomiting:

o BRAT diet (bananas, rice, applesauce and toast) helps with nausea and vomiting.
o Keep dry crackers next to your bed. You can eat a few in the morning before you get out of bed. This can help reduce nausea.
o Avoid rich, spicy, strong smelling and greasy food.
o Try drinking peppermint, chamomile or ginger tea to calm the stomach.
o Cold carbonated drinks, such as ginger ale or lemonade, can help reduce nausea.
o It is important to replace fluids if you are vomiting, especially when it is hot outside. You could drink broth (clear soup), juice or iced pops.
o Take note of how often you are vomiting. If it continues, go to the doctor

5. Headaches: ARVs can cause headaches, but headaches can also be a result of stress. Managing stress is critical to reducing headaches.

• **What to look for**: If headache is accompanied by fever, disorientation, altered consciousness, blurred vision or convulsions, refer to the doctor

Tips/What to do about headaches:

o Take over-the-counter medication like paracetamol, aspirin or ibuprofen.

o Lay down in a quiet, dark room with your eyes closed. Place cold washcloths over your eyes. Massage the base of your skull with your thumbs, and/or both temples gently.

o Hot baths may help relieve tension headaches.

o An occasional headache is normal, but if the headache does not go away
or you regularly wake up in the morning with headaches, talk to your doctor

6. Diarrhoea: This can be a serious side effect that must be responded to quickly.
Diarrhoea can also be due to other things besides the medication, such as bacterial infections.

• **What to look for:** Take note of how often and for how long diarrhoea persists. This is important information for the doctor. Diarrhoea can easily lead to dehydration. If a client has diarrhoea more that 5 times a day for 5 or more days and weight loss of more than 2 kgs, refer to the doctor.

Tips/What to do about diarrhoea:

o BRAT diet (see nausea & vomiting). Also eat oatmeal, cream of wheat and soft bread that is not whole grain.

o Anti-diarrhoeal medication like Lomotil and Immodium can help.

o Avoid skins of fruit and vegetables, as they are high in insoluble fibre and can make diarrhoea worse.

o Avoid milk products and greasy or very sweet foods; they can make diarrhoea worse.

o Drink lots of fluids, i.e. water, ginger ale, chicken or beef broth, and herbal tea.

o Drink between meals instead of with meals.

o Avoid caffeine, i.e. tea, coffee, Coke.

o Tell your doctor.

7. Weight Loss: Weight loss can be a serious problem with HIV, and should always be discussed with your doctor.

• **What to look for**: Any loss in weight, but especially weight loss without any changes in diet or exercise.

Tips/What to do about weight loss:

o Monitor your weight loss. Discuss with health care workers to determine the cause of the weight loss. Is it stress related, accompanied by nausea or vomiting, associated with new medication, the result of diarrhoea, or something else?

o Eat foods that are high in protein.

o High protein shakes that are low in sugar can help in gaining weight.

8. Dry Mouth: It is uncomfortable and can make chewing, swallowing and taking medicine difficult. Dry mouth also can affect one’s sense of taste and cause further mouth problems, such as tooth decay and thrush (oral yeast infection).

Tips/What to do about dry mouth:

o Drink plenty of liquids during and between meals.

o Avoid sugary or sticky foods and caffeinated drinks, as these also dry out your mouth.

o Rinse your mouth throughout the day with warm salted water.

o “Slippery elm” or “liquorice” tea lubricates the mouth and is pleasant tasting.

o Doctors can prescribe mouth rinses or a synthetic saliva or anti-dry mouth medication if necessary.

9. Rash: This is a very common side effect of treatment, specifically for Nevirapine, Efavirenz and Nelfinavir. Rash is often more severe in women.

• **What to look for**: Monitor the skin for discolouration and changes in its surface: is the skin a different colour and does it feel different than normal, i.e. is it bumpy? If the skin peels, blisters or forms sores, refer to the doctor immediately

Tips/What to do about rash:

o Use medicine like calamine lotion or antihistamines to soothe and comfort the skin.

o Use unscented, non-soap cleansers or oatmeal soaps.

o Do not take very hot showers or baths, as the heat will irritate the skin.

o Keep skin clean and dry.

o Drink plenty of water to keep skin hydrated.

o Avoid synthetic fabric; instead wear natural fabrics like cotton or silk.

o Stay out of the sun. Rash-affected areas should be protected from the sun, i.e. wear long-sleeves or a hat, etc.
o Tell your doctor, especially if the rash gets worse, if it involves the eyes or mouth, or if you feel ill at the same time.

10. Menstrual Problems: These problems include irregular, heavier, lighter and/or painful periods, or even the stopping of menstrual bleeding altogether. Ritonavir has been known to cause heavy (excessive) menstrual bleeding.
• **What to look for**: Women should track their menstrual bleeding and note any significant changes.
Tips/What to do about menstrual problems:
o Period problems can be related to many different issues, such as weight loss or stress levels. Consider what else is happening in your life.
o Hot water bottles or heating pads can help menstrual cramps. Place them over your lower stomach or back. You could also take a hot bath.
o Mild exercise, like walking or stretching, increases the blood flow and may reduce period pain.
o Oral contraceptives: Check to see that these will not interact with your HIV treatment. Talk to your doctor

11. Kidney Stones: These are often a side effect of Indinavir, as crystals of Indinavir collect in the kidneys and can cause severe pain.
• **What to look for**: Severe pain from kidney stones happens suddenly. Clients often have no warning.
• Kidney stones take time to develop.
• Unlike other ARVs, Indinavir is processed through the kidneys; other ARVs are processed through the liver.
Tips/What to do about kidney stones:
o Drink lots of water. Take Indinavir with a full glass of water and drink at least 1 ½ litres of water daily in addition to normal fluid intake.
o Increase water intake during hot weather and if drinking any alcoholic beverages.

12. Central Nervous System (CNS): Nightmares, sleeplessness, sadness or worry; often side effects of Efavirenz.
• **What to look for**: Difficulty concentrating, confusion and abnormal thinking. Also, mood swings such as agitation, aggression, depression and euphoria (extreme happiness). Insomnia (inability to sleep) and vivid dreams.
• These side effects are the reason clients are instructed to take Efavirenz before going to bed.
Tips/What to do about CNS problems:
o Eat a low-fat meal before taking Efavirenz. High fat increases the absorption of Efavirenz and increases the side effects.
o Adjust meal times so you eat a while before taking Efavirenz.
o Keep records of symptoms to report to the doctor.

Qualities and attributes of a good counsellor

CONFIDENTIALITY is vital. At all times respect the confidentiality of what is disclosed to you. Do not fall into the trap of easy gossip. There is nothing more calculated to destroy your credibility than this. It will also cause distress to the person you are working with. Lack of confidentiality will make a mockery of the whole process of counselling. Effective counsellors need to command the respect of the person(s) being counseled but should not be so far removed from them so as to inspire awe or fear. Key qualities of a good counsellor include:

Genuineness. This is an important part of the communication process. The genuine person is one who is simply him/herself, without facade. A genuine relationship between counsellor and client is the basis of successful counselling. Genuine interest is also reflected in your body language

Listening. Listening involves attending to the client's verbal and non-verbal messages. As a counsellor, the way you respond is effectively dependent on how you listen. The way you listen plays a big part in encouraging or discouraging a client to keep talking. Only when one has listened can one empathize

Unconditional positive regard. Sensitivity, respect, friendliness and consideration are effective as counselling ingredients. Showing personal warmth is basic in any relationship

Believing the client. Be able to communicate to the client that you believe him or her. For the client, it is very comforting to realise that someone understands how they are feeling

Cultural sensitivity. Respect the client's cultural and belief systems. Be sensitive to cultural contexts and traditions. Culture informs people on how they do things and when they do them. Acknowledge differences, explore beliefs and ask questions to increase understanding and optimize assistance provided

Showing the way. Help the client think of various alternatives available to them and work with them to consider the advantages, disadvantages and implications of each alternative. Do not, however, take responsibility for the client's problems as this can create dependency and helplessness

Honesty. Recognise your own limitations and refer them to another expert source, if possible. If you do not know something tell, your client. Counsellors need to have self-awareness of their own issues and the ability to prevent them from influencing the counselling relationship

Patience. Move at the client's pace — do not rush him or her. Make sure adequate time is provided for the counselling process. Some issues might be too sensitive or maybe he or she is not sure yet whether to trust you or not

Free expression. Do not block free expression of feelings, e.g. crying, anger, etc. Blocking free expression of feelings can be due to pressure of work — the counsellor has other clients waiting – or maybe the counsellor is uncomfortable with the expressed emotions. If the counsellor is under pressure, it is important to remember that the most important person at any given time is the client you have right in front of you. You need to work with them first before moving to the next client. If you are getting uncomfortable with the expressed emotions, could it be that you have your own unresolved issues?

Non-judgmental. Avoid falling into the trap of taking sides and deciding who is right and who is wrong. You are there to listen and not to judge. You need to demonstrate acceptance

Being in control. Stay focused and do not wander all over the place. This usually happens if you are following content – enjoying the interesting bits of the story – and not following the process

Empathetic. This is the ability to see the problem as the client sees it, yet at the same time, standing back and objectively observing what is happening with the client and the counselling relationship

Knowledgeable. It is essential to have accurate and up-to-date knowledge. Counsellors should be well informed about the field they work within, including the services and resources available to their client group within their setting and community

Phases of a Counselling Session

There are five main stages or phases in the process of a counselling session:

1. Trust Building
2. Establishing the Relationship (Greetings and Introduction)
3. Exploration (Understanding the Problem)
4. Resolution (Decision-Making)
5. Termination

1. Trust Building (Building the Relationship)

- Trust building is the foundation for counselling. It is crucial in the beginning, but is always something to go back to during the course of the session.
- Notice that in the counselling model, it lies at the centre of the diagram and underlies each stage of the counselling process. Remember that counselling is a relationship; building trust is part of developing a relationship. Building trust continues throughout the counselling relationship for as many sessions as a counsellor and client work together.
- We need to create a warm and safe environment for counselling.
- Physical Environment:

o Room: it should be quiet with doors that close. This should be a room where people do not walk through so there are few, if any, interruptions or disturbances. Small rooms are also better than large rooms.

o Seating arrangement: chairs should be arranged so they face each other and should not be too far apart. Ideally, the chairs
should be the same height.

2. Establishing the Relationship (Greeting and Introduction):

- This is the first thing you do to build trust. You are setting the framework for the counselling relationship.
- Introduction: introduce yourself and give a short explanation of your role and the length of time you have together (i.e. half an hour or 45 minutes).
- Confidentiality: explain that what is discussed in counselling is confidential, which means that it is not talked about with other people, but is private. However, there are two exceptions—two situations where what is said in counselling will not be kept in confidence:

1. Supervision: in order to improve the care a counsellor give clients, the counsellor will share details of the case with his/her supervisor and supervision group. However, the counsellor will not disclose the client's name and personal information.

Harm: the other situation in which the counsellor will break confidentiality is when the client is a danger to himself or someone else, i.e. if the client says he or she will kill himself or someone else.

- Ways to begin a counselling session after introduction and explanation of confidentiality:

o We have about 50 minutes together now. How would you like to use the time?
o Can you tell me what brought you here today?
o Where would you like to begin?
o When you are ready, please feel free to start where you would like.

- If your client seems uncomfortable, you can always start with easier questions to put the client at ease. These questions should be common knowledge questions or questions you would ask someone when you first meet them. Think about things that would fall into the "Free Self" window of Johari's Window. Some examples of these questions:

o Can you tell me a little bit about your family?
o Where are you from?
o How long have you lived in_______?

- There is no magic formula for establishing trust. The experience of being heard and understood is in and of itself a powerful tool for creating trust. If the counsellor can show empathy from the beginning, this also will help to develop a trusting relationship.
- Some clients are so ready for counselling that they almost instantly trust the counsellor and very quickly develop a high level of self disclosure, but for others this will be a slower process.
- For clients who are more sceptical or suspicious, continuously rely on empathic listening skills and reflecting skills. These are ways to develop a trusting relationship.
- Ventilation (expression) of the client's feelings and problems begins in the "Trust Building" phase and continues into the "Exploration" phase.

3. Exploration (Understanding the Problem)

- This phase focuses on the expression and exploration of the pain or the problem that the client is presenting.
- Notice that in the counselling model, "Exploration" is the longest (or the largest based on the model) stage or phase of the counselling session.

This is where you will spend most of your time.

Ventilation continues in the Exploration phase. Let the client talk about the thoughts, feelings and actions around the problem or problems he/she is experiencing.

- Use empathic listening and reflecting skills during the beginning of the exploration phase.
- Often clients are so stuck in their own emotions, experiences and circular thought patterns that they are unable to find solutions for their problems or even to think straight to sort it out. In this middle stage, you can help the client to organise his/her thoughts and feelings as well as explore some options or choices.

- After the client has “vented” (expressed their thoughts and feelings), you can start to help him/her focus by defining the problem. In order to do this, you will use more probing or action skills. You will start to ask more questions and maybe make some interpreting statements.
- Make sure that when you define the problem you give it clarity, both in terms of the situation as well as the thoughts and feelings associated with the issue.
- There may be multiple problems to address, in which case you should help the client to organise and distinguish between the different problems. Then you may help the client prioritise which issues to address first.
- The counsellor may use some confrontation towards the end of the “Exploration” phase if the trusting relationship has been established.
- The counsellor may also begin to use information sharing and problem-solving techniques at the end of the “Exploration” Phase.

4. Resolution (Decision-Making)

- Towards the end of the counselling session, you move into the resolution phase.
- It is often important that the counselling process generate some kind of focus or plan for problem-solving or future action. Sometimes this plan or focus is simply a change in perspective or choosing to accept the situation.
- Remember to keep the focus on something that is realistic and obtainable.

It is very important that the decision-making come from the client. The counsellor can help the client explore the options, but it is ultimately the client’s decision to make.

- The client might not be ready to make a decision by the end of the counselling session. If that is the case, let the client leave with the resolution to make a decision before he/she returns. Do not force the client to make a decision prior to the end of the session.

Note (Model of Counselling Session): the arrows back and forth on the sides between Exploration and Resolution mean that it does not always move smoothly from exploration to resolution.

- Sometimes a client will be ready to resolve only a small portion of the problem and then they will jump back to exploration of the broader issue.
- If the client is hesitant or resistant to come to a resolution about the problem, it could mean that there are other issues involved that he/she has not talked about. In this case, jump back to the exploration phase. Explore the thoughts and feelings around the problem at length.
- Especially for beginning counsellors, there is a tendency to race through these phases because of our anxiety about helping the client. Slow down, take deep breaths and allow full exploration of the problem before trying to work with the client to resolve it.
- Remember that it may come as a huge relief to the client to just talk openly about his/her problems. Often clients feel as though they have no one to talk to, so just being able to talk freely is healing in and of itself.

Termination (Ending the Session)

- Summarise what was discussed during the session; include the focus and any decisions or plans that were made.
- Reiterate the focus. This is important in order to make sure the client stays focussed on what he/she has control over and lets go of what he/she cannot change.
- Highlight any referrals that were provided to the client.
- Discuss any future counselling sessions and make necessary appointments.

HIV Counselling and Testing Process:

Pre-test counseling

Pre-test counselling should take place in a setting where privacy can be guaranteed. The counsellor should make an effort to put the client at ease.

It should be carried out by a trained counsellor and should be confidential. This means that the counsellor must not share any of the information that is told to them with anyone else, unless the individual(s) gives their express permission to do so.

The counselling should be free of charge and should take as much time as necessary to assist those undertaking the counselling towards being ready to take the test.

The counsellor should provide accurate information about HIV, such as how it is prevented, how it is passed from one person to another, and what the symptoms of HIV are. In some settings, basic facts about HIV/AIDS are explored in groups rather than on an individual basis because of the shortage of human resources and lack of time.

However, some people may feel very uncomfortable in a group and refrain from asking questions that are directly related to the risk they themselves may have taken.

The counsellor should begin by exploring why the client undertaking the counselling is interested in the HIV test, helping them to identify how and when they might have been at risk of HIV infection. The counsellor should explain the window period (when a person has become infected with HIV less than three months ago but it does not show in a test). If there is a chance that the person is in the window period and they have been at risk of HIV infection, they will be advised to come back to repeat the test to make sure the result is accurate.

The counsellor should also give accurate information about how clients should look after themselves whether they decide to take the HIV test or not, such as by practising safer sex and enjoying a healthy sex life, including treatment and prevention of STIs. The counsellor should support clients to talk about their worries and help them to decide whether they want to take an HIV test or not.

The counsellor should also explore whether the client has been pressurized or forced to take the test, particularly where they have been referred by a health care worker. If HIV testing has been recommended in the context of clinical care, informed consent is required for the test (see Glossary).

Finally, the counsellor should explain what will happen next if the client decides to go ahead and take the test for HIV, including how the test will be done and how further information and support will be given.

The counsellor should always ensure the client understands all the information they give.

Post Test counseling

Post-test counselling is usually carried out at the same place as the pre-testing counselling. International guidelines recommend that pre- and post-test counselling should be conducted by the same trained counsellor to ensure continuity and build trust between the counsellor and the person who is counseled. However, this does not always happen because of the lack of counsellors or other constraints of management of human resources and time. In either case, post-test counselling should always be carried out by a trained and experienced counsellor.

The length of post-test counselling should depend on the needs of the person who is counselled. Post-test counselling is usually longer when the result of the test is positive. However, the post-test counselling process is also very important when the test result is negative, and it should not be rushed.

The counsellor gives the result of the test clearly and sensitively. While giving the result, the counsellor provides emotional support to the client. They explain what the result means, make sure that the client understands it, and discuss how they will respond to its outcome. If the test result is HIV positive, the counsellor emphasises issues

such as living healthily; eating well; getting early treatment for illnesses or ARV treatment if necessary or available; preventing and treating STIs; and enjoying a healthy sex life by practising safer sex (positive living).

The counsellor also explains where and how the client can get ongoing help, such as support from other people living with HIV and other people who have tested for HIV, medical care and more counselling. They might refer the client to individuals and/or organizations' who will provide medical care or psychosocial support. Good referral is crucial to the quality of post-test counselling.

The counsellor supports and encourages the client to think about who they might want to share their status with (partner, family, etc.) so they can be supported. They also help them to think through the issues around the appropriate time, place and person(s) for such a disclosure. They should offer to assist them in the process of disclosure if required.

The counsellor tells the client that they may want to advise their sexual partner(s), who may have been at risk, to take an HIV test and receive counselling.

If the test result is HIV negative, the counsellor emphasises issues such as staying negative by practising safer sex.

The counsellor should also explain where the client can get further information. If the client was exposed to HIV a few months before the test and tested negative, the counsellor must advise the client to come back because the test may have been carried out during the window period (see Section 1).

When the test result is positive, people are usually in shock and may not be able to listen properly and understand the information given by the counsellor. This is why it is very important to encourage the client to come back or refer them to another organisation in order to receive ongoing counselling.

Negative

A negative test result indicates that no antibodies to HIV were detected in the blood. This result can have several meanings:

- the person may not be infected with HIV
- the person may be infected with HIV, but their body has not had time to produce antibodies to the virus.

In this case, the person is in the window period and should have a repeat test at a later stage.

Positive

A positive test result indicates that antibodies to HIV were detected in the person's blood. This result indicates that they have been infected with HIV. It does not mean that the person has AIDS.

Indeterminate

An indeterminate test result means one of the following:

- the person may be infected with HIV and in the process of developing antibodies to it (acute seroconversion)
- the person has other antibodies in their blood that are very similar to antibodies to HIV. These antibodies are reacting to the HIV test.

Ongoing counseling

It is important to keep in mind that HIV counselling and testing is never an end in itself. If referral is done properly during post-test counselling, the client who has been tested will be encouraged to seek further information and support – whether they are HIV positive or negative. This will depend on the needs of the client and what is available locally. It might include:

- ongoing counselling provided by trained counsellors, including information about HIV, healthy living, etc.
- moral support from other people living with HIV (peer support)
- moral support from others who have tested for HIV (for example, post-test clubs)
- psychological support provided by health professionals (for example, psychotherapy)
- spiritual support
- social support
- income-generating activities
- medicines for pain, OIs (including TB treatment and prevention), and ARVs
- alternative therapies, including traditional remedies for the treatment of some OIs
- STI treatment and prevention
- condoms, information about safer sex.

These needs can change over time. Whether they test positive or negative, people will have different needs at different times. Needs of people also vary depending on gender and sexual orientation. Age can also be a determinant: children and young people will have certain needs that differ from those of adults.
Family members, community members, NGOs, people living with HIV, other people who have tested for HIV, church groups, government and employers are examples of members of the community who can provide support and services to meet these needs.

Stages of ART and Adherence Counseling

Stage 1: Pre-HIV Treatment Initiation

- In stage 1, the client already knows his/her HIV-positive status. He/she has been tested for HIV.
- In this stage, the client begins to think and talk about the possibility of beginning anti-retroviral treatment.
- This discussion happens between the client and the counsellor, as well as involving other members of the Health Care Team, such as doctors and nurses. The client also should be encouraged to discuss starting treatment with his/her friends and family.
- The counsellor must explore the client's thoughts and feelings about HIV treatment and what this would involve.

The **purpose** of the first stage:
o Educate client on HIV/AIDS and introduction to HIV treatment o Determine client's HIV treatment readiness: does he/she meet the DoH criteria?
o Establish full commitment to treatment o Prepare client for what treatment involves
o Select and involve treatment supporter
o Develop a personalised treatment and adherence plan

Stage 2: HIV Treatment Initiation

- Once the client meets the DoH criteria and is informed and committed to treatment, he/she can begin HIV treatment.
- At this stage, the client may experience a wide range of feelings and thoughts. The client is required to make lifestyle adjustments and faces issues that might make adherence difficult. He/she should be able to explore and address all of these issues with his/her Health Care Team.

The **purpose** of the second stage is to:
o Tailor the HIV treatment regimen to the client
o Discuss side effects
o Develop a personalised adherence plan
o Problem solve about factors that may lower adherence.

Stage 3: HIV Treatment Maintenance

- Once the client has started on HIV treatment, other issues may come up.
These could include how to deal with side effects and factors that influence adherence.
- Counselling at this stage should focus on listening to the issues the client is dealing with and helping him/her to identify problems and develop strategies for solving them.

The **purpose** of the maintenance stage is to:
o Simplify the HIV treatment regimen
o Avoid drug interactions and minimise side effects
o Discuss client's coping mechanisms and reinforce strengths

Stage 4: Re-Motivation or Treatment Change
- Clients may continue with the same regimen but require ongoing remotivation and support from the Health Care Team to maintain high adherence.
- After a period of time, clients may need to change their treatment regimen. This could be for a number of different reasons, such as treatment failure, toxicity (very severe side effects), or non-adherence. If treatment is changed, the client will need to be counselled about his/her new treatment regimen.

The **purpose** of the fourth stage is to:
o Re-motivate the client on the same regimen, provide support, and make adjustments to the adherence plan
o HIV treatment adjustment or change: develop new adherence plan, problem-solve factors that influence adherence

HIV serodiscordant couples

Is it possible for me to test negative for HIV even if my sexual partner has tested positive?
Yes, it is possible for you to be HIV negative and for your partner to be HIV positive. When the individuals in a couple have different HIV results, we refer to the couple as being serodiscordant. This can involve a couple in a long-term relationship or a single encounter between two partners.

How can I be negative if my sexual partner is positive?
There are many factors that determine whether or not someone becomes infected with HIV. There may be one or multiple reasons why you have not been infected with HIV.
- HIV viral load

The amount of virus in your partner's blood (viral load) is very important for determining if you become infected or not. The higher the viral load, the greater the chance that you will become infected.
- The type of virus

The type of HIV that infects one person may be very different to the type that infects another. Some types are more likely to spread. Your partner may be infected with a type that spreads less easily.
- Frequency of sexual intercourse

The more often you have unprotected sex with someone who is HIV positive, the more likely you are to become infected.
- Sexual practices

Receptive anal sex carries the highest risk of infection. Women are more likely to become infected during vaginal sex than men.
- Male circumcision

Men who have been circumcised, i.e. the entire foreskin has been removed, are less likely to become infected with HIV than those who have not.
- Presence of other sexually transmitted infections (STI s)

If you have an STI other than HIV (e.g. herpes, gonorrhoea, chlamydia), you are more likely to become infected with HIV if you have unprotected sex with someone who is HIV positive. If your partner is HIV positive, s/he is more likely to infect you with HIV if s/he has another STI as well.
- Genetic factors

Everyone has a different genetic make-up.
An individual's genes determine how likely he/she is to become infected and how his/her immune system will deal with the infection. Some people are more likely to become infected with HIV than others.
- Some people have certain genetic characteristics that may make them less or more likely to become infected with HIV. An example of this is the mutation called CCR5 $\Delta 32$. People who have this mutation do not become infected with HIV.
- Some people have a very good immune response to HIV which prevents them from becoming infected. Compare this to the flu – every year some people get very sick with the flu while others never seem to be ill. In a similar way, some people have immune systems that are able to fight off infection with HIV.

Is it common for couples to be Sero-discordant?

Yes. A study that was done in Eastern and Southern Africa showed that almost half of all couples testing for HIV were serodiscordant. We often do not realise that serodiscordant couples are so common because couples seldom come for HIV testing together. It is important for people to realise that their HIV status is not necessarily the same as their partner's. Just because your partner is HIV positive, do not assume you are also HIV positive. The only way to know if you are infected with HIV is to have yourself tested. Ideally, couples should come for counselling and testing together.

If I have not become infected yet, does that mean I will never become infected?

No. Just because you are HIV negative does not mean that you won't become infected in the future. It has been shown that up to 22% of uninfected partners become infected each year if they continue to have unprotected sex. The factors that have protected you up until now are not guaranteed to always protect you.

My partner is HIV positive and I am HIV negative. What now?

- Use a condom correctly and consistently. You may find this difficult to do if you have not been using condoms, but this is an effective way to ensure that you remain HIV negative.
- Test yourself for HIV on a regular basis. Have an HIV test 3-6 weeks after the last time you had unprotected sex, then every six months thereafter.
- Your partner who is HIV positive should be assessed by a health care practitioner for antiretroviral therapy (ART). ART, when taken exactly as prescribed, will result in a decrease in viral load. This is good for the health of your partner and will lower the chance of you becoming infected.
- Speak to your doctor about pre-exposure prophylaxis (PrEP). This refers to antiretrovirals that are taken by the HIV negative partner to prevent infection. It is important to note though that if you decide to use PrEP, it needs to be taken exactly as prescribed and you will be required to have regular blood tests.
- Serodiscordant couples can fall pregnant safely and have HIV negative children. It is important to talk to your doctor about what can be done to lower the risk of HIV passing to the uninfected partner and to the baby.

List of abbreviations

ART	Anti-retroviral Therapy
ARV	Anti-retroviral
AZT	Zidovudine
D4T	Stavudine
EFV	Efavirenz
FDA	Food and Drug Administration
FDC	Fixed Dose Combination
FTC	Emtricitabine
HAART	Highly Active Antiretroviral Therapy
LPV/r	Lopinavir/ritonavir (Kaletra)
OI	Opportunistic Infection
NRTI	Nucleoside Reverse Transcriptase Inhibitors
NNRTI	Non Nucleoside Reverse Transcriptase Inhibitors
PEP	Post Exposure Prophylaxis
PI	Protease Inhibitor
PLWH	People Living With HIV
PMTCT	Prevention of Mother To Child Transmission
STI	Sexually Transmitted Infection
TB	Tuberculosis
TDF	Tenofovir
VCT	Voluntary counselling and Testing
3TC	Lamivudine