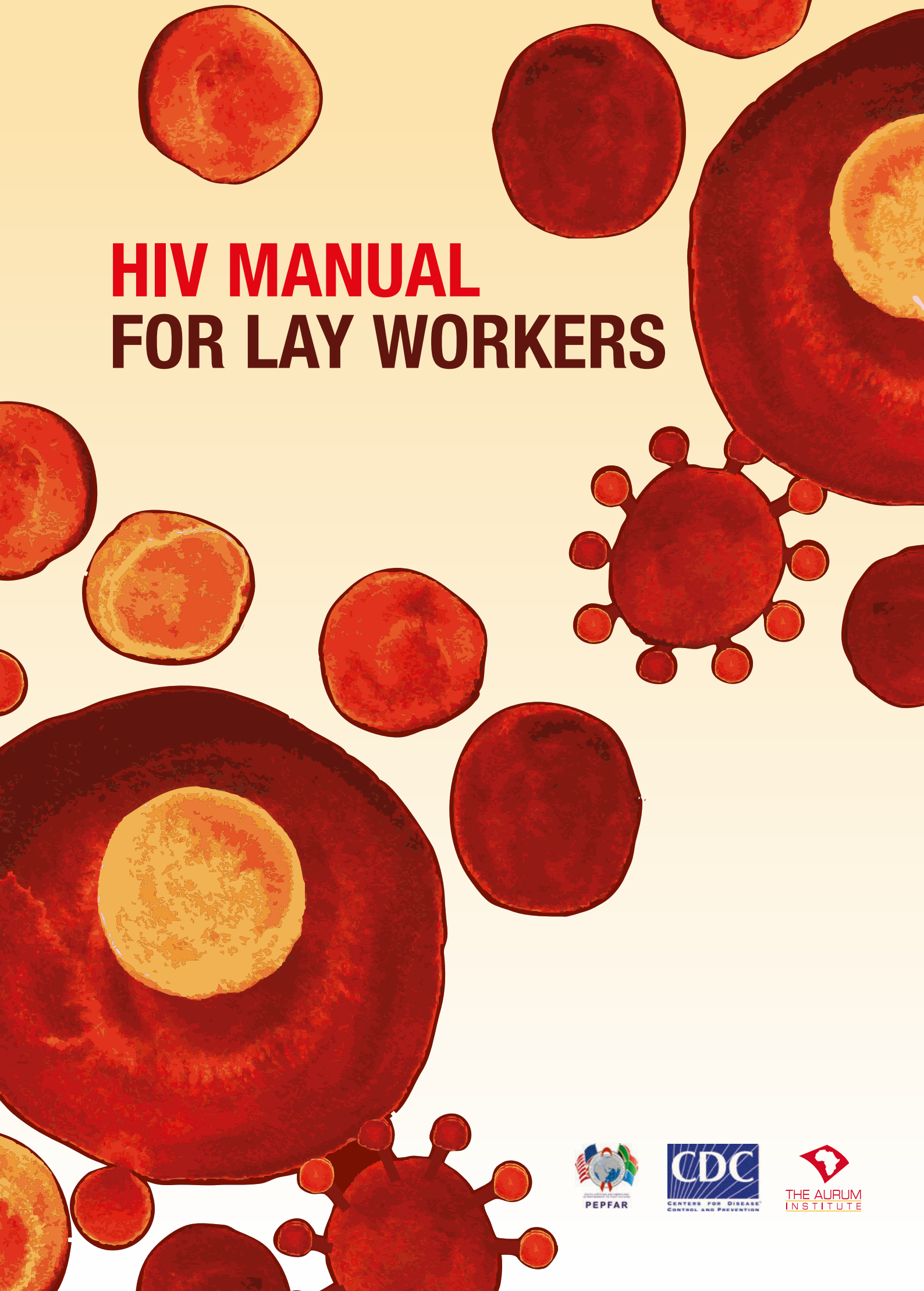
HIV MANUAL
FOR LAY WORKERS



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The field of HIV is constantly developing and changing. Consequently, the information presented herein may need to be updated from time to time.

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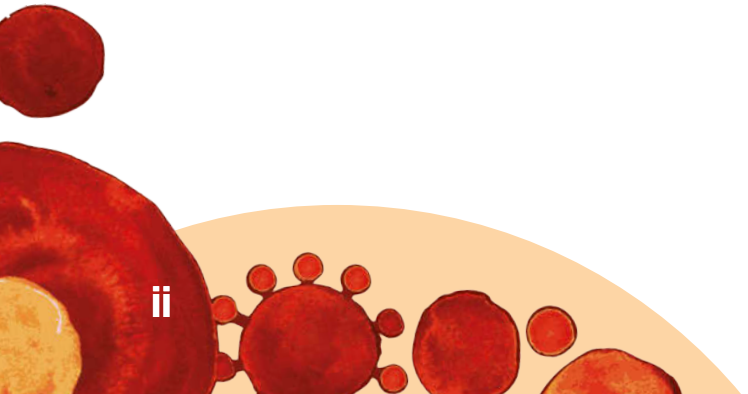

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The information in this Workbook has been based on the following guidelines:

DEPARTMENT OF HEALTH, SOUTH AFRICA

- National Consolidated Guidelines For The Prevention Of Mother-To-Child Transmission Of HIV (PMTCT) And The Management Of HIV In Children, Adolescents And Adults; 2015
- Guidelines For The Management Of Tuberculosis, Human Immunodeficiency Virus And Sexually Transmitted Infections In Correctional Facilities; 2013

WORLD HEALTH ORGANIZATION GUIDELINES AND REPORTS ON HIV/AIDS

- Updates On The Management Of Severe Acute Malnutrition In Infants And Children
- Guidance on oral prophylaxis (PrEP) for serodiscordant couples, men and transgender women who have sex with men at high risk of HIV
- Report: Adherence To Long-Term Therapies-Evidence For Action

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INSTRUCTIONS FOR FACILITATORS

The HIV Manual for Lay workers is a training programme designed to develop and instill greater awareness and understanding in participants around HIV/AIDS and the impact of the epidemic on Adults, Children, Pregnant Women and vulnerable populations within South Africa.

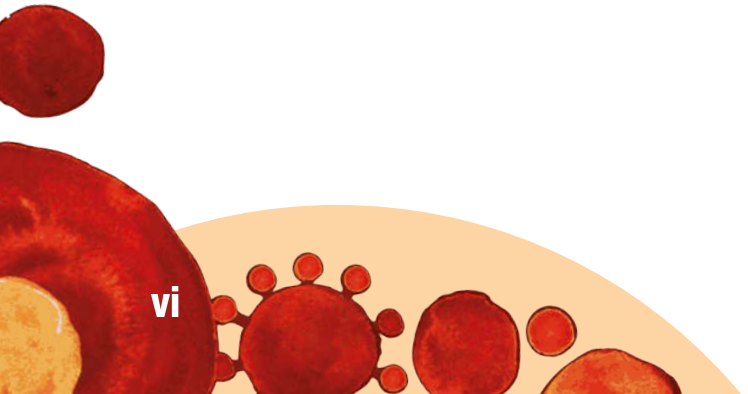
The workbook covers a vast spectrum of information about HIV. The classification of 'Lay Workers' renders the possible target population extremely broad and varied. For this reason, the workbook has been designed in such a way that it allows the facilitator to determine which chapters are relevant for their target audience and complete those. Should you wish to complete the entire workbook, we recommend doing it over a 5 day period.

We anticipate that the pre- and post-test will enable the facilitator and participants to engage with their learning and create a platform to ensure that no participant leaves with incorrect perceptions about HIV. After completion of the post-test, facilitators will allow participants 15 minutes to compare their post-test answers with those of their pre-test. This will assist participants to ascertain if their knowledge gaps have been addressed or if further remediation is needed in certain areas.

Each chapter has a Test Your Knowledge Section at the end of the chapter. You could chose to either do this upfront in order to know how to structure your learning, or you could choose to have participants complete it at the end to determine if learning has indeed taken place. Be sure to provide the correct answers so that participants do not leave with any incorrect information. Reviewing the answers as a group can stimulate group participation and conversation.

At the beginning of each chapter, a Key Points box highlights what we have determined to be the vital information that should be covered in that section.

A notes page for each section provides learners with a space to right down their reflections and thoughts in the appropriate section. Keeping the information together, will allow for appropriate reflection after the completion of the course.



LIST OF ABBREVIATIONS

Abbreviation	Working definition in these guidelines
ABC	Abacavir
ART	Antiretroviral therapy
ARVs	Antiretrovirals
HEI	HIV Exposed Infant
HIV	Human Immunodeficiency Virus
AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral therapy
CD4	Cluster of Differentiation
DOH	Department of Health
EFV	Efavirenz
ELISA	Enzyme Linked Immunosorbent Assay
EMTCT	Elimination of Mother-to-Child Transmission of HIV
EPI	Expanded Programme on Immunisation
FDC	Fixed Dose Combination
FTC	Emtricitabine
HCT	HIV Counselling and Testing
HCW	Health Care Worker
HEI	HIV Exposed Infant
IPT	Isoniazid Preventive Therapy
IRIS	Immune Reconstitution Inflammatory Syndrome
LPV/r	Lopinavir/ritonavir
NVP	Nevirapine
OI	Opportunistic Infections
PCR	Polymerase Chain Reaction
PEP	Post Exposure Prophylaxis
PICT	Provider Initiated Counselling and Testing
PMTCT	Prevention of Mother-to-Child Transmission of HIV
STI	Sexually Transmitted Infections
SIV	Simian Immunodeficiency Virus
TB	Tuberculosis
TDF	Tenofovir
UNAIDS	Joint United Nations Programme on HIV/AIDS
VL	Viral Load
WHO	World Health Organization

PRE-TEST

1. **How is HIV spread?**

2. **Answer True/False**

   TB is the leading cause of death among people living with HIV .....

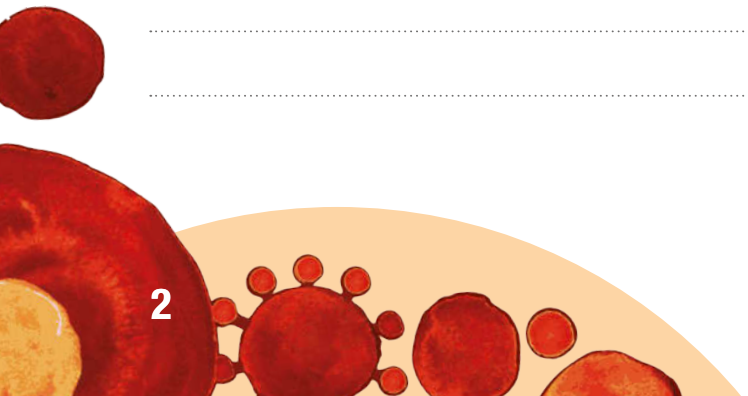
3. **Name 3 Key Populations at high risk for getting HIV in South Africa**

4. **Name 3 ways in which HIV infection can be prevented**

5. **Which tests are used to detect HIV Infection?**

6. **What is the 'Window Period'?**

7. **What is the role of Isoniazid Preventive Therapy?**



8. What is the Standard Treatment for HIV Infection in the Public Sector?

.....

.....

.....

9. When do we test pregnant women for HIV?

.....

.....

10. Name 3 instances when an infant/ child should be tested for HIV?

.....

.....

.....

11. When should the first HIV test be done for HIV exposed infant?

.....

.....

.....

12. Answer True/False

Exclusive breastfeeding is recommended for the first six months for HIV infected and HIV exposed infants

.....

13. Name one way in which under nutrition/malnutrition is detected in children

.....

14. Name 3 STIs common in HIV infection

.....

.....

.....

15. Name 3 groups that are eligible for Pre-exposure Prophylaxis

.....

.....

.....

Score	

CHAPTER 1 - OVERVIEW OF HIV

Key Points

- HIV is an infection caused by a virus known as the Human Immunodeficiency Virus
- Globally 36.9 million people are living with HIV
- In South Africa 6.8 million people are living with HIV
- TB remains the leading cause of death among people living with HIV
- In 2014, 61% of South Africa's TB cases were co-infected with HIV

INTRODUCTION

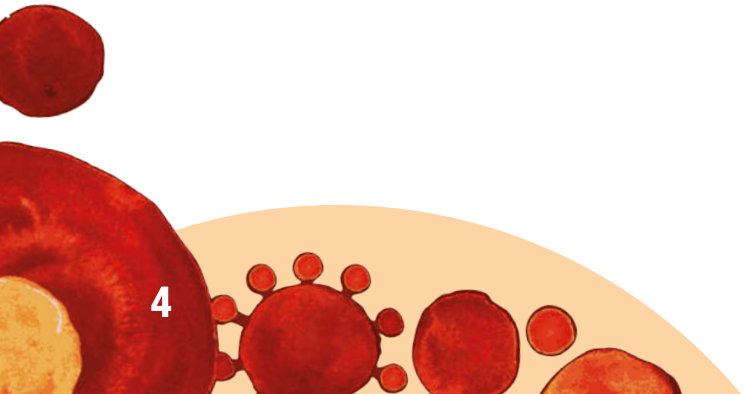
HIV/AIDS is a relatively new disease and was first identified in the United States in the 1980s. It is an infection caused by a virus known as the Human Immunodeficiency Virus (HIV). The virus is spread through:

UNPROTECTED SEXUAL CONTACT

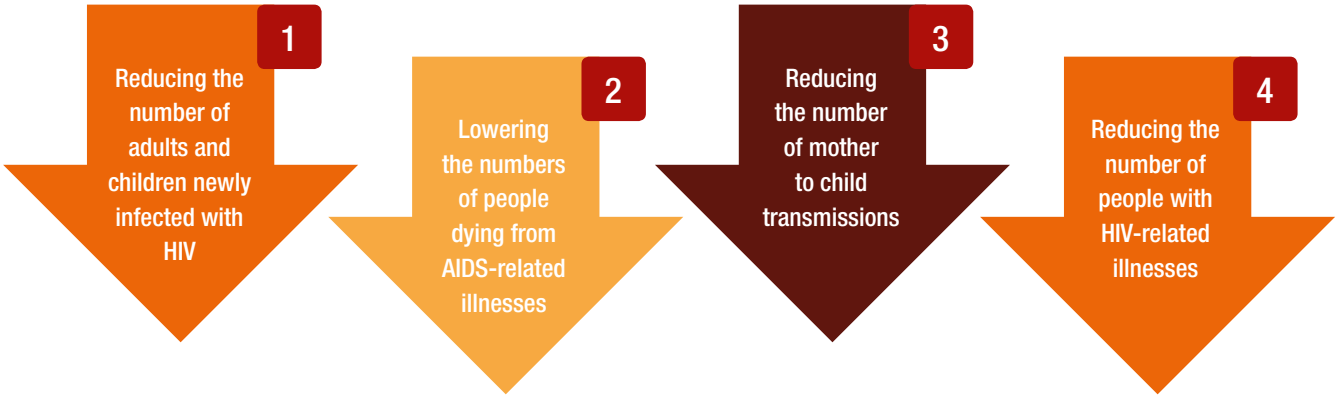
BLOOD

MOTHER TO CHILD DURING PREGNANCY, CHILDBIRTH OR BREASTFEEDING

It is important to know **the disease can be prevented.** The virus enters the body and affects the immune system. There is **currently no cure for AIDS but there is treatment available** that if taken correctly will help someone live a long and healthy life.



Extraordinary gains have been achieved in:



A new period of hope has occurred in countries and communities across the world that had previously been overwhelmed by AIDS.

THE ORIGINS OF HIV

HIV is a zoonotic infection i.e. infection transmitted from animals to humans. Scientist now know that HIV originated from a Simian Immunodeficiency Virus (SIV) which infects a class of chimpanzees and monkeys found in West Equatorial Africa. HIV was introduced into the human population when hunters became exposed to infected blood.

SIZE OF THE PROBLEM

HIV/AIDS is a major cause of illness and death in South Africa and in many other parts of the world.

A. Globally

Since the start of the epidemic, around 78 million people have become infected with HIV and 39 million people have died of AIDS-related illnesses[1]

According to UNAIDS statistics (2014)[2]

» 36.9 million people are living with HIV

» 2.6 million children < 15 years are living with HIV

» New HIV infections have fallen by 35% since 2000

» New HIV infections among children have declined by 58% since 2000

» AIDS related deaths have fallen by 42% since the peak in 2004

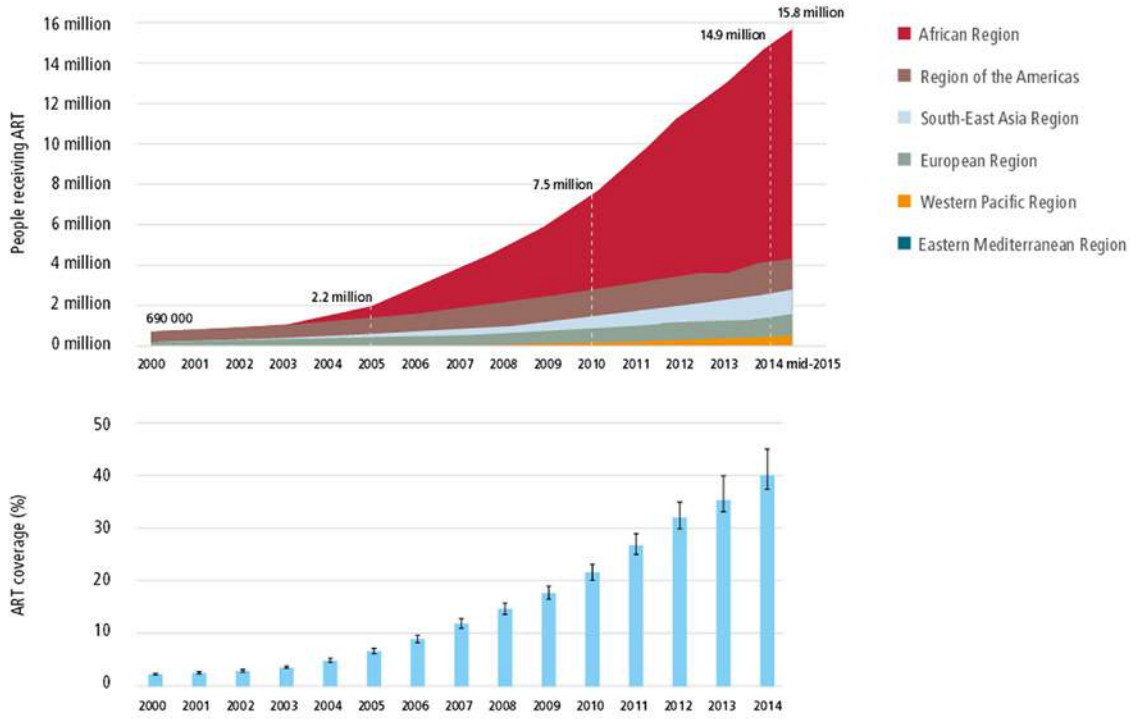
Tuberculosis and HIV co-infection:

» TB remains the leading cause of death among people living with HIV, accounting for around 1 in 5 AIDS related deaths.

» Tuberculosis-related deaths in people living with HIV have fallen by 33% since 2004[2]

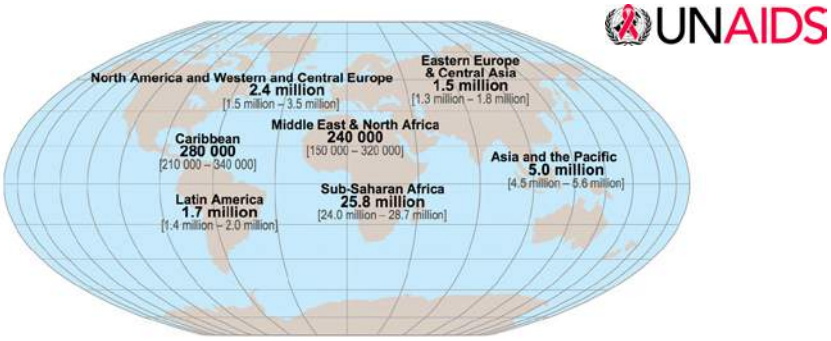
» In 2013, the percentage of identified HIV-positive tuberculosis patients who were started or continued on antiretroviral treatment reached 70% (up from 60% in 2012).[1]

Estimated numbers of people receiving antiretroviral therapy globally and by WHO Region and percentage coverage globally, 2000 - 2015



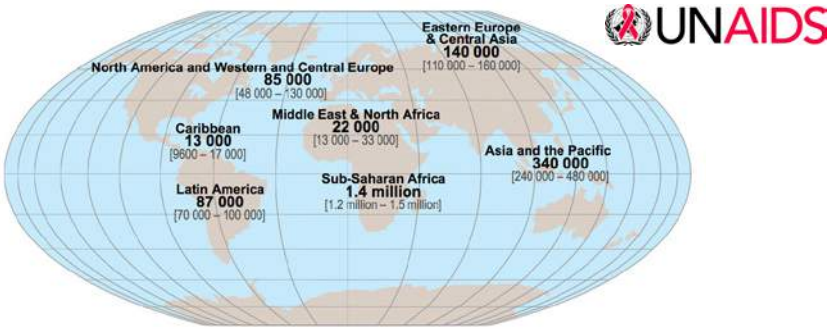
Source: Global AIDS Response Progress Reporting (UNAIDS/UNICEF/WHO) and UNAIDS/WHO estimates.

Adults and children estimated to be living with HIV - 2014



Total: **36.9 million** [34.3 million - 41.4 million]

Estimated number of adults and children newly infected with HIV - 2014



Total: **2.0 million** [1.9 million - 2.2 million]

B. South Africa

SA has the largest number of people living with HIV in the world and the highest number of new infections worldwide.

According to UNAIDS statistics for 2014:[2]

» 6.8 million people living with HIV/AIDS

» 140,000 deaths due to AIDS

» 340,000 children <15 years living with HIV infection

Tuberculosis and HIV co-infection

Tuberculosis remains a major problem in South Africa, according to the WHO Global TB report (2015), 61% of TB cases were co-infected with HIV.

HOW DOES THE BODY PREVENT INFECTION?

Key Points

» The immune system protects against germs and helps the body fight infection

» White blood cells - CD4 and B cells seek out and destroy germs – this is known as the Immune Response

» Antibodies are proteins that are produced by the immune system B cells, after stimulation by CD4 cells when germs are detected

The immune system protects you from germs and helps the body to fight infections. Through a series of steps called the Immune Response, the immune system attacks organisms and substances that invade the bodies' systems and causes disease.

When germs are detected, several types of cells work together to recognise them and respond to them. White blood cells that are made up of CD4 and B cells, seek out and destroy germs (immune response).

» CD4 cells start the body's response to the germ

» B lymphocytes produce antibodies, which attaches to the germs

WHAT ARE CD4 CELLS/ T CELLS?

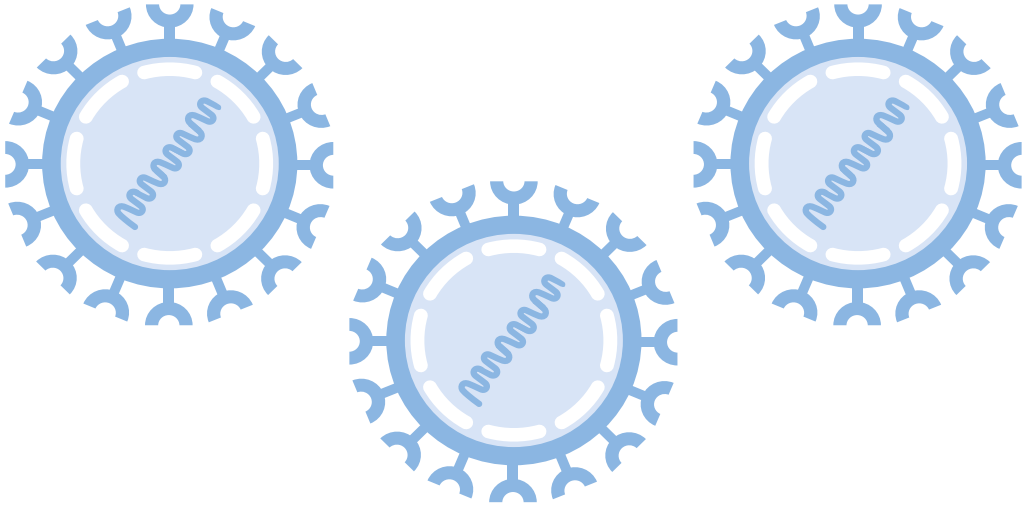
» CD4 cells are also known as CD4 T lymphocytes or T cells

» CD4 cells are a type of white blood cells that send signals to activate the body's immune response when they detect 'germs'

» Besides protecting the body from 'germs' it also stimulates other cells such as B cells to assist with getting rid of the 'germs'

» The presence of 'germs' results in CD4 cells multiplying

CD4 cells (or "T-cells") are a type of white blood cells that play a major role in protecting your body from infection.



WHAT ARE ANTIBODIES?

» When 'germs' are detected, CD4 cells stimulate the immune system B cells to produce proteins called 'antibodies'

» Antibodies are specifically developed for particular germs. In HIV infection, HIV antibodies are produced and can be found in the blood 2-6 weeks after HIV has entered the body

» The level of these antibodies increases in the blood in a response to the increasing levels of 'germs', these antibodies are thus detectable when the HIV antibody test is done.

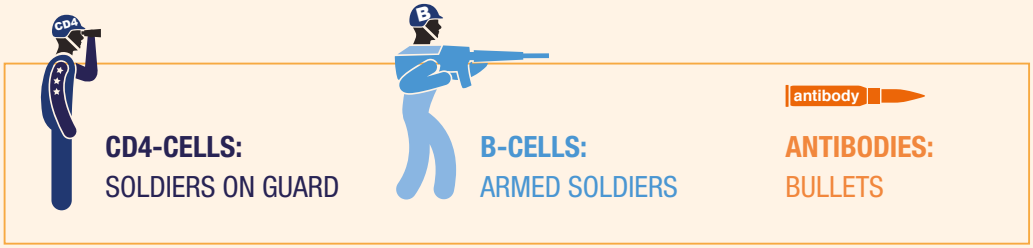
Immune System: The Army

In order to understand the working of the immune system better we can picture the immune system as the body's 'Army'

The **CD4** cells are the leaders of this army and they work as 'look out soldiers' for **INFECTIONS** (viruses like HIV, bacteria and fungi).

When the 'enemy'infection is spotted in the body, the **CD4** cells give the orders that the enemies/germs are to be killed.

The **B CELLS** in the army are the 'shooting soldiers' which target the 'germs' and the bullets that they fire at the 'germs' are **ANTIBODIES**

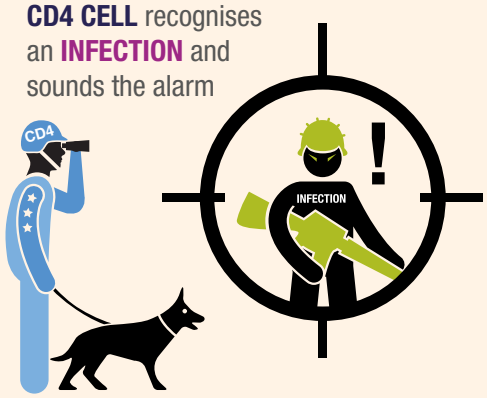


CD4-CELLS:
SOLDIERS ON GUARD

B-CELLS:
ARMED SOLDIERS

ANTIBODIES:
BULLETS

CD4 CELL recognises an **INFECTION** and sounds the alarm



CD4 CELL tells the **B-CELLS** to attack and kill the **INFECTION**

When the **B-CELLS** locate and identify the **INTRUDER** they immediately destroy it with **ANTIBODIES**

HIV kills **CD4 CELLS** (see pg 12) and with less **CD4 CELLS** to recognise **INFECTIONS** and send the **B-CELLS** to kill them, **INFECTIONS** then take over the body and the person becomes ill

NOTES

TEST YOUR KNOWLEDGE

1. Fill in the blanks below:

» Almost ..... million people have been infected with HIV worldwide since the start of the epidemic

» ..... has the largest number of people living with HIV in the world

2. How does the immune system work?

» Protects you from .....

» Helps the body .....

3. What is the role of CD4 in the immune response?

.....

.....

4. What is the role of B cells/ B lymphocytes in the immune response?

.....

.....

5. Match the description to the type of cell from the following options:

a) Antibodies

b) CD4 cells

c) B cells

'Look out' Soldiers	
'Shooting' soldiers	
'Bullets'	

Score

CHAPTER 2 - WHAT IS HIV AND AIDS?

Key Points

- HIV is a virus that attacks the immune system and uses the CD4 cells to make more copies of itself
- HIV is the virus that causes AIDS
- AIDS is the natural progression of HIV, resulting in the destruction of the immune system with the CD4 count dropping below 200 cells/mm^3
- CD4 cell count is a lab test that measures the number of CD4 cells in the blood
- Viral load test measures the level of HIV in the blood
- The progress of HIV infection is usually monitored using the CD4 count and the Viral Load

WHAT IS A VIRUS?

- A virus is a very **small germ** that can **infect cells** of any **living** animal, plant, human etc.
- It **cannot multiply on its own** but needs a living cell to multiply
- There are **many types** of viruses that can cause different illnesses e.g. flu, measles and mumps

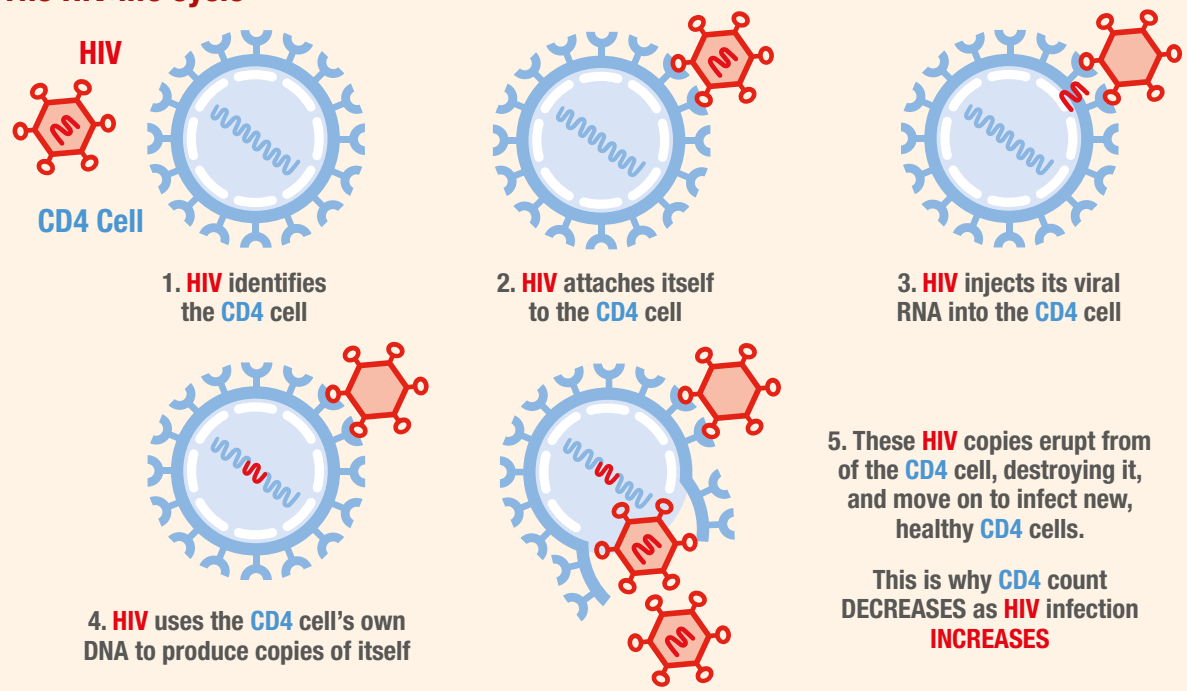
WHAT IS HIV?

HUMAN: transmitted only between humans

IMMUNODEFICIENCY: weakens the immune system

VIRUS: germ that causes disease in your body

The HIV life cycle



- HIV is a virus that attacks the body's immune system
- Once HIV infection is present, it cannot be removed from the body by either the immune system and/or medication
- HIV is the virus that causes AIDS

WHAT IS AIDS?

ACQUIRED	transmitted from one person to another
IMMUNE DEFICIENCY	weakness in the body's immune system and reduces its ability to fight germs invading it
SYNDROME	collection of symptoms that make up disease

- The natural progression of HIV in the body leads to AIDS.
- HIV causes destruction of the CD4 cells and interrupts the signalling that is usually done by the CD4 cells and this results in the body's inability to fight off infection.
- As the immune system is destroyed by HIV, there is a decrease in the number of CD4 cells
- When the CD4 count drops below 200 cells/mm^3, the body becomes more vulnerable to opportunistic infections and certain cancers, which is the typical presentation of AIDS.
- AIDS is referred to as the end stage of HIV disease.

HOW DOES HIV MAKE US SICK?

- During the early stages of HIV infection, the immune system is **still learning to respond to the infection.**
- Due to this slight delay in immune response, the **levels of HIV become very high** in the body and the **CD4 count drops rapidly.**
- After the first few weeks, the body starts to produce antibodies that target HIV. This period is known as **"seroconversion".**
- The CD4 count starts to increase and reach almost normal levels and the levels of HIV decreases. The disease thus enters the **chronic infection stage.**
- During the chronic infection stage the **virus continues to multiply** producing millions of new copies every day.
- The body tries to fight off the infection by **producing more CD4 cells** but these CD4 cells make themselves a target for HIV.
- The virus **disrupts the signals from the body's immune cells** and thus the immune system is continuously activated, eventually the **CD4 cells become depleted** and the disease progresses to AIDS.

The rate at which the viral infection progresses varies from person to person

HOW IS THE PROGRESSION OF HIV INFECTION MONITORED?

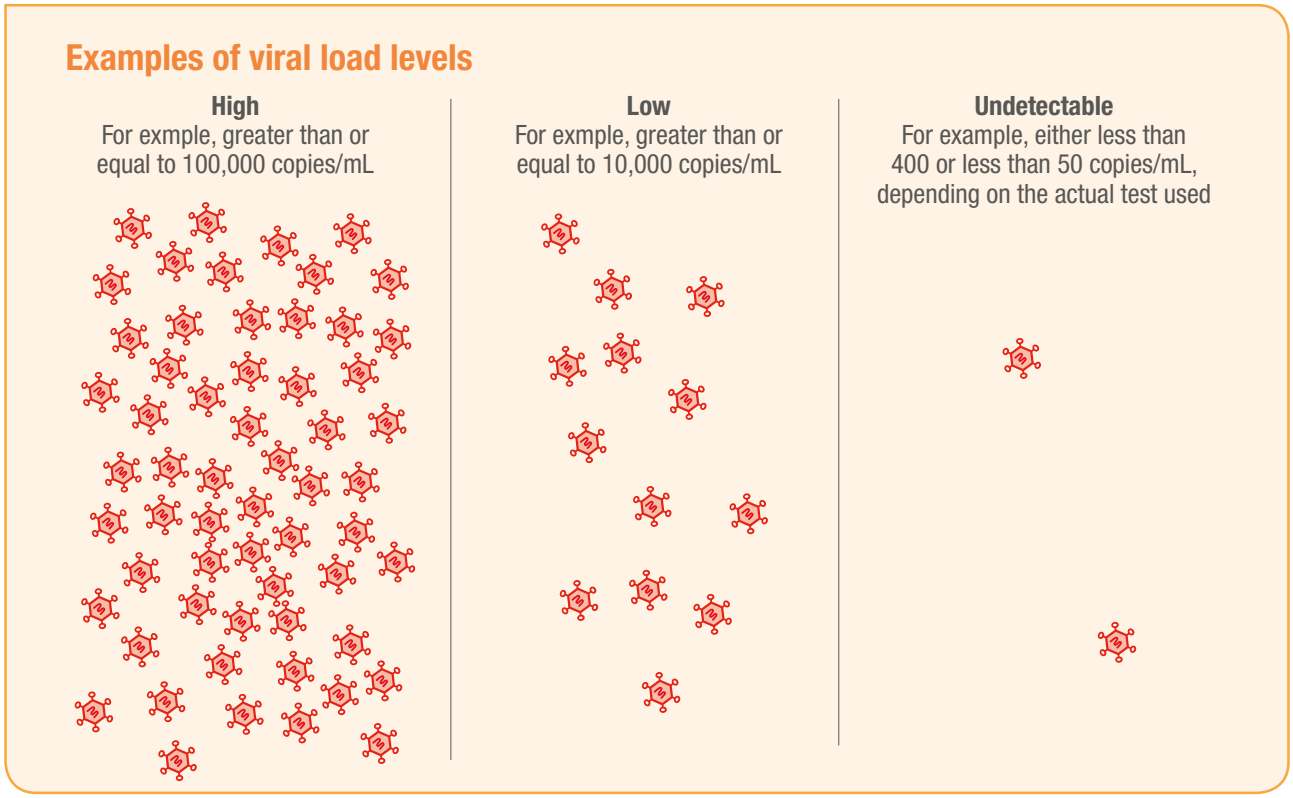
The progression of HIV infection is usually monitored using the CD4 count and the Viral Load (VL) tests. These are explained below:

CD4 count:

- The CD4 count is a lab test that measures the **number of CD4 cells in the blood**
- The CD4 count t**ells us how well the immune system is working** in people who have been diagnosed with HIV
- The **CD4 cell count varies** from individual to individual and should normally be between 500 and 1500 cells/mm^3
- The CD4 count is also used as a guideline to determine **when treatment** for HIV infection can be started
- Because HIV infects and kills the CD4 cells, as **HIV progresses, the CD4 count drops**

Viral Load (VL):

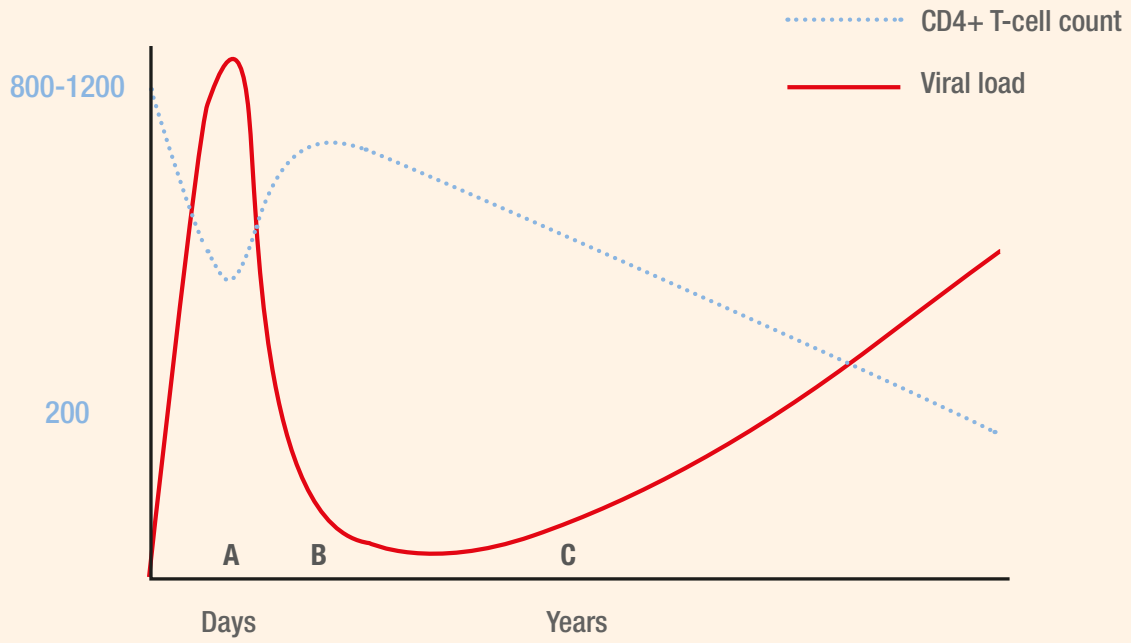
- The VL test measures the **levels of HIV in the blood**
- An increase in the VL indicates that there is a greater number of the virus in the body
- **People with very high VLs can easily transmit HIV to others**
- The VL is used as a **monitoring tool** for people who are receiving treatment for HIV infection; **it measures how well a person is responding to the treatment**
- **The aim of ARV treatment is to achieve undetectable levels of the virus.** This should occur within 3 to 6 months of starting treatment.
- Even if the VL is undetectable i.e. too low to be measured, this **does not mean that HIV has disappeared completely, the virus is still present but in low amounts.**



http://www.msmgf.org/html/sense/images/viral_load.png

The graph below shows what happens over time to an HIV infected person's CD4 cell count and viral load if they do not receive treatment

Progression of the disease



A: Soon after infection the viral load goes up and the CD4 cell count goes down. At around 6 weeks after initial infection, HIV antibodies can be found in the blood using the antibody test.

B: The viral load remains relatively low while the CD4 cell count is high for some years. There is usually a period of good health. This happens while a person is living with HIV but is not yet ill with AIDS. The duration varies from person to person. Some people have been living with the virus without treatment for over 20 years and are still healthy.

C: Eventually the viral load begins to rise and the CD4 cell count begins to drop.

NOTES

TEST YOUR KNOWLEDGE

1. When are the antibodies levels detectable in the blood?

2. What is CD4 count?

3. What is VL (viral load?)

4. Is it important for patients to know their CD4 count and why?

Score

CHAPTER 3 - HOW IS HIV SPREAD?

Key Points

- HIV is spread through infected body fluids: blood, sexual fluids (both male and female) and breast milk
- Other body fluid such as saliva, tears and sweat contain HIV but not enough of the virus to infect a person
- Some population groups are at a higher risk for HIV infection

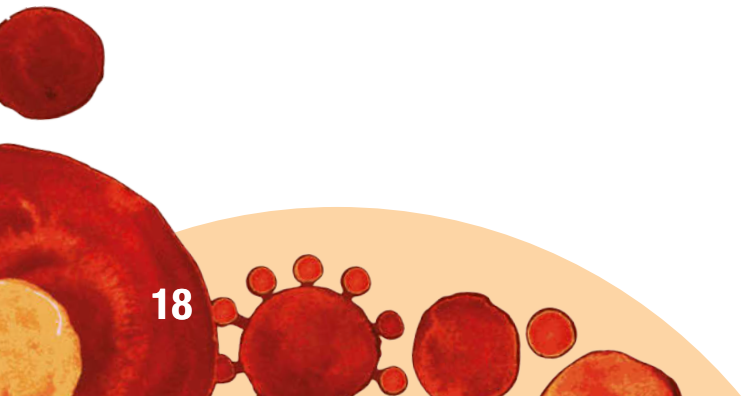
HIV is spread through **infected body fluids.** Only three body fluids have a large enough amount of HIV to be infectious:

- Blood
- Sexual fluids (semen and vaginal fluids)
- Breast milk

WAYS HIV IS SPREAD

Sexual intercourse
» Vaginal, anal or oral
» Heterosexual and homosexual
Transfusion of contaminated blood and blood products
» Transplant of tissue and organs
Use of contaminated needles and syringes
» Sharing needles and syringes during intravenous drug use
» Needle stick injury, mostly Health Care Workers
» Use of same cutting equipment during traditional rituals (scarification), sharing shaving razors
Mother to Child Transmission
» During Pregnancy
» During Birth
» Through Breastfeeding

Other body fluids (saliva, tears and sweat) do contain HIV, but not enough of the virus to infect a person. Therefore, it is not dangerous to come in contact with these fluids of an HIV-positive person.



Ways HIV is not spread

Circle the ways in which HIV is **NOT** transmitted:

HIV does not survive long outside the human body as it cannot multiply

Remember that HIV does not discriminate, anyone can become infected!

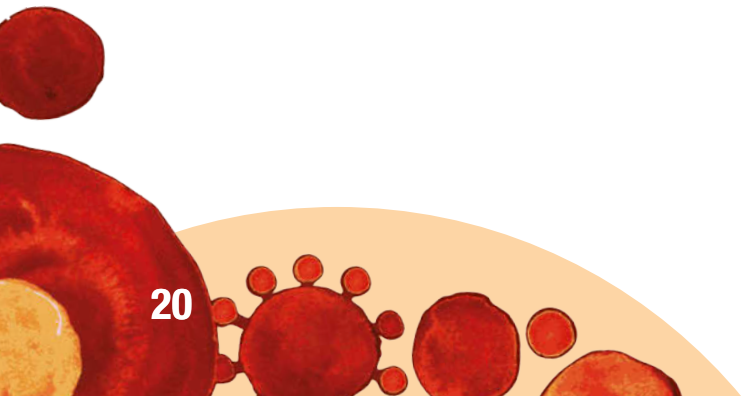
HIGH RISK GROUPS

According to the CDC and South Africa's National Strategic Plan, a number of **Key Populations** have been identified as high risk for getting HIV.[4,5] Key populations are the most marginalized and most likely to experience stigma. They include:

Men who have sex with men (MSM)	Sex Workers	People who inject drugs
Vulnerable Children, Orphans, Youth	15-24 year old Women have a 4x greater risk of infection than men of same age group	Inmates at Correctional Centres

HIV spreads in these groups more easily due to a number of factors such as:

- More **frequent exposure** to the virus
  - Multiple sexual partners
  - High turnover of sexual partners
- Presence of other Sexually Transmitted Infections **(STIs)**
- Involvement in **risky behaviors** such as drug and alcohol use around sex (when under the influence, condom use is disregarded or inconsistent)
- **Poverty, unemployment** and lack of resources
- **Weak** family and social **support** systems
- **Marginalization**
- **Inadequate access to health-care services**
- Population **migration** (migrant labourers move to cities for employment)
- **Gender inequality**
  - no knowledge of status of sexual partner
  - women unable to negotiate condom use with the partner



NOTES

TEST YOUR KNOWLEDGE

1. How is HIV spread?

2. How is HIV not spread?

3. Name 3 of the Key populations at high risk for getting HIV in South Africa?

4. Why is HIV spread more easily in the above mentioned populations?

Score

CHAPTER 4 - PREVENTION OF HIV INFECTION

Key Points

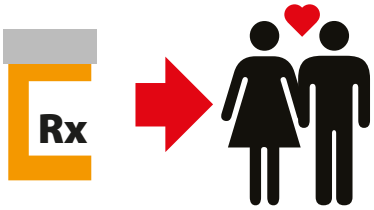
- HIV can be prevented by abstinence, being faithful to one partner, correct and continuous usage of condoms and lubricants, Pre exposure prophylaxis (PrEP) and post exposure prophylaxis (PEP)
- PEP involves taking a short course of antiretroviral treatment for 28 days to reduce the chances of contracting HIV following exposure
- PEP can only be provided to a person if their post exposure HIV test is negative
- PrEP is provided to HIV uninfected persons with high risk for HIV infection
- Medical Male Circumcision (MMC) reduces the risk of HIV infection but must be used with other preventative methods

WAYS HIV INFECTION CAN BE PREVENTED:

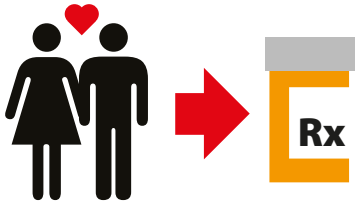
ABSTINENCE

BE FAITHFUL TO ONE PARTNER

CORRECT AND CONTINUOUS USAGE OF CONDOMS (SEE ANNEXURE 1 & 2)



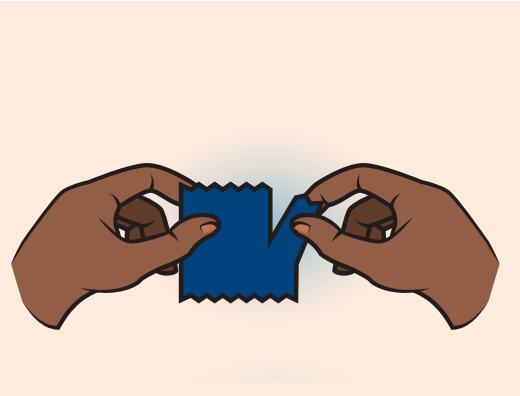
POST EXPOSURE PROPHYLAXIS (PEP)



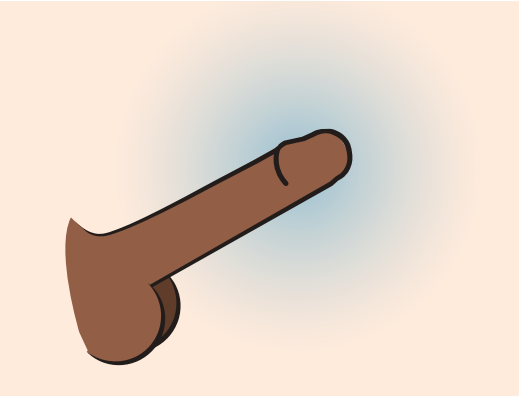
PRE-EXPOSURE PROPHYLAXIS (PrEP)

HOW TO USE A CONDOM CORRECTLY[3]

It is important to use a condom correctly because if something goes wrong you could be risking pregnancy and sexually transmitted infections (STIs).

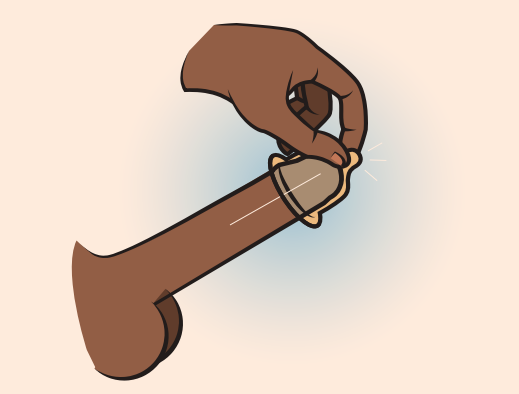


1. Check that the condom foil is intact and that it is within the expiry date. Tear along one side of the foil, making sure that you do not damage the condom with sharp fingernails or jewellery as you squeeze the condom out.

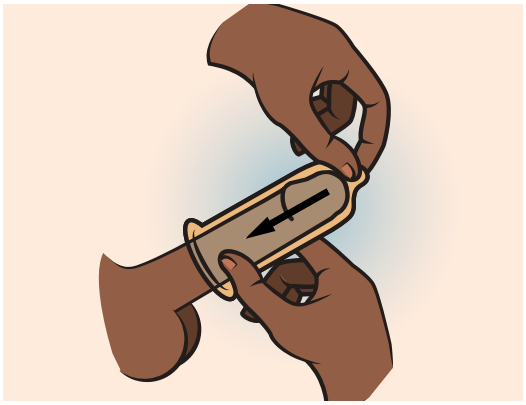


2. Put the condom on when the penis is erect, but before contact with your partner, as fluid is often released in the early stages of an erection. This may cause pregnancy or pass on an infection.

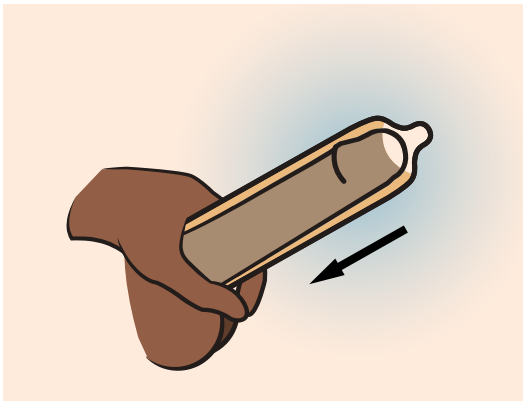
3. Hold the condom teat between the thumb and the finger, making sure the condom is the right way for unrolling. This expels air from the teat reducing the chance of it bursting.



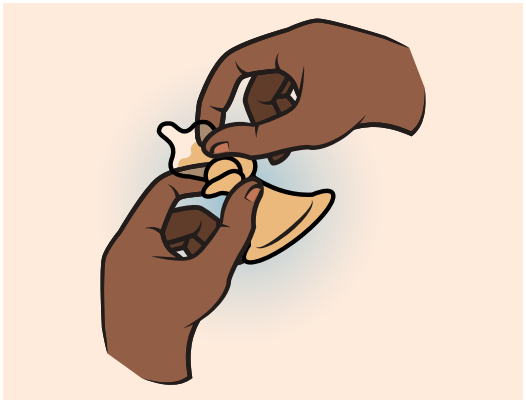
4. Using your other hand, unroll the condom down the entire length of the penis, while still holding the teat. Make sure the condom stays in place during sex. If the condom should come off then open a new condom and put it on before continuing sex. If this happens, your partner should get the morning after pill as a precaution against unintended pregnancy.



5. After ejaculation, make sure you hold the base of the condom in place as you withdraw. Only when the penis is completely withdrawn can you remove the condom.



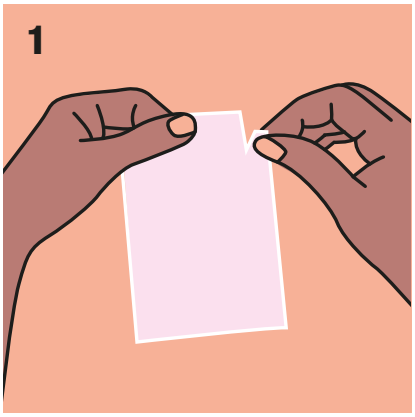
6. Make sure you keep the penis and used condom away from the vagina and anus.



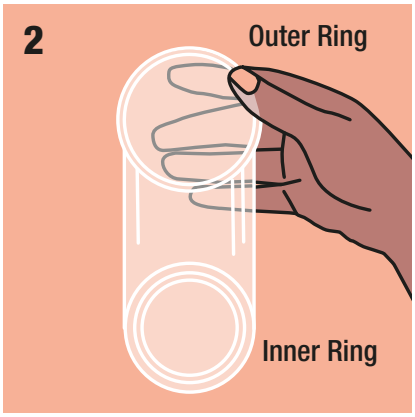
7. After use, make sure you dispose of the condom hygienically.
   Wrap it in tissue and place it in a waste bin.

Do not flush it down the toilet.

HOW TO USE THE FEMALE CONDOM

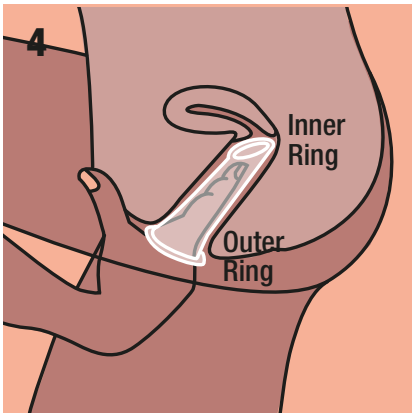


1. Open the packet- Locate Arrow and carefully tear down from the top of the package

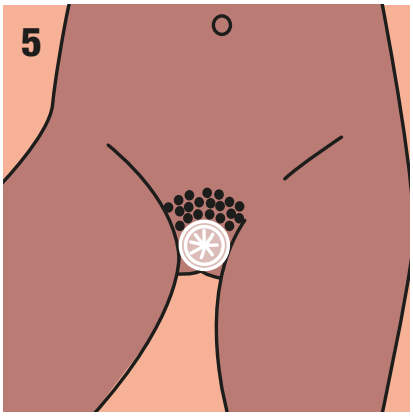


2. Hold the condom at the closed end, open end hanging down

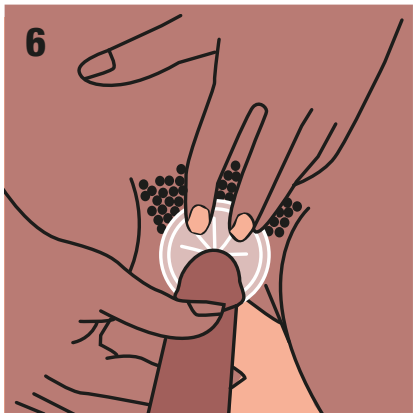
3. Hold the flexible inner ring and squeeze with the thumb and index finger so it becomes long and narrow



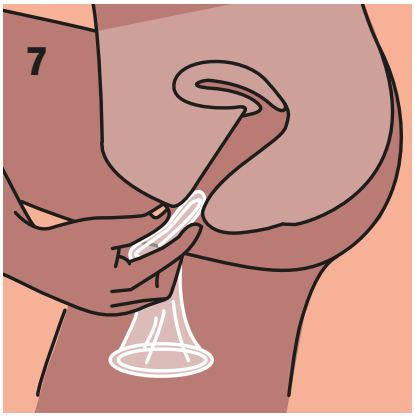
4. Gently insert the inner ring into the vagina using a finger. Push inner ring up and back into the vaginal canal, moving it into place. Push the condom as far as it will go. Make sure it is not twisted.



5. The outer ring remains outside the vagina. The female condom is now in place and ready to use.



6. Gently guide your partners penis into the vagina. Once the penis is inserted, if there is discomfort, withdraw the penis and reposition the inner ring.



7 & 8.

To remove the condom twist the outer ring and gently pull the condom. Wrap the condom in the sachet package or tissue and throw into the garbage.

DO NOT FLUSH. DO NOT REUSE.

POST-EXPOSURE PROPHYLAXIS

POST = after
EXPOSURE = a situation where HIV has a chance to get into someone's blood
PROPHYLAXIS = a treatment to stop infection happening
so therefore:
PEP = a treatment to stop a person becoming infected with HIV after it has gotten into their body

Post **E**xposure **P**rophylaxis (PEP) involves taking a short course of antiretroviral (ARV) treatment to reduce the chances of contracting HIV following exposure. **PEP should be taken as soon as possible within 72 hours but ideally within 1-2 hours after possible HIV exposure.** PEP is taken to reduce the chance of contracting HIV. PEP works by preventing the virus from making copies of itself and spreading throughout the body.

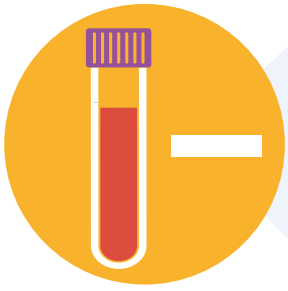
Three ARV drugs are the preferred regimen for PEP and the treatment should be taken for 28 days

Who qualifies for PEP?

» A HIV test should be done:

If the test is positive -

PEP cannot be taken as it means that there was prior exposure to HIV long before the current incident took place



If the test is negative -

it means there was no prior exposure to the virus and PEP can be taken

PEP can only be provided to a person if their post exposure HIV test is negative

Who requires PEP?

PEP is used for anyone who may have been exposed to HIV very recently during a **single event.** These events include:

» Healthcare workers who are exposed to blood or body fluids of a patient who is infected with HIV
» Victims of sexual assault
» Single event-unprotected sex
» Needle sharing injection drug use

When should HIV tests be repeated after PEP has been completed?

HIV re-testing after PEP should be done at the following intervals:

6 weeks

3 months after exposure to HIV

Can a person take PEP every time they have unprotected sex?

» PEP should only be used after an **uncommon** situation with potential HIV exposure.
» If a person is often exposed to HIV because of failure to use a condom during sexual intercourse with a HIV infected partner, repeated use of PEP is not the right choice. **Short courses of ARVs can lead to drug resistance.**

Side Effects of PEP:

» The side effects of PEP are minimal due to the short duration of the treatment, 28 days.

PRE-EXPOSURE PROPHYLAXIS (PrEP)

A new approach to HIV prevention is the use of ARVs by HIV uninfected persons to stop them from getting infected with HIV.

Truvada is the trade name of the combination drug used for PrEP, the single tablet consists of Tenofovir (TDF) and Emtricitribine (FTC)

PrEP has been shown to be effective when taken as directed (one tablet daily). **PrEP should always be provided together with other HIV prevention options e.g. condoms** to prevent acquisition of a STI and to further reduce risk of HIV infection.

Persons taking PrEP should return to the clinic every 3 months for a follow-up visit to receive more treatment and to repeat their HIV test.

Who is eligible for PrEP?

PrEP is targeted at the following high risk groups:

» Young women and girls
» Men and transgender women who have sex with men
» Sex Workers
» People who inject drugs
» Serodiscordant couples (HIV uninfected partner in the couple)

Duration of PrEP is determined on an individual basis i.e. can be taken for the period during which there is risk of HIV exposure

What are the side effects of PrEP?

Persons who start PrEP may report side effects in the first few weeks of use. Common side effects include:

» Nausea, abdominal cramps or headaches

The side effects are usually mild and don't require PrEP to be discontinued

Contraindications to use of PrEP

Underlying kidney problems

REDUCING THE RISK OF HIV INFECTION

Medical Male Circumcision (MMC)

What is MMC?

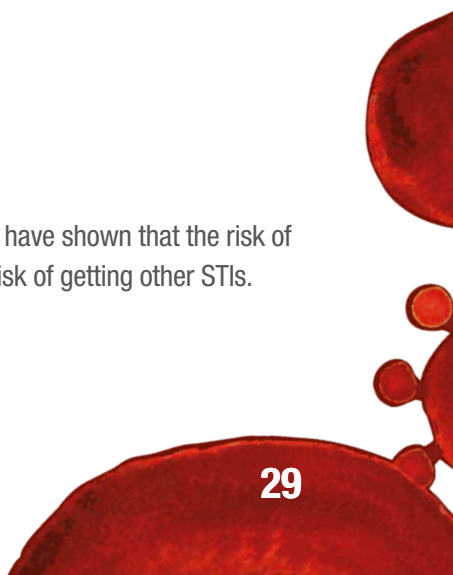
MMC is the surgical removal of the foreskin which is the fold of skin that covers the head of the penis.

Why should the foreskin be removed?

The foreskin has high number cells that are easy targets for HIV infection.

What are the benefits of MMC?

MMC reduces the risk of getting HIV from a female partner during sexual intercourse. Studies have shown that the risk of getting HIV through heterosexual intercourse is reduced by roughly 60%. It also reduces the risk of getting other STIs.



MMC indirectly benefits women by reducing infection with Human Papilloma Virus (this virus causes cervical cancer) as men who are circumcised are less likely to be infected with this virus.

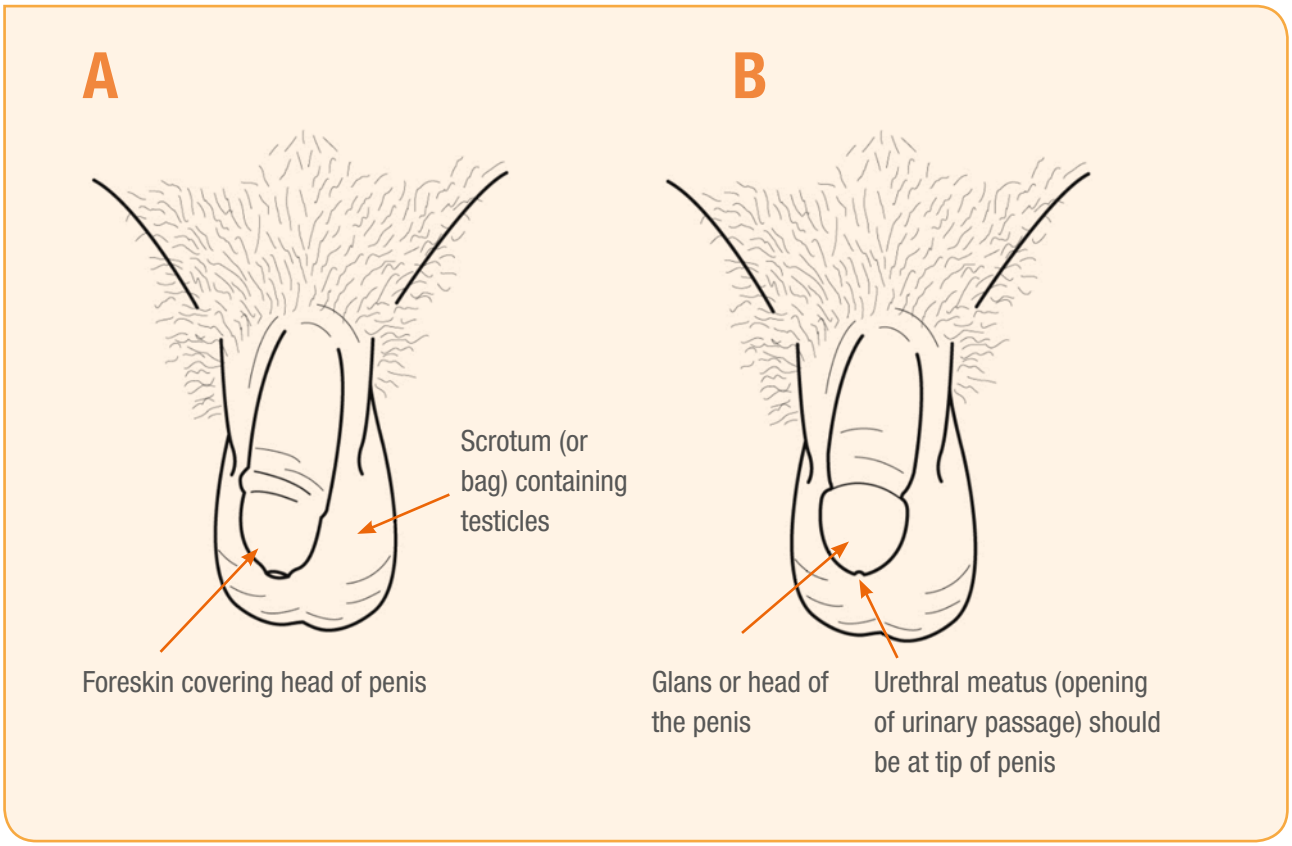
MMC provides only partial protection against HIV infection. It is only one part of a comprehensive HIV prevention package, which includes:

- The provision of HCT
- Treatment for STIs
- Provision of male and female condoms and promotion of correct usage
- Promotion of safe sexual practice

What are the complications of MMC?

Complications are rare when done by a well trained HCW. Problems usually occur soon after or during the procedure, this include pain, bleeding, blood clots at the operation site and infection. Any complications of MMC should be managed at a clinic/ hospital.

N.B. All clients should be advised to abstain from sexual intercourse for 4-6 weeks and use condoms during sexual intercourse for up to 6 months until the wound has healed completely.



Prevention of HIV infection in high risk groups

Men who have Sex with Men (MSM):

» The receiving partner is more at risk of contracting HIV as compared to the penetrating partner.

» Therefore correct condom use is essential

Commercial sex workers:

» Due to the nature of their work they need to negotiate for continuous and correct condom use

Correctional Centre offenders:

» Sexual assault unfortunately does occur at Correctional Centres, it is difficult to prevent due to the high number of offenders in a holding cell. The provision of condoms and lubricants at these facilities is directed at the prevention of transmission of HIV infection during sexual assault.

» Unhygienic tattooing and body piercing may increase the risk of HIV transmissions.

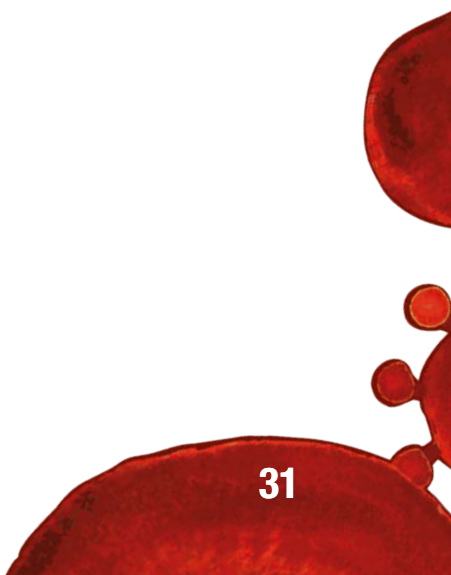
Rape, PEP:

» PEP is only effective if it is taken within 72 hours after exposure and for 28 days

Discordant couples:

» To prevent the further spread of HIV from one positive partner to a negative one.

» Therefore PrEP and continuous correct condom use should be encouraged.



NOTES

TEST YOUR KNOWLEDGE

1. How can the spread of HIV infection be prevented?

2. What is PEP?

3. Who are the high risk groups for HIV infection?

4. Why is using PEP after each sexual contact not the correct choice?

5. Name 3 groups that are considered eligible for PrEP

6. MMC should always be used with other preventative measures. What are the other measures?

Score	

CHAPTER 5 - SYMPTOMS OF HIV INFECTION

Key Points

- The World Health Organization (WHO) uses medical conditions to explain the four stages that a person infected with HIV will progress through.
- As the immune system is weakened and the CD4 count is lowered, the HIV infected person is vulnerable to other infections- these infections are called Opportunistic Infections (OIs)
- OIs can be prevented by the HIV infected person taking HIV medication, and avoiding germs that cause the OIs
- Specific preventive therapy is provided to HIV infected persons e.g. Isoniazid Preventive therapy, Cotrimoxazole preventive therapy, Cryptococcal infection treatment

The World Health Organization (WHO) uses medical conditions to explain the four stages that an HIV infected person will progress through:[6]

Stage 1	» Flu-like symptoms	
	» Persistent enlarged glands in more than one site of the body	
	» Some people may have no symptoms	
	» During this period the virus uses the immune system CD4 cells to make copies of itself and during the process the virus destroys these cells. Therefore the persons CD4 count drops.	
Stage 2	» Shingles/herpes zoster: Shingles is caused by the varicella-zoster virus. Shingles can occur anywhere on your body, it most often appears as a single stripe of blisters that wraps around either the left or the right side of your torso	
	» Fungal nail infection: Nail fungal infections are typically caused by a fungus.	
	» Chronic flaky white-yellowish rash mainly on the oily parts of the face, scalp or inside ears	
	» Bumpy, itchy rash on the body	
	» Recurrent cough and cold	

Stage 3	» Pulmonary TB (TB of the lungs)
	» Persistent oral thrush that happens more than once
	» Weight loss of more than 10% per month
	» Recurrent or persistent diarrhoea for more than 14 days
Stage 4	» At this stage of the infection, the immune system is damaged and the person becomes vulnerable to Opportunistic Infections. The amount of the virus is very high in the body at this stage and the virus can be transmitted easily to another person.
	» Examples of stage 4 conditions include: › TB in parts of the body other than the lungs e.g. bones, glands, spine, lining of the brain › Oral thrush running down the throat, unable to swallow › HIV wasting: unexplained weight loss of more than 10% of baseline body weight with wasting, accompanied by diarrhoea for more than a month or fever lasting more than a month which does not respond to treatment › Cryptococcal meningitis: a fungal infection of the covering of the brain › Kaposi's sarcoma (KS): a skin cancer found in HIV positive people with low CD4 count

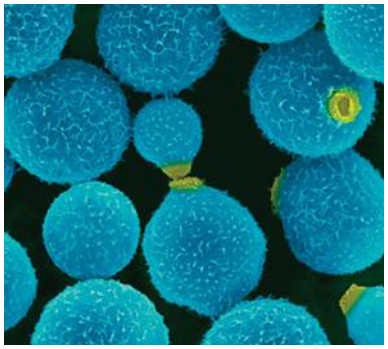
OPPORTUNISTIC INFECTIONS[7]

The immune system is our body's defense system. It helps us fight against infections. HIV attacks CD4 cells in our immune system. Over time the immune system is weakened and the HIV infected person is vulnerable to getting other infections. These are called Opportunistic Infections (OI). A few of the common OIs are discussed below:

Candidiasis

» This illness is caused by infection with a common (and usually harmless) type of fungus called Candida.

» Candidiasis is only considered an OI when it infects the oesophagus (swallowing tube) or lower respiratory tract, such as the trachea and bronchi (breathing tube), or deeper lung tissue



Cryptococcosis

» This illness is caused by infection with the fungus Cryptococcus Neoformans. Cryptococcus is found in the soil from bird droppings that are breathed in as dust. It cannot be passed in the air from one person to another.

» The fungus typically enters the body through the lungs and can cause pneumonia. It can also spread to the brain, causing swelling of the brain.

» There is risk of infection in HIV infected persons with CD4 counts less than 100 cells/mm^3

Chronic Diarrhoea

» This diarrheal disease is caused by the parasites Cryptosporidium or Isospora belli.

» Symptoms include abdominal cramps and severe, chronic, watery diarrhoea fever, headache, abdominal pain, vomiting, and weight loss

Herpes Simplex (HSV): infection greater than one month's duration

» Herpes Simplex Virus (HSV) is a very common virus that for most people never causes any major problems. However, stress, trauma, other infections, or suppression of the immune system, (such as by HIV), can reactivate the latent virus and symptoms can return.

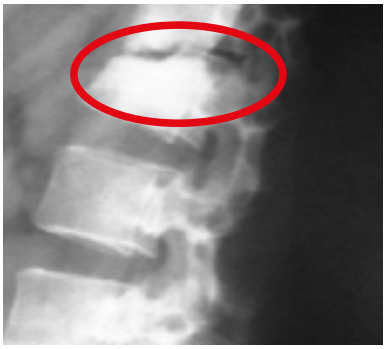
» HSV is worse with an HIV infection and can cause painful cold sores in or around the mouth, or painful ulcers on or around the genitals or anus.

Kaposi's Sarcoma (KS)

» This cancer, also known as KS, is caused by a virus.

» KS causes small blood vessels to grow abnormally.

» Because these blood vessels are located throughout the body, KS can occur anywhere.



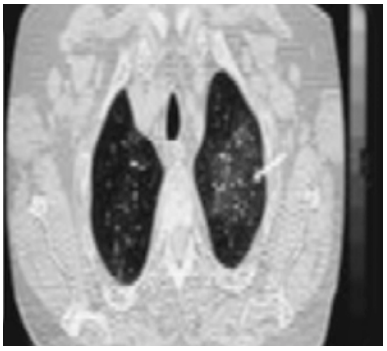
Extrapulmonary Tuberculosis

» Tuberculosis (TB) infection is caused by the germ Mycobacterium tuberculosis.

» TB can be spread through the air when a person with active TB coughs, sneezes, or speaks.

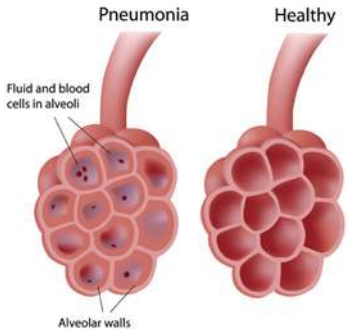
» Breathing in the bacteria can lead to infection in the lungs.

» Although the disease usually occurs in the lungs, it may also affect other parts of the body, most often the larynx, lymph nodes, brain, kidneys, or bones - TB spine (see picture)



Pneumocystis Jirovecii Pneumonia

» This lung infection, also called PJP, is caused by a fungus, Pneumocystis Jirovecii. PJP occurs in people with weakened immune systems, including people with HIV. The first symptoms of infection are difficulty breathing, high fever, and dry cough.



Recurrent Pneumonia

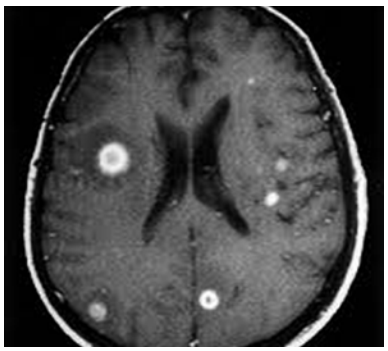
» Pneumonia is an infection in one or both of the lungs.

» Many germs, including bacteria, viruses and fungi can cause pneumonia.

» In people with immune systems severely damaged by HIV, one of the most common and life-threatening causes of pneumonia is infection with the bacteria Streptococcus Pneumoniae, also called Pneumococcus

Wasting syndrome due to HIV

» Wasting is defined as the involuntary loss of more than 10% of one's body weight while having experienced diarrhoea or weakness and fever for more than 30 days. Wasting refers to the loss of muscle mass, although part of the weight loss may also be due to loss of fat.



Toxoplasmosis of brain

- This infection, often called toxo, is caused by the parasite Toxoplasma gondii.
- The parasite is carried by warm-blooded animals including cats, rodents and birds and is excreted by these animals in their faeces.
- Humans can become infected with it by inhaling dust or eating food contaminated with the parasite.
- Toxoplasma can also occur in commercial meats, especially red meats and pork, but rarely poultry. All raw red meats that have not been frozen for at least 24 hours should be cooked through to an internal temperature of at least 150°F.

PREVENTION OF OPPORTUNISTIC INFECTIONS

In addition to taking HIV medications to keep the immune system strong, patients can be advised about other steps to avoid that can result in exposure to germs causing an OI:

USE CONDOMS CONSISTENTLY AND CORRECTLY

AVOID EATING UNCOOKED EGGS

AVOID EATING/DRINKING UNPASTEURIZED (RAW) MILK AND CHEESE

AVOID EATING RAW SEED SPROUTS

AVOID DRINKING UNTREATED WATER FROM LAKES/RIVERS

SPECIFIC THERAPY FOR OIs

In order to prevent opportunistic infections from occurring in HIV infected persons, the following preventive therapy is often provided:

Isoniazid Preventive Therapy	Cotrimaxazole Preventative Therapy	Cryptococcal Infection Treatment

Isoniazid Preventive Therapy (IPT)

- IPT has a role in preventing TB infection from progressing to TB disease in HIV infected persons and all children under 5 years irrespective of HIV status.
- This **TB preventive therapy** is continued for **6 months in children** less than 5 years and HIV positive children up to 15 years.
- Children under the age of 2 who are staying with their mothers in correctional facilities, irrespective of their HIV status, should be getting IPT for the duration of the stay in incarceration.
- For **Adults** the duration of TB preventive therapy varies from **6 to 36 months, or if incarcerated, for the entire duration of the incarceration.**

It is important that active tuberculosis is excluded prior to starting preventive therapy.

How is active TB excluded?

Exclusion of active TB starts with **'TB symptom screening'**. TB screening should be done at **every clinic** visit as well as **home visits** by healthcare workers.

Questions that are asked when screening for TB:

Adults/adolescents/ pregnant women	» Current cough of any duration » Persistent fever of more than two weeks » Unexplained weight loss of >1.5 kg in a month, or failure to gain weight (pregnant women) » Drenching night sweats
Infants and children	» Current cough » Persistent fever of more than two weeks » Poor weight gain » Fatigue (tired)

In addition, **children should be screened for** history of recent (<12 months) close contact with a person diagnosed with TB.

If someone has one or more of these warning signs they require further investigation for active TB.

Cotrimoxazole Preventive Therapy (CPT)

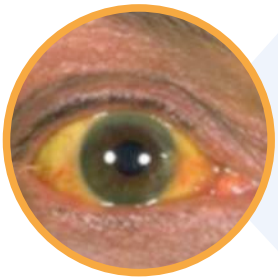
This therapy helps in reducing hospitalisation and death and protects the body against:

» *Pneumocystis Jirovecii Pneumonia*
» Toxoplasmosis
» Malaria and
» Other bacterial infections

This medication can be continued until the CD4 count is ≥350 cells/mm^3 on 2 separate occasions, taken at least 6 months apart.

Side Effects of Cotrimoxazole

The most common side effect of cotrimoxazole is a reddish discoloration of the skin with small bumps present, this is known as a maculo-papular rash.



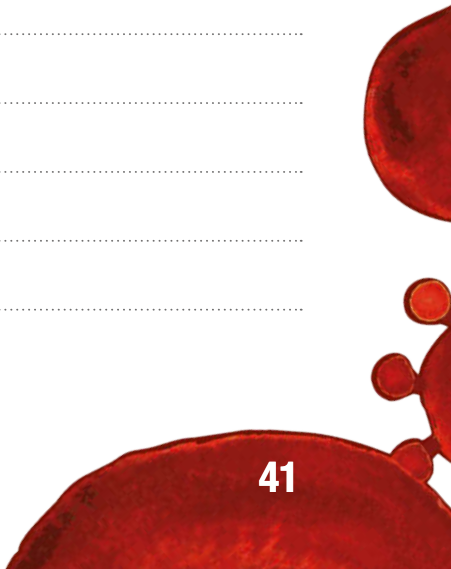
If the rash is accompanied by a fever, yellow discoloration of the eyes and skin or blistering sores on the mouth, the person should report to the nearest clinic for further management.

Cryptococcal infection treatment

» Monitoring and investigating for cryptococcal infection is done at the clinic or hospital.
» Antifungal treatment is used to manage the cryptoccocal infection.
» Antifungal treatment is used to manage the cryptococcal infection and the medication can be continued for a minimum of 12 months and stopped when the CD4 count is > 200cells/mm^3 on 2 separate occasions, taken at least 6 months apart.

If an OI is suspected the person should report as soon as possible to the nearest clinic for further management.

NOTES



TEST YOUR KNOWLEDGE

1. How many WHO stages are there for grading HIV infection?

2. Name 4 OIs commonly occurring in HIV infection

3. How can a person living with HIV/AIDS prevent an OI?

Score

CHAPTER 6 - HOW IS HIV DIAGNOSED

Key Points

- A diagnosis of HIV infection can only be made if a person is tested
- Everyone who has an HIV test should receive counselling before and after the test
- The tests used in South Africa are :
  - Antibody tests (HIV Rapid, ELISA)
  - Antigen tests (HIV PCR)
- The Window Period is the period between time of infection and the point at which evidence of infection is detected

A diagnosis of HIV infection can only be made if a person is tested. Very few individuals actually get tested within the first few months after infection, therefore there is a lag between infection with HIV and actually making a diagnosis.

Encouraging people to test regularly for HIV prevents a delay in diagnosis and gaining access to treatment.

COUNSELLING

Counselling is a structured conversation with a purpose, between a counsellor and client. Together they explore feelings and options in order to help the clients resolve their problems. The conversation is governed by ethics and values within counselling.

Everyone who has a HIV test should receive counselling BEFORE and AFTER the test.

Goals of pre-test HIV counselling

- To address all the myths and misconceptions about HIV/AIDS
- The counsellor informs/educates the client about the difference between HIV and AIDS
- Prepares the client to deal with either a positive and/or negative HIV result
- Establish the support system and disclosure
- Possible reaction to the positive or negative result
- Educate about window period and re-testing

Topics covered during Pre- and Post-Test Counselling	» How HIV is transmitted » What are the risks of HIV and how it can be prevented » Importance of diagnosing HIV early » The HIV testing process » Importance of involving the partner in testing » The meaning and implications of a negative result including the window period » The meaning and implications of a positive result including management options » Support systems and who to disclose to » Confidentiality of the test result

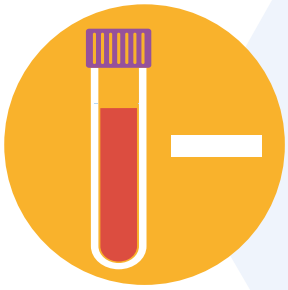
If the client refuses to test then they are encouraged to come back another time- HCT is a voluntary process

Post-test Counselling:

Post-test counselling involves giving the client either a negative or positive result and the topics that were discussed during pre-test counselling must be re-emphasised.

For a Positive Result:

- The result is provided in a way the client understands
- Discuss possible emotions they may feel (e.g. denial, anger)
- Provide information on:
  - Reducing the risk of HIV transmission to others by being faithful to one partner and using a condom
  - How to manage HIV and maintain a healthy lifestyle
  - Disclosure of HIV status – Explore if the client will disclose the result to anyone
  - Information on support services and refer if necessary
  - Plan for ongoing care



For a Negative Result:

- Provide result clearly
- Explain the window period and the need for re-testing in 3 months
- Provide comprehensive information on HIV prevention including:
  - medical male circumcision-reduces the risk of contracting HIV
  - correct and regular use of condoms
  - being faithful/abstaining from sex

HIV TESTS

HIV Counselling and Testing (HCT) is offered at all public health facilities. Blood is usually tested but samples from the inside of the mouth or urine can also be used.

The tests used in South Africa to test for HIV are:

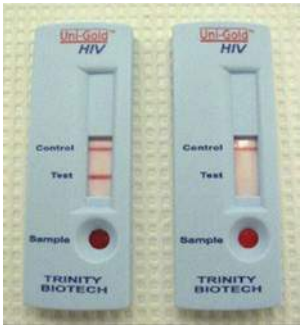
» Antibody tests (HIV Rapid, ELISA)

» Antigen test (HIV PCR)

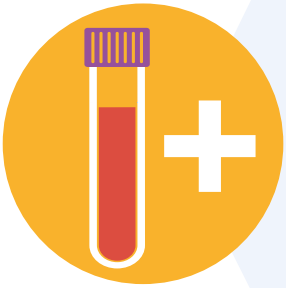
Antibody: These are the 'bullets' that the immune system produces to fight the foreign substance

Antigen: Foreign Substance

HOW ARE THE TEST RESULTS INTERPRETED?

Test	How does the test work?	Who can have the test?	How is the test done?
HIV RAPID 	Detects **HIV antibodies**	» Adults » Adolescents » Children 18 months or older	» It is done in the clinic by a trained healthcare worker. » A finger prick is done and a drop of blood is put onto the test strip » A chemical is added and then the result is read after the specified time period » The process can take between 20-30 minutes
ELISA 	Detects **HIV antibodies**	» Adults » Adolescents » Children 18 months or older » Confirmation of rapid HIV test result	» A blood specimen is taken from a vein into a blood tube and is sent to the laboratory to confirm a rapid test » Results are available within a week » ELISA is **more sensitive** in detecting HIV antibodies than the HIV Rapid

HIV PCR 	Detects **HIV antigen** (genetic material of the virus)	» Children less than 18 months old » not done in adults as it is not as accurate as antibody tests	» Blood is drawn from the child via a toe or a finger (for children 9 months and older) or heel prick (for children younger than 9 months old) and sent to the laboratory » Blood is either collected in a blood tube or onto a dried blood spot (DBS) card and is sent to the laboratory for testing. » Results should be available in a few days



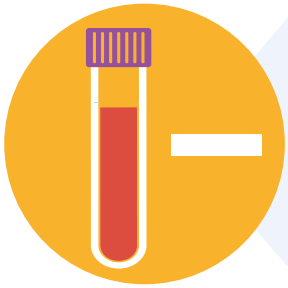
Positive Result:

» A positive HIV PCR result in children< 18 months indicates that the child is infected with HIV, as the HIV 'antigen' or 'germ' has been detected by the test.

» A positive HIV Rapid / ELISA in Adults, Adolescents, Children >18 months indicates that the person is infected with HIV, as antibodies against the virus has been detected by the test.

› Positive test results should be confirmed with a second test.

› Persons with a positive result should get access to HIV medical care and treatment.



Negative Result:

» Either the person does not have an HIV infection, or

» The person became infected recently and has not produced enough antibodies to be detected by the test.

» The test should be repeated in 3 months.

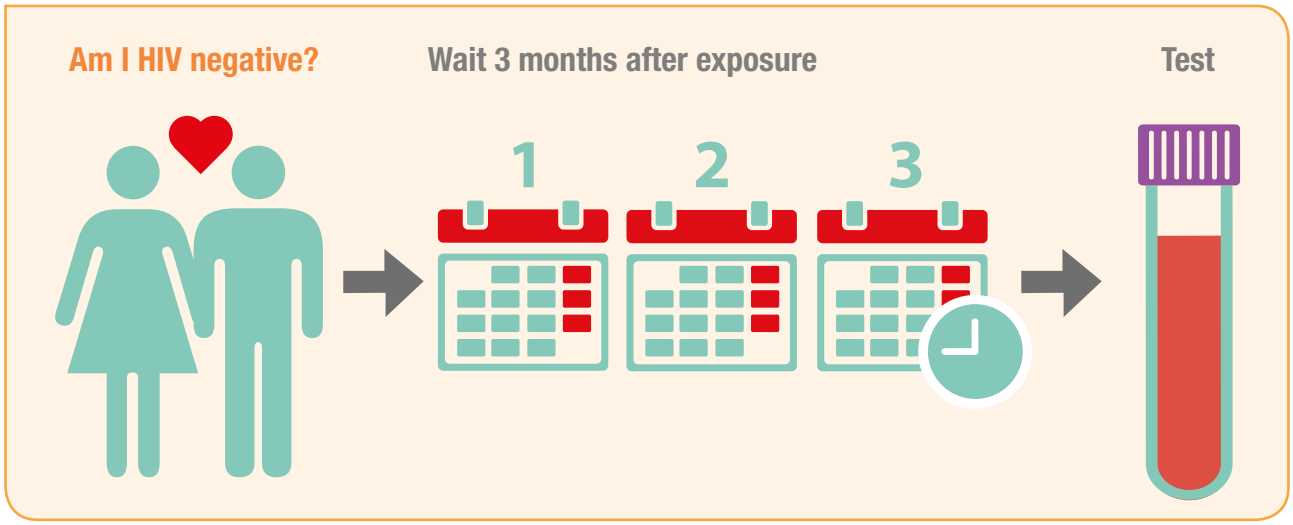
Indeterminate Result:

- Means that the test is inconclusive and it is not possible to tell from this test if the person is infected or not.
- The person is in the window period (sero-converting)
- There are certain conditions that cause the test result to be inconclusive such as pregnancy, certain vaccinations, auto-immune diseases, kidney diseases and dialysis, some types of cancer
- The test should be repeated in 3 months or an ELISA antibody test can be done.

WHAT IS THE WINDOW PERIOD?

- After a person is infected with HIV, it takes 2 - 6 weeks before the body responds and produces antibodies.
- If an HIV antibody test is done in someone with HIV infection before antibodies are formed, the test will be falsely negative
- This period is called the Window Period
- The ELISA and Rapid tests look for antibodies in the blood
- By 3 months, most people infected with HIV will have enough antibodies in their blood so that it can be picked up by the test
- Should the test result be negative, the patient is asked to come back for another test three months later. This is done to make sure the patient was not in the window period when tested.

Window Period: Period between time of infection and the point at which evidence of infection is detected



NOTES

TEST YOUR KNOWLEDGE

1. **What is the difference between a counselling session and a conversation with a friend about HIV?**

.....

.....

2. **Name 4 things that will be discussed during the pre-counselling session.**

.....

.....

.....

.....

3. **What are 2 main take home message for the client after they have tested and their result is:**

A. Test negative

.....

.....

B. Test positive

.....

.....

4. **Which tests are used to detect HIV infection?**

.....

.....

5. **Which test is used to test children at 6 weeks? Tick the correct answer**

a) HIV PCR ..... b) HIV Rapid test .....

6. **Which tests are used for a) children above 18 months, and b) in inconclusive adult's results?**

a) ..... b) .....

7. **What is the window period?**

.....

.....

8. **When should the HIV test be repeated if you suspect that the person may be in the Window Period?**

.....

.....

Score .....

CHAPTER 7 - WHAT IS WELLNESS?

Key Points

» Wellness is the time period between when a person is diagnosed with HIV until they qualify to start ART

» The following screening or treatment may be given during Wellness:

› Cotrimoxazole – to prevent PJP, Toxoplasmosis, Malaria and bacterial infection

› Isoniazid Preventive Therapy- to prevent active TB disease

› Vitamins and minerals

› Flu vaccination

› For HIV infected women, a Pap smear is done yearly

This is the time period between when a person is diagnosed with HIV until they qualify to start ART.

During Wellness the following should be advised:

At the regular clinic visits the following is done:

» Monitoring of **weight**

» Full examination for any opportunistic infections **(staging)**.

» People with a low CD4 count are at higher risk of opportunistic infections. **TB screening** is done at each visit because it is the most common opportunistic infection.

» The **CD4 count** must be checked 6 monthly during the wellness period. This will indicate if ART or other preventive medication should be started.

» This is also the time people are being prepared for starting ART. **Adherence counselling** is done.

» Ongoing education on **healthy lifestyles** i.e. good nutrition, avoidance of substance abuse, exercise and safe sex practices is given.

The following screening or treatment may be given during the Wellness Phase:

Cotrimoxazole is an antibiotic that is used to prevent PJP, Toxoplasmosis, Malaria and bacterial infection.	IPT is used to prevent active TB disease	Vitamin and mineral supplements	Flu Vaccine	Pap Smear is a quick and painless procedure to test for cancer cells at the mouth of the womb, it is performed annually

NOTES

TEST YOUR KNOWLEDGE

1. What is wellness?

2. What do we use Cotrimoxazole for?

3. What do we use Isoniazid for?

Score

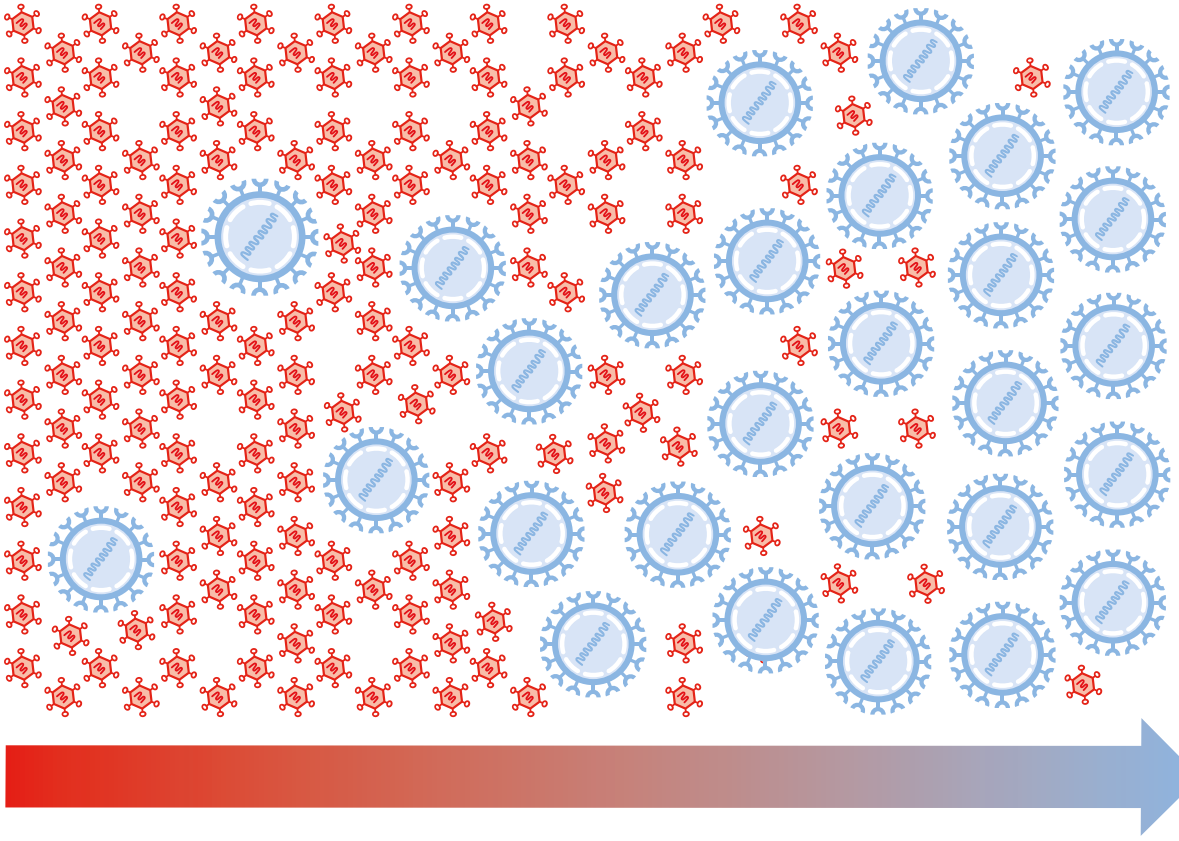
CHAPTER 8 - TREATMENT FOR HIV INFECTION

Key Points

- Antiretroviral Therapy (ART) is medication provided to HIV infected persons to treat HIV and prevent viral replication
- The goals of ART is to increase the number of CD4 cells in the body, and to decrease the levels of the virus in the blood
- Taking ART is a lifelong commitment, ART is not a cure for HIV/AIDS
- Standard treatment consists of a combination of at least three antiretroviral drugs in a single tablet, called fixed dose combination (FDC)
- Immune Reconstitution Inflammatory Syndrome (IRIS) occurs in HIV infected persons with a severely weakened immune system and very low CD4 counts after starting ART

Antiretroviral Therapy (ART) is treatment provided to HIV infected persons using anti-HIV drugs. ART has the potential both to reduce death and illness rates among HIV-infected people, and to improve their quality of life.

What are the Goals of ART?



Increase the number of CD4 cells in the blood, AND Decrease levels of the virus in the blood

Taking ART is a LIFELONG commitment; ART is NOT A CURE for HIV/AIDS

When to Start Treatment

According to the South African National HIV Guidelines ART is started in adults when:		
CD4 ≤ 500	Severe or advanced HIV disease, WHO stage 3 and 4	Irrespective of CD4 count or clinical stage if: » Active TB disease » Known Hepatitis B viral Infection » Women who are pregnant, breastfeeding or one year post-delivery

Treatment for HIV Infection

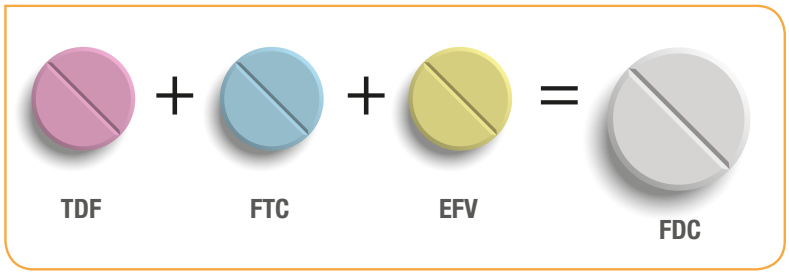
The **standard treatment** consists of a combination of at least three drugs – Antiretroviral Therapy (ART) that suppress HIV replication.

Currently in the public sector **a single tablet, called fixed dose combination (FDC)** is provided to patients.

Each FDC tablet has 3 drugs namely:

» Tenofovir (TDF)
» Emtricitabine (FTC) and
» Efavirenz (EFV)

This 'single tablet' treatment makes it easier for patients to take medication, only one tablet is needed to be taken at night.



Does everyone take the same treatment?

NO!!!

In some cases, the patient may have a medical condition e.g. kidney disease, that does not allow them to take the FDC. In these cases, three separate drugs will be given.

Children and adolescents ≤15 years receive treatment that is different from that received by adults.

All treatment works in the same way; it stops the virus from replicating.

In order for the treatment to be successful, the correct dose of the medication should be taken daily

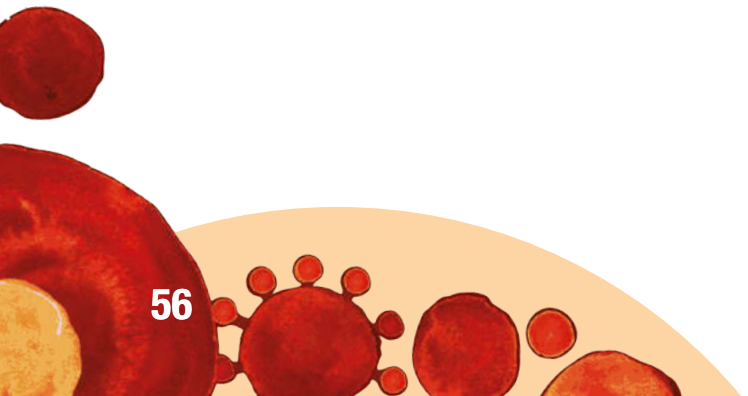
What are the Side Effects of treatment?

Side effects are the unplanned results of having taken a drug. Usually, a side effect is unwanted. It can be mild or severe. This may also happen with ART.

Some examples of side effects of ART are:

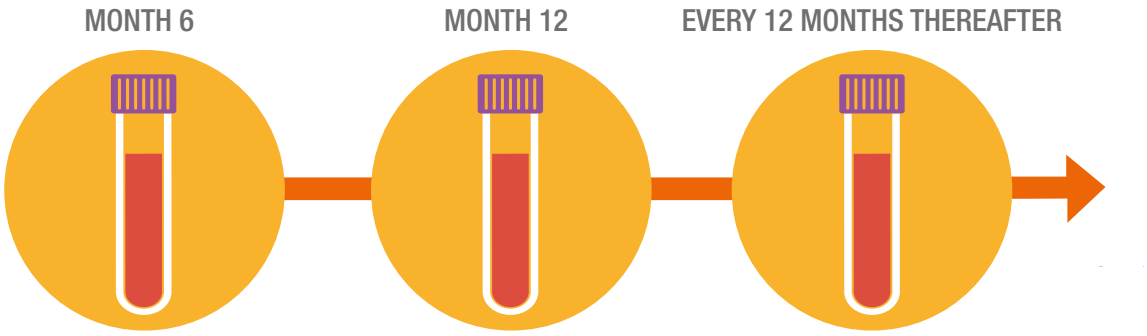
- Nausea and vomiting, stomach cramps and diarrhoea
- Nightmares
- Tingling of hands and feet
- Pale skin due to drop in red blood cells
- Skin rashes which could be mild or severe
- Headaches
- Fever
- Kidney problems
- Yellow eyes or skin

Should a person taking ART experience any of the above mentioned side effects, they should report immediately to the nearest clinic



Viral load monitoring of Adults and Adolescents ≥15yrs on ART

The Viral Load is used to monitor patients on ART, the test is able to detect early if the treatment is working or if the patient is not taking their treatment as prescribed.



IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME (IRIS)

What is IRIS?

- Normally when someone has an infection, many of the symptoms of the infection are as a result of the immune system fighting the infection. Due to the weak immune system of HIV infected persons, the body is unable to recognize and respond to infections that are present.
- After ART is started, the number of CD4 cells increase and the immune system begins to recover. The body is then able to respond to infections. Severe symptoms then occur either from a new infection or a previous infection that has returned, making the patient very ill.

When does it occur?

- It occurs in some HIV infected persons on ART who have a severely weakened immune system, with very low CD4 counts. This may happen within a short period after initiation of ART, usually within a week to three months.

What symptoms are associated with IRIS?

Symptoms depend on the particular infection the patient suffers from.

- General symptoms of IRIS can include:
  - Fever
  - Abscesses
  - Pneumonia
  - Liver and skin problems
  - Swollen lymph nodes
  - Problems of the nervous system
- One of the infections most commonly associated with IRIS is TB
- In order to prevent IRIS, if opportunistic infections show symptoms, this should be investigated and treated before starting ART. Careful monitoring of newly initiated patients with very low CD4 counts is required to detect IRIS early.
- Suspected IRIS is managed by HCW

NOTES

TEST YOUR KNOWLEDGE

1. What is the fixed dose combination (FDC)?

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.....

.....

2. What are the names of the ARV drugs that are in the FDC?

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.....

.....

.....

3. Which patients do not qualify for the FDC?

.....

.....

.....

4. Complete the following acronym: (What do the letters represent…)

I .....

R .....

I .....

S .....

5. Which disease is most commonly associated with IRIS?

.....

.....

.....

Score .....

CHAPTER 9 - HIV IN PREGNANCY

Key Points

- Prevention of transmission of HIV from mother to child starts during pregnancy, continues during labour and birth and lasts until the mother stops breastfeeding
- Transmission of HIV from mother to child can be eliminated by ARV treatment initiation of the mother on the same day as the positive HIV test result
- For pregnant HIV negative woman, repeat testing 3 monthly

Risk of transmission

- Approximately 20-40% of HIV Exposed Infants (HEI) born to HIV infected mothers, will acquire the infection.

Transmission from mother to child

- The risk of babies getting HIV from their mothers happens during:

Pregnancy
= **10% RISK**

Labour and delivery
= **60% RISK**

Breastfeeding
= **30% RISK**

Therefore prevention of transmission from mother to child starts during pregnancy, continues during labour and birth and lasts until the mother stops breastfeeding. **The only way to know for sure that a child has not contracted HIV from the mother is at the age of 18 months when the final HIV rapid test is done.**

Factors that increase the risk of HIV infection during Pregnancy:	Factors that increase the risk of HIV infection during labour:	Factors which increase the risk of HIV infection postnatally are:
» Unprotected sex causing re-infection » Non adherence to ARVs causes the VL to increase so the chance of transmission also increases.	» Breaks in the infant's skin results in direct exposure to infected blood » Ingestion of maternal blood » Procedures that increases blood flow during labour and delivery e.g. cutting perineum to open birth canal.	» Cracked nipples, sores and boils on the mother's breasts » Baby with sores in the mouth » Mixed feeding before baby is 6 months old » Unprotected sex causing reinfection » Non adherence to ARVs causes the VL to increase so the chance of transmission also increases.

How can transmission of HIV from mother to child be eliminated?

» HIV infected Pregnant mothers are encouraged to **book early** in antenatal care so that they can be put onto the Elimination of Mother to Child Transmission (EMTCT) programme.

» All **pregnant women** should be encouraged to be tested if their status is unknown.

» If found to be HIV positive, ARV treatment should be initiated on the same day, no pregnant women are supposed to be turned away from the clinic.

When do we test pregnant women for HIV?

Pregnant women should be tested for HIV AT their FIRST BOOKING. They need to be counselled first before the HIV test.

How is HIV Counseling and Testing done?

Group pre-counselling	Generic information given to all pregnant women in order to save time
↓	
Individual pre-test counselling for HIV	Individual questions and concerns addressed
↓	
Post-test counselling	Results are given to those who agreed to be tested

If a pregnant woman tests HIV negative, what do we do?

» **Counsel** about condom use, partner testing and testing of other children

» **Repeat testing** is done as follows:

  › 12 weekly after first test

  › at labour/delivery regardless of when the last test was done

  › at 6 weeks post natal at the immunization visit

  › 3 monthly while breastfeeding

  › then at least annually

» The **3 monthly testing** whilst breastfeeding should be aligned with **immunization** visits where possible

If a pregnant woman tests HIV positive, what do we do?

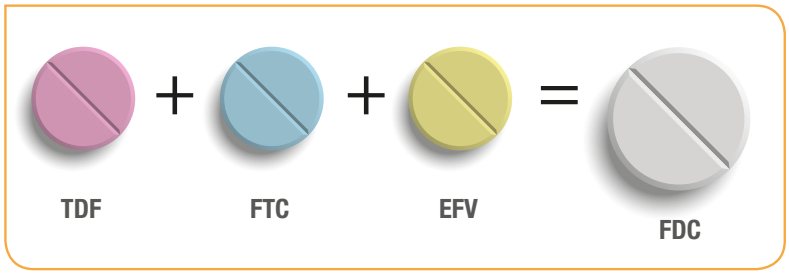
» All HIV positive pregnant women should receive ART in the form of **fixed drug combination** (FDC) consisting of:

  › Tenofovir

  › Emtricitabine

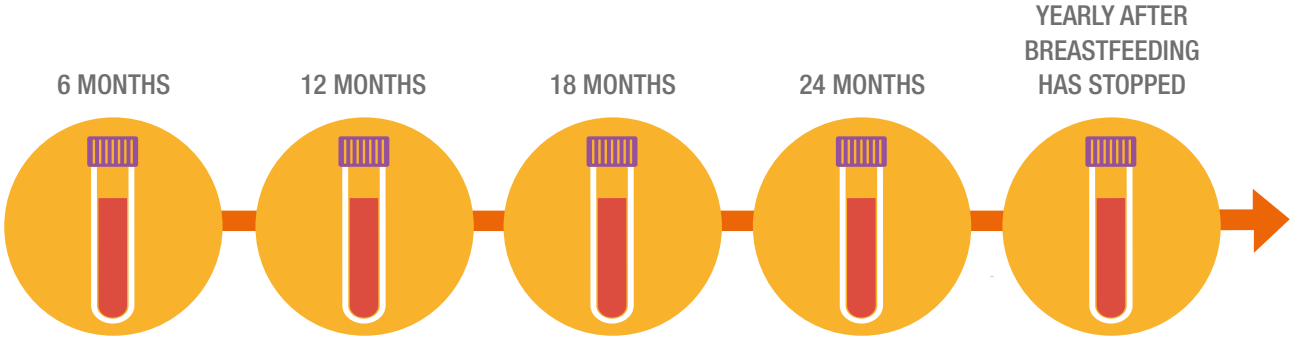
  › Efavirenz

» This allows for a single tablet to be taken daily. As previously discussed, in some cases, the patient may have a medical condition eg kidney disease, that does not allow them to take the FDC. In these cases, three separate drugs will be given.



Viral Load Monitoring of Pregnant HIV infected women

Viral load monitoring is performed 6 monthly for pregnant and breastfeeding HIV infected women. Once breastfeeding has stopped the viral load is monitored yearly.



NOTES

TEST YOUR KNOWLEDGE

1. **Answer: True/False**

   All pregnant women should be encouraged to be tested for HIV if their status is unknown .....

2. **What is the percentage of risk for HIV infection from:**

   a. Breastfeeding: .....

   b. Pregnancy: .....

   c. Labour and delivery: .....

3. **When is HIV testing done for pregnant women?**

.....

.....

.....

4. **Which ARVs are prescribed for pregnant women?**

.....

.....

.....

5. **At what intervals are pregnant women who initially test HIV negative retested?**

.....

.....

.....

Score	

CHAPTER 10 - HIV INFECTION IN INFANTS AND CHILDREN

Key Points

- Children are born with an under developed immune systems and are unable to fight off infection effectively
- Mother to child transmission is the major cause of HIV infection in children
- For HIV exposed babies, the first HIV test is done at birth
- HIV treatment differs for children according to their age

According to the NDOH guidelines the following definitions apply:

Infant:
younger than 1 years of age

Child:
10 years of age and younger

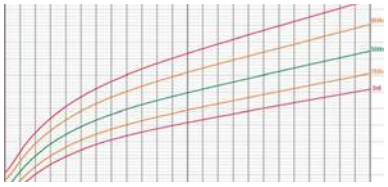
The immune system in children

- Children are born with an **under-developed immune system**. It develops over time as the child grows. Due to this, the immune system is unable to **fight off infections effectively.**
- During pregnancy, **antibodies are transferred from the mother to the baby** through the placenta (afterbirth) to help the baby's immune system to cope after birth. If the mother is HIV-infected, the baby is exposed to HIV and is referred to as an HIV-exposed infant (HEI).
- As they have not yet been tested for HIV, their status is not known. The antibodies that are transferred from the mother to the baby include HIV antibodies. In a small number of cases, in addition to antibodies, the virus itself may also cross the placenta, and the baby may become infected. This is one of the ways that the mother may transmit HIV to the baby.
- The under-developed immune system, the high viral load and the low CD4 count, leave the baby's weak body defenseless against opportunistic infections. **If HIV is not diagnosed early and ART is not initiated immediately, the infant may die before 2 years of age. Viral loads are higher in the first year of life and decline to adult values by 5 - 6 years of age.** The higher the viral load, the faster the child develops AIDS.

How do children get infected with HIV?

Mother to child transmission is the major route of HIV infection in children	» During pregnancy » During delivery » During breastfeeding
A child can also get HIV infection through:	» Sexual abuse » Wet nursing (this is when a person who is not the biological mother breastfeeds a baby)
Pre-mastication	» An adult chewing baby's food to soften it before feeding it to the baby if the mother has sores, bleeding gums or lesions in the mouth. The food may contain the contaminated blood

What are the presenting signs of HIV in children?



Low weight for age:

» Weight loss is the first sign that the child is not well. Check if the weight is below the expected weight for the child's age using the Road To Health (RTH) Booklet

Unsatisfactory weight gain

» The child is not gaining weight as expected. Check the weight gain using the RTH Booklet.

Infections (any and especially if recurrent)

» **Tuberculosis:** 40% of children with TB have HIV

» **Pneumonia now:** Has the child got a chest infection at that moment?

Ear Discharge ever:

» Has the child had discharging ear/s now or before

Persistent diarrhoea now or in the past?

» Diarrhoea now or in the past 3 months, lasting more than 3 - 5 days and not responding to Oral Rehydration Solution (ORS)

» Diarrhoea which stops and starts

Oral thrush outside of the neonatal period (birth-1 month of age)

» Has the child got white sores/covering in the mouth?

» Are these persistent despite treatment?

» Do these sores reappear?

Swollen lymph glands

» Does the child have swollen lymph glands in 2 or more sites?

Enlarged Painless Parotid Glands

» Has the child got enlarged parotid glands? The enlargement happens usually on both sides of the face and usually for more than a month

Which infants and children should be offered HIV Counselling and Testing?

All HIV-Exposed Children: Infants and Children born to mothers that are HIV positive

Could have been infected during pregnancy, delivery or breastfeeding

Mother's Status Unknown

- Abandoned Child
- Mother refuses to test
- Mother demised

Symptomatic Children

- Children presenting with signs of HIV infection as described on page 66 and 67

Sexually Abused Children

Wet Nursed Children

- HIV can be transmitted through breast milk

Children up for adoption

- To prepare adoptive parents with the required knowledge needed to care for the child appropriately

Death of a sibling or parent

- May have died of HIV related causes

All children (at all times) with:

- Clinical features suggestive of HIV infection
- Acute, severe illness
- IMCI classification of *Suspected symptomatic HIV infection*
- IMCI classification of Possible HIV infection
- TB diagnosis or history of TB treatment

According to the Department of Health, HIV testing should be done for all HIV-exposed children at the following points:

At Birth: HIV PCR test	10 weeks: HIV PCR test	18 weeks: HIV PCR test (for infants on 12 weeks of NVP Prophylaxis)
6 weeks post breast feeding cessation	18 month: HIV Antibody Test	At any point if the child is symptomatic

What About ART Prophylaxis for HIV exposed infants?

» All HIV-exposed children should receive prophylactic Nevirapine (NVP) from birth until 6 or 12 weeks after delivery to prevent them from contracting HIV infection.

» Some high risk infants may require dual prophylaxis with two antiretroviral drugs.

» ART prophylaxis is provided in the following cases:

If the mother is receiving ART and her viral load is less than 1000 copies/ml or mother that has been on NVP for more than 4 weeks during pregnancy

» NVP is given at birth and then daily for 6 weeks

If the mother was initiated late in pregnancy and is breastfeeding

» NVP is given daily for 12 weeks

If the mother decides not to breastfeed

» NVP is given to the baby until six weeks

If the mothers status is not known (in the case of abandoned infants/orphans)

» NVP should be given as soon as possible (<72hours) after birth and should be continued until the HIV-exposure status is confirmed

If the mother refuses NVP prophylaxis for the infant

» The mother should be counselled on the risks of mother to child transmission and the benefits of prophylaxis

If the breastfeeding mother tests HIV positive >72 hours post-delivery

» The baby receives NVP and AZT immediately

» An infant PCR is done and reviewed in the clinic in 7 days

» The result will be reviewed at the clinic and the baby will be managed accordingly

» If the mother is receiving ART and her viral load is more than 1000 copies/ml the baby receives NVP and AZT for 6 weeks.

What treatment is provided for HIV infected infants and children?

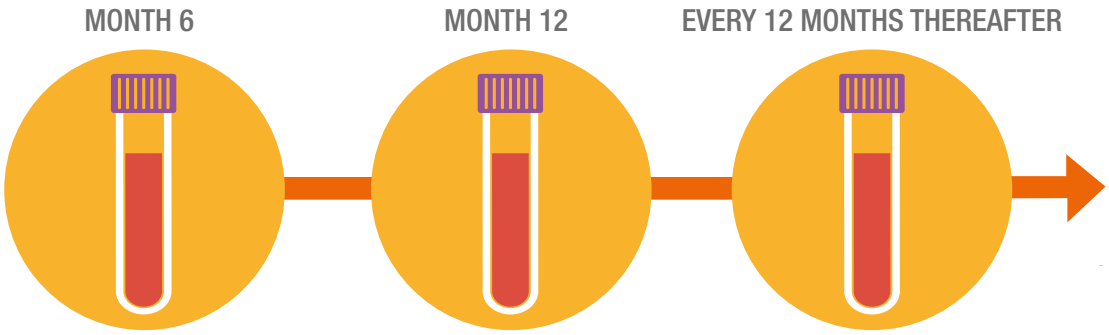
» Triple drug combination is always given as a regimen.

» The combination for children younger than 3 years of age is different from that given to children above 3 years.

< 3years of age or if >3 years of age and weighs < 10kg	» Abacavir + » 3TC + » Lopinovir/ ritonavir
> 3 years of age and weighing > 10kg	» Abacavir + » 3TC + » Efavirenz

In order for the treatment to be successful, the correct dose of the medication should be taken daily

Viral Load monitoring for infants, children and early adolescents on ART



Viral load is repeated in order to identify treatment failure and to identify problems with adherence.

Prophylactic Treatment for Infants

All HIV Exposed Infants

- Initiated on cotrimoxazole at 6 week clinic visit
- For HIV exposed Infants, an age appropriate HIV test must be done 6 weeks after breastfeeding has been stopped. If the HIV test is negative then Cotrimoxazole can be stopped.

All HIV Infected Infants

- Initiated on cotrimoxazole at 6 week clinic visit
- For HIV positive infants, cotrimoxazole is continued until 12 months of age. It can only be stopped once the CD4 count is above/equal 500cell/mm^3 on at least 2 occasions, 3-6 months apart.

All HIV Infected Children

- HIV infected children between 1-15 should also receive cotrimoxazole, for those 1-5 years cotrimoxazole should be provided until CD4 count ≥500cells/mm^3 and for those >5 years cotrimoxazole should be given until CD4 count ≥350 cells/mm^3

If a child on ART becomes ill while on treatment they should be referred to the nearest clinic for further management.

SIDE EFFECTS TO HIV TREATMENT IN CHILDREN

» Children on ART may experience side effects due to the medication

Some examples of side effects of ART are:

» Nausea and vomiting
» Diarrhoea
» Nightmares
» Pale skin due to drop in red blood cells
» Skin rashes which could be mild or severe
» Fever
» The symptoms may start as early as one month after starting ART or as late as 20 months after starting treatment.
» HIV infected Infants may also experience side effects after they have received their BCG immunisation, a collection of pus may develop at the site of the injection.

Babies are checked regularly for side effects while on Cotrimoxazole

NOTES

TEST YOUR KNOWLEDGE

1. What is the duration for ART prophylaxis for HIV exposed infants whose mother is on ART (Viral Load < 1000 copies)

2. When is the first HIV test (PCR) done for HIV exposed infants?

3. Is it important to test infants for HIV after stopping breast feeding? Y/N

4. List 3 instances when a child should be tested for HIV

5. When should cotrimoxazole be given to HIV positive infants?

6. List 3 ways children can be infected with HIV

7. Why are children defenseless to opportunistic infections?

8. When do you expect the Viral Load for an HIV infected child on ART to start dropping?

Score

CHAPTER 11 - NUTRITION FOR HIV INFECTED CHILDREN

Key Points

- Exclusive breastfeeding and avoidance of mixed feeding before six months is recommended
- For HIV positive mothers with an increase in VL or treatment failure a shift from exclusive breastfeeding to replacement feeding may be needed
- Mothers need to be educated on preparation of Oral Rehydration Solution
- It is important to maintain good nutrition because weight loss leads to weakness, lowered immunity and faster progression of HIV to AIDS

Childhood under nutrition has been recognised as a major global health problem. Under nutrition contributes to childhood death and illness especially for HIV positive infants and children.

Infant Feeding for HIV Infected Infants:

Mothers should be encouraged to avoid mixed feeding

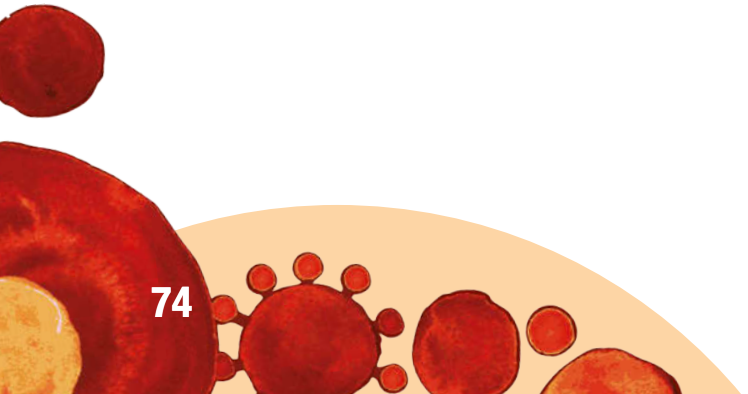
The introduction of other feeds and fluids before six months can cause the child to develop diarrhoea and respiratory infections

Exclusive breastfeeding for the first six months is recommended

For HIV positive mothers that opt for exclusive breastfeeding for the first six months, breastfeeding is initiated within the first hour. Breastfeeding can continue for 12 months for HIV-positive breastfeeding mothers and for 24 months for HIV Infected Infants.

Mothers should practise **correct position** and **attachment** to prevent common breast problems – inflammation of the breast, cracked/ sore nipples.

Mothers should be encouraged to **check** the **infant's mouth** for sores, and should be referred to the nearest clinic for assistance.



Only consider **exclusive replacement feeding** if the following criteria are fulfilled:

Acceptable

Feasible

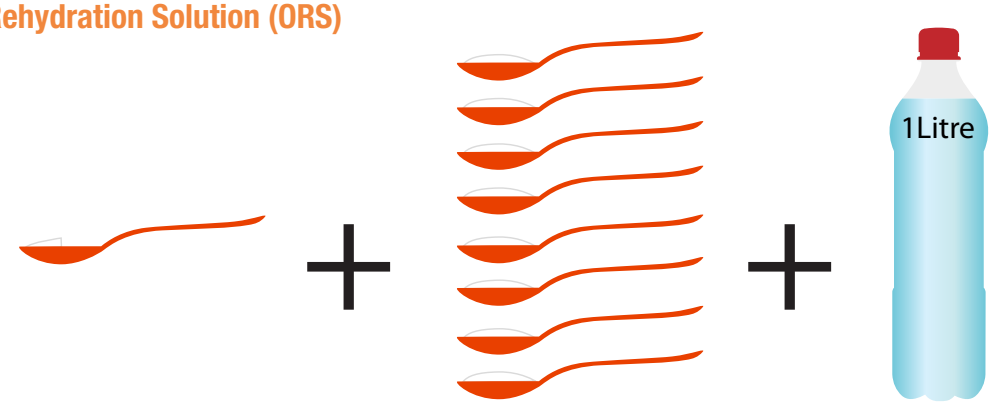
Affordable

Sustainable

Safe

Non-breastfed infants are at increased risk of acute respiratory tract infections, diarrhoea and severe dehydration.

Oral Rehydration Solution (ORS)



1/2 level teaspoon of salt | 8 level teaspoons of sugar | 1 litre of water

It is important to educate mothers on how to make ORS especially if children are being formula fed:

Use 8 teaspoons sugar and 1/2 teaspoon salt
Mix well in 1 litre of water
Store in a clean and covered container in a cool place
Make a fresh solution every day
Advise mother to feed ORS slowly

How do we detect under nutrition/ malnutrition?

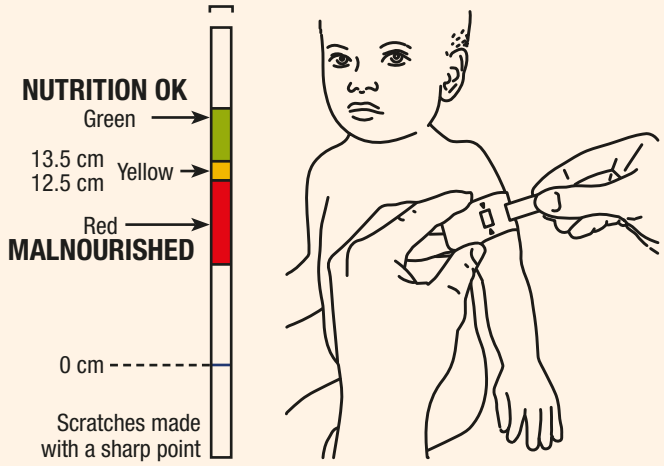
The WHO Guidelines[8] on identifying infants and children at risk of malnutrition strongly recommend early identification through the measure of the **mid-upper arm circumference** of infants and children 6-59 months of age and examine them for **swelling of the feet.**

What is the correct manner to measure the mid-upper arm circumference (MUAC)?

MUAC is a quick and simple way to determine whether or not a child is malnourished using a simple coloured plastic strip. MUAC is suitable to use on children from the age of 12 months up to the age of 59 months. **However, it can also be used for children over six months with length above 65 cm.**

Steps for taking the MUAC measurement of a child

- Determine the mid-point between the elbow and the shoulder as shown on the picture below.
- Place the tape measure around the LEFT arm (the arm should be relaxed and hang down the side of the body).
- Measure the MUAC while ensuring that the tape neither pinches the arm nor is left loose.
- Read the measurement from the window of the tape or from the tape.
- Record the MUAC to the nearest 0.1 cm or 1mm.



If using a 3-colour tape:

a measurement in the green zone means the child is properly nourished
a measurement in the yellow zone means that the child is at risk of malnutrition
a measurement in the red zone means that the child is acutely malnourished

If using a 4-colour tape:

a measurement in the green zone means the child is properly nourished
a measurement in the yellow zone means that the child is at risk of malnutrition
a measurement in the orange zone means that the child is moderately malnourished
a measurement in the red zone means that the child is severely malnourished

How is swelling of the feet detected?

Step 1:

In order to determine the presence of swelling, normal thumb pressure is applied to both feet for three seconds

Step 2:

Indication of swelling of feet – a symptom of malnutrition

If a shallow print or 'pit' persists on both feet when the thumbs are lifted, the imprint indicates presence of swelling. This is the only way to confirm swelling due to a nutritional problem.

Swelling of the feet is due to the retention of water in the tissues of the body. Swelling affecting both feet is a sign of severe acute malnutrition. Children presenting with swelling of their feet must be referred to the closest health centre.

It is important to maintain good nutrition because weight loss leads to weakness, lowered immunity and faster progression of HIV to AIDS

The care giver has to be asked questions about the child's feeding

- How is the feeding going?
- What milk are you giving?
- How many times during the day and night
- How much is given at each feed?
- How are you preparing the milk?
- How is milk being given? Cup or bottle?
- Are you giving any breast milk at all?
- How are you cleaning the utensils?
- What foods and fluids in addition to replacement milk are given?
- Ask caregiver to demonstrate how a feed is prepared and how it is given to baby

Managing malnutrition in children with HIV

» Children that have symptomatic HIV and are malnourished, require additional **nutritional supplements** as they need additional energy.

» Food supplementation as part of the **Integrated Nutrition Programme** addresses the problem of malnutrition in children.

» Food supplementation, RTUF (Ready To Use Formula) is provided for children who are not gaining weight in 2 to 3 consecutive visits on the Road to Health Booklet. In addition to food supplementation, parents and caregivers are provided with information on feeding recommendations. (see Annexure 1)

Children with severe acute malnutrition and any medical complications should be treated in hospital

NOTES

TEST YOUR KNOWLEDGE

1. **How is ORS prepared?**

2. **Answer True/False**

   HIV infected mothers should be encouraged to breastfeed if VL< 1000copies/ml

3. **How would you identify a child with malnutrition?**

4. **For what age group can the colour tape for MUAC be used to detect malnutrition?**

Score

CHAPTER 12 - OFFENDERS AT CORRECTIONAL CENTRES

Key Points

- » It is important to screen offenders for TB as the conditions in Correctional Centres allows for the easy spread of TB infection
- » Screening and voluntary HIV testing and counselling of offenders should be performed at various stages during incarceration
- » Treatment of offenders for both HIV and TB in Correctional Centres is in accordance with existing Department of Health Guidelines

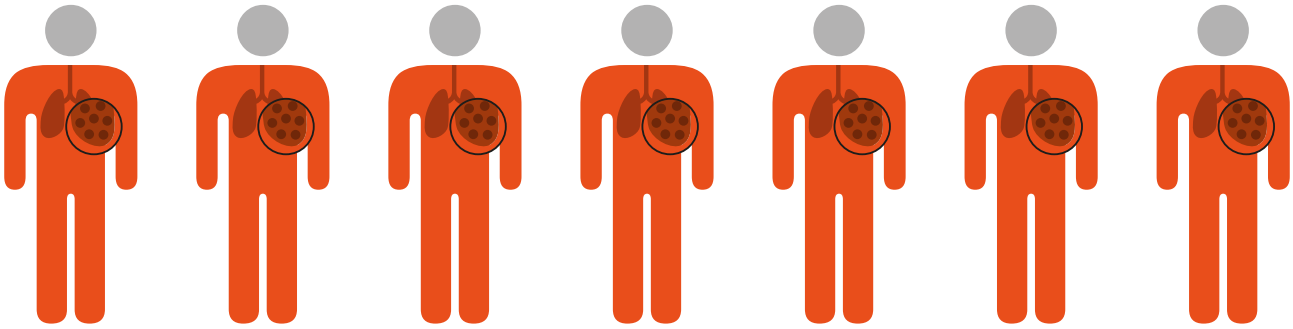
Why is it important to promote HIV testing and TB screening in Correctional Centres?

- » Many offenders are from communities with high rates of TB and HIV
- » They may have undiagnosed HIV infection or may be on HIV treatment which may potentially be interrupted during their incarceration
- » The conditions in Correctional Centres allows for easy spread of TB infection due to over-crowding and poor ventilation.

When should screening and voluntary HIV testing and counselling be done for offenders?

At entry	During incarceration	As per request by offender
As part of routine screening campaigns	As part of integrated primary health care services	On release

Symptom-based TB screening must be conducted on all offenders:



at entry | during TB screening campaigns | self-reported or peer referred | TB contacts | as part of integrated primary health care services | at least bi- annually | on release

HIV and TB for offenders are managed in accordance with all relevant existing Department of Health guidelines

Preventive measures in correctional centres

Health Promotion:

» offenders are informed about TB, HIV and STIs including prevention in their increased risk environment.

TB Screening (Testing):

» Rapid Diagnostic sputum testing (GeneXpert) and chest x-rays are used to reduce delays in confirmation of disease

TB prevention:

» Isoniazid preventive therapy (IPT) is given to all HIV-infected adults who are not on TB treatment; are asymptomatic for TB; have no active liver disease and no history of alcohol abuse, psychosis, convulsions or neuropathy.

» **IPT is given for the duration of incarceration.**

» Children under the age of 2 who are staying with their mothers in incarceration,irrespective of their HIV status, should be getting IPT for the duration of the stay in incarceration.

TB infection control:

- Education of staff and offenders
- Regular screening
- Isolation of TB patients
- Coughing etiquette
- Face masks
- Safe environments for sputum provision
- Natural ventilation where possible and ultraviolet germicidal radiation

HIV prevention:

- Access to condoms and water-based lubricants
- Reducing vulnerability to sexual assault
- Post-exposure prophylaxis with established drug regimens including monitoring of drug safety and potential seroconversion
- Harm reduction programmes to reduce the risk of HIV-transmission related to substance abuse
- Education on risk behaviour and preventive measures with a focus on men having sex with men, and
- Medical Male Circumcision (MMC) - reduces the risk of HIV infection/transmission

HIV- and TB-related stigma

Attempts by the Department of Correctional Services to minimise stigma is done through peer education encouraged by a programme called iACT. iACT focuses on reducing stigma through the use of training and support groups. Information on HIV, TB is provided through games.

iACT -
integrated access to care and treatment

Games -
An interactive learning session on HIV, TB and General Knowledge

What happens if inmates are released or transferred?

Ideally all offenders should continue treatment or be referred for treatment to the nearest healthcare facility.

But this aspect of care still remains a challenge. Once released from Correctional Centres, offenders often fail to follow up for treatment.

NOTES

TEST YOUR KNOWLEDGE

1. **Why is it important to promote HIV testing and TB screening at Correctional Centres?**

2. **When should screening and voluntary HIV testing and counselling be done for offenders?**

3. **List 3 ways that HIV can be prevented at Correctional Centres?**

Score	

CHAPTER 13 - TUBERCULOSIS

Key Points

- Tuberculosis is a major cause of ill-health and death in HIV infected persons
- It is important to diagnose TB early by regularly screening for symptoms
- Isoniazid Preventive Therapy (IPT) is provided for HIV infected persons to prevent active TB disease from developing

Tuberculosis (TB) is the major cause of ill-health and death in HIV infected patients. TB is an infection caused by a bacteria (germ) –Mycobacterium tuberculosis. TB commonly affects the lungs but may also affect the brain, bones, etc. Currently in South Africa 61% of TB patients have HIV.

Interaction between TB and HIV

- HIV changes the common symptoms of TB which makes it difficult to diagnose
- The condition of the patient with TB gets worse more quickly in HIV positive patients than HIV negative patients
- Infection with TB if untreated may lead to death

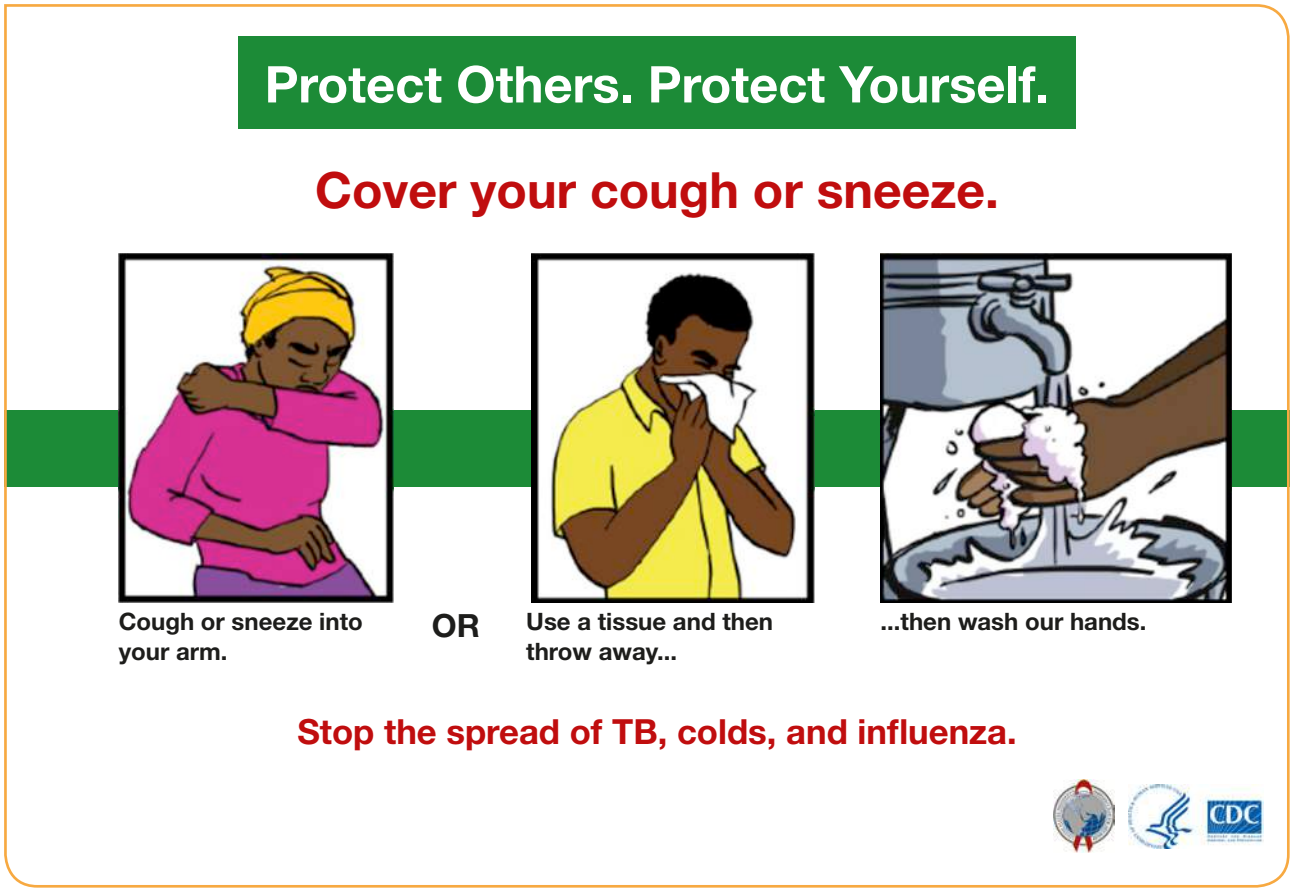
Remember: 'TWO DISEASES, ONE PATIENT'

Challenges of co-treatment of HIV and Tuberculosis

- Adherence challenges of many different medications, making the pill burden high
- Overlapping side effects of TB drugs and ART
- IRIS
- Combined effect of treatment

How is HIV and TB co-infection managed?

- Diagnose TB early by regularly screening clients for TB symptoms, including:
  - cough
  - weight loss
  - fever
  - night sweats
- Treat both TB and HIV using correct regimens.
- Give TB prevention medication (IPT) to the HIV infected patients who qualify to reduce the risk of developing TB. Give ART to individuals with HIV who qualify for it. This will improve the immune system and reduce the risk of getting TB.
- Practice infection control in health facilities and homes



Timing of starting ART and TB treatment

If an HIV infected person is diagnosed with TB, **TB treatment should be started** first followed by ART within an 8 week period- depending on the CD4 count and the type of TB infection.

NOTES

TEST YOUR KNOWLEDGE

1. **Fill in the blanks: It is important to diagnose TB ..... by regularly ..... for symptoms**
2. **A patient who is HIV positive is at an increased risk of getting TB more often than a person who is HIV negative**

   True ..... False .....

3. **What are the 4 questions that we ask when screening for TB?**

.....

.....

.....

.....

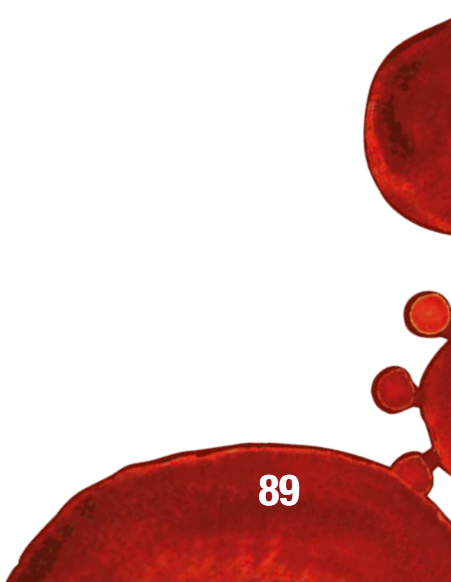
4. **In South Africa ..... % of TB patients have HIV**
5. **What is the benefit of IPT?**

.....

.....

.....

Score .....



CHAPTER 14 - SEXUALLY TRANSMITTED INFECTIONS (STIs)

Key Points

- Common STIs in HIV infection include:
  - Syphillis
  - Gonorrhoea
  - Herpes
- STIs increases the risk of HIV transmission

In all societies, Sexually Transmitted Infections (STIs) are among the most common of all infectious diseases. Certain STIs are common with HIV infection. This includes:

Syphillis

Gonorrhoea

Herpes

STIs such as Genital herpes and syphilis:

» may increase HIV viral load,
» lower CD4 count, and
» hasten HIV disease progression

New sexually transmitted infections are common in HIV-infected persons, therefore regular screening and timely treatment are essential

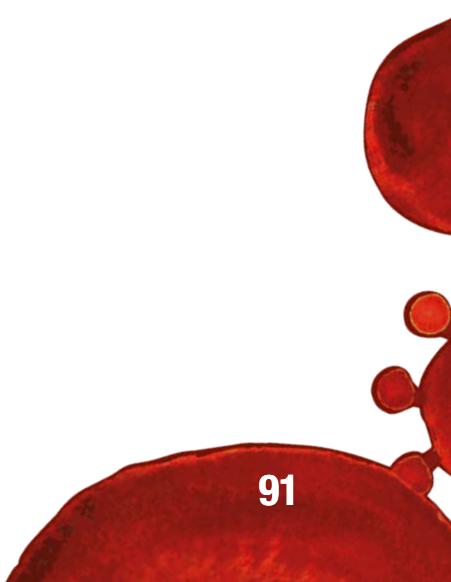
Why does having an STI place a person at higher risk of getting HIV?

» The STI causes irritation of the skin (syphilis, herpes), breaks in the skin or sores, which may make it easier for HIV to enter the body during sexual contact.
» STIs that cause no breaks or open sores (gonorrhoea) can increase the risk of transmission by causing inflammation that increases the number of CD4 cells that can serve as targets for HIV.

Are HIV infected persons with STIs able to transmit HIV more easily to their partners?

YES!

» HIV infected persons with another STI are at greater risk of spreading HIV through sexual contact.
» This appears to happen because there is an increased concentration of HIV in the semen and genital fluids of HIV infected persons with another STI.



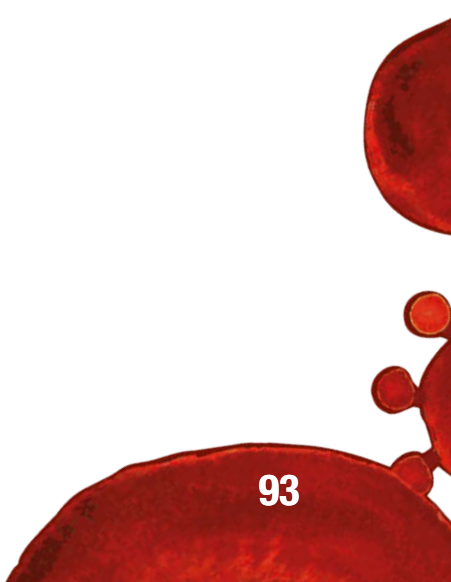
NOTES

TEST YOUR KNOWLEDGE

1. **Name two STIs common in HIV infection**

2. **Why does having an STI increase the risk of HIV transmission?**

Score	



CHAPTER 15 - PSYCHOSOCIAL SUPPORT

Key Points

- Resistance develops when ARVs are not taken as they are supposed to be; ART then has no effect and the CD4 count starts decreasing while the viral load increases
- Adherence is the degree to which a client follows a treatment regimen that has been designed in a consultative partnership between the client and healthcare professional/counsellor
- Adherence to treatment prevents resistance to ART from developing
- It is important to encourage HIV infected persons to disclose their HIV status as this will help improve adherence

ADHERENCE

HIV is a very intelligent virus. When drugs are not taken as they are supposed to be, the virus changes its shape and the drugs will not be able to work on the new form. The virus is then free to multiply and increase in number. Soon the drugs have no effect and the CD4 count starts decreasing while the viral load increases. This is called **RESISTANCE.**

What is adherence?

The degree to which a client follows a treatment regimen that has been designed in a ***consultative partnership*** between the client and healthcare professional/counsellor.

Why is adherence to treatment important?

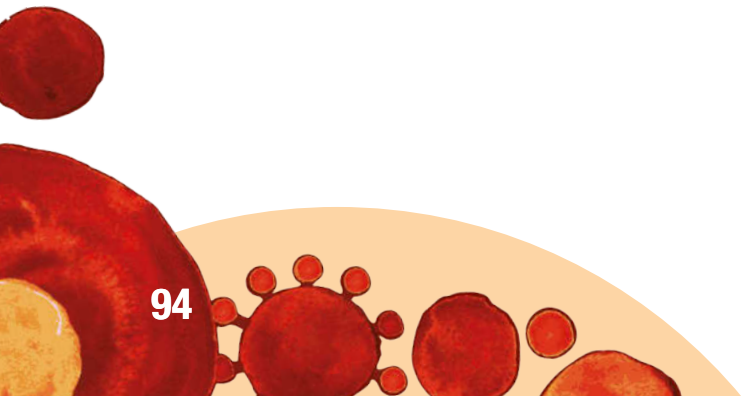
Adherence is important because it affects how well the treatment is decreasing the virus in the body.

Adherence to treatment prevents resistance to ART from developing. If the ARVs are not taken in the way that they were prescribed, drug resistance can develop.

In order to treat 'Drug Resistant HIV', a greater number of tablets need to be taken to stop the virus from replicating and as a result there are more treatment side effects.

What is non-Adherence?

Adherence goal is more than 95% of doses taken (only one dose missed). Patients with adherence less than 80% require more adherence support and are considered non-adherent to treatment.



These patients may be:

- Missing one dose of a given drug
- Not taking all the tablets at the same time
- Missing a whole day of treatment

Patients who are non-adherent to treatment are at risk of treatment failure.

Factors Affecting Adherence

There are 5 well documented dimensions/factors that influence adherence to treatment.[11] These are:

Healthcare systems	Patient-related	Condition-related
Cultural Beliefs	Therapy-related	Social/Economic

Health Systems-related factors

- Poorly developed health services
- Poor medication distribution systems
- Lack of knowledge and training of health care providers
- Overworked health care providers
- Short consultations
- Inability to educate patients and provide follow-up
- Poor knowledge on adherence and effective interventions for improving adherence
- Clinic setting - stigmatising HIV positive patients

Patient-related factors

- Forgetting to take medication and deliberately skipping treatment on some days
- Low level of knowledge on health related issues
- Denial and non-acceptance of HIV status
- Discrimination, shame, poor self-image

Condition-related factors

- This represents certain illness-related demands that the patient faces
- Severity of the symptoms
- Level of disability – physical, psychological, social
- Disease characteristics
- Rate of progression and severity of the disease
- Availability of effective treatment

Cultural Beliefs

- Attitudes of traditional healers to ART
- Perceptions of western medicine versus traditional medicine
- Religious beliefs

Therapy-related factors

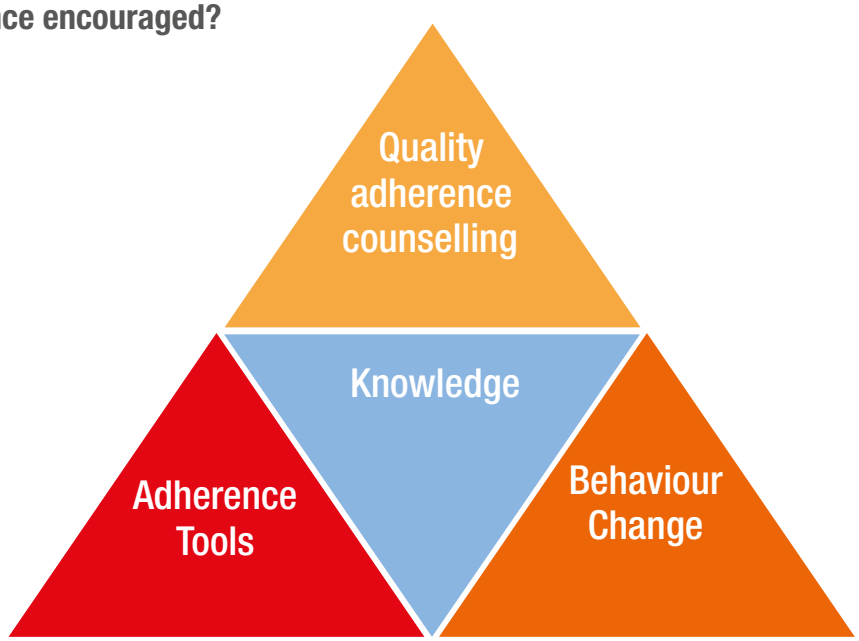
- Pill burden
- Formulations
- Palatability (taste of the medication)
- Twice daily dosing frequency
- Relation to food
- Side effects
- Storage
- Complicated treatment regimen

Socio-economic-related factors

- Poverty - low social support, unemployment, homelessness
- Food insecurity
- Taxi fares
- Orphans and vulnerable children

Non Adherence should not be looked at as a single factor problem, as it may be multi-dimensional and probably not due to patient related factors

How is adherence encouraged?



Quality Adherence Counselling

- Spend time with the patient and work on the goals of therapy
- Negotiate treatment plan
- Discuss need for avoidance of alcohol and drugs while on treatment

Adherence Tools

- Support groups
- Use of pillboxes
- 'Treatment buddy'

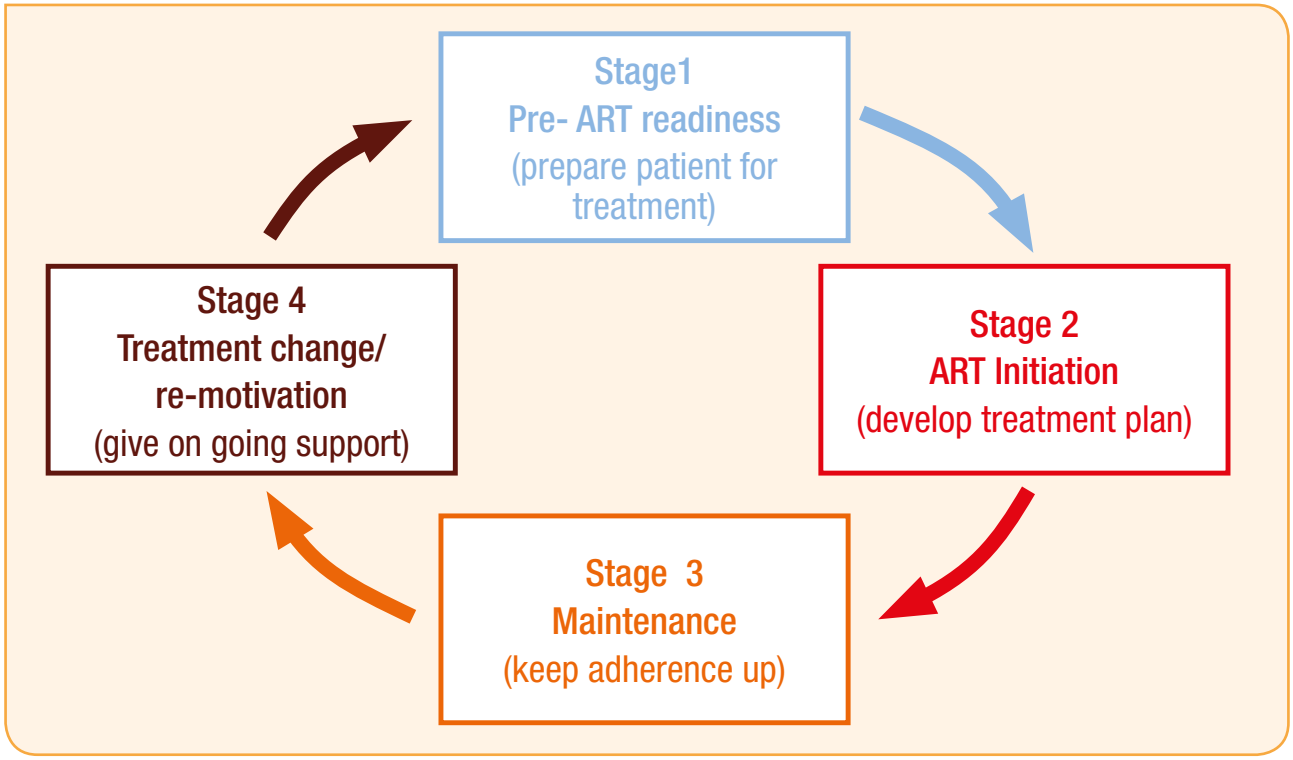
Knowledge

- Explain the benefits of taking treatment
- Involve caregiver/family if possible

Therapy-related factors

- Acknowledge/praise patients adherence
- Educate on risks of not taking meds
- Discuss fears and concerns
- Encourage the patient

Stages in Adherence Counselling



Adherence counselling in Children

Approach to Adherence Counselling in Children

- Ask what is the relationship between the child and the person bringing the child to the clinic to avoid unwanted disclosure
- If the person is not the main caregiver, find out about where the main caregiver is
- Always make sure that the caregiver receives thorough counselling and preparation, because support is needed by the caregiver
- Identify a single caregiver who will take responsibility for the child's treatment
- While one person should take responsibility, a treatment supporter will help when the caregiver cannot give treatment. This person should also receive adherence counselling
- When there is more than one caregiver looking after the child, ensure adequate communication between them and consider a joint counselling session

DISCLOSURE

Encouraging persons living with HIV/AIDS to share their HIV status with those they trust—such as family members, friends, and children. They can help with the stresses of having HIV, and can actually improve their overall health. Disclosure of the HIV status to the healthcare provider is important to make sure that persons living with HIV/AIDS receive the best care.

Why disclose?

- To avoid unwanted/unprepared disclosure
- It helps to improve adherence
- The person disclosed to can agree to supervise treatment
- The caregiver has dealt with or will be able to deal with issues that may arise when the child is disclosed to

What are the benefits of disclosure?

- Improved knowledge of HIV
- Answer unanswered and unknown questions
- Access to ART is made easier
- Helps to improve adherence
- Gives a chance to deal with possible blame for caregiver and child
- Gives a child confidence and determination to adhere to treatment

Who discloses to a child?
The parent or caregiver is the one who discloses to the child

When are children disclosed to? (see Annexure 3 for Strategies for disclosure to children)

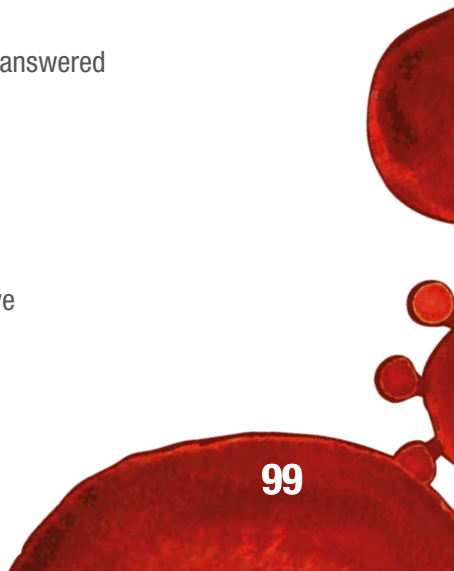
- At any age when they are able to understand
- When they start asking questions
- Full disclosure is done when at a maturity level to clearly understand
- On assessment, when they are ready, both the child and the caregiver

What are barriers to disclosure?

- Age/maturity: the child may be at an age to understand but may still not be mature enough
- Non-adherent to ART: this may not be the right time to disclose as the person will have many things to deal with
- Not a good time to disclose when the caregiver is angry with the child or when the caregiver and/or the child are not ready
- Lack of understanding about ART/HIV in both the caregiver and/or the child

What is the best way to manage delayed disclosure?

- Peer counsellors/support groups are recommended, given the importance of peer relations at this stage
- Accurate and more detailed information can be given in response to questions
- Realistic information about health status should be given and all pending questions be answered
- Be sure to ask/discuss adolescents' feelings and fears about HIV
- It is important to assure them about confidentiality
- A normal adolescent striving for independence may decline adherence
- Should make his own decisions on the matter
- Assurance of support and willingness to help should be given, without seeming intrusive



NOTES

TEST YOUR KNOWLEDGE

1. What is adherence?

2. List two factors that can encourage adherence

3. Why is disclosure important?

4. List the 4 stages in Adherence counseling

5. List 2 barriers to disclosure in children?

6. Who is responsible for disclosure in children?

Score

CHAPTER 16 - STIGMA ASSOCIATED WITH HIV INFECTION

QUICK QUIZ

Indicate which of the following statements are either True or False:

	Statement	True	False
1	You can tell when someone is HIV positive		
2	Being diagnosed HIV positive means you will soon get sick and die		
3	If you're both HIV positive you don't need a condom		
4	You can't have a baby if you're HIV positive as the baby will be born HIV positive		
5	HIV infection can be cured		
6	Having sex with a virgin will cure HIV		
7	HIV is a black African disease		
8	HIV is spread by sharing toilets; cutlery; chairs; plates; towels; kissing and touching; hugging; sharing a comb; mosquito bites		
9	HIV is only spread by Men who sleep with Men (MSM) and Sex workers.		
10	If I take my ARVs correctly I don't need to have protected sex		
11	You can't get HIV from oral sex		
12	My partner and I are both HIV positive so there is no reason for us to use condoms		
13	Medical Male Circumcision prevents HIV		
14	Traditional medicines can cure HIV		
15	Offenders within Correctional Centres are not at risk of getting HIV		
16	ARVs don't need to be taken everyday		
17	Having an STI can increase the chances of contracting HIV through unprotected sex		
18	The rate at which HIV progresses varies from person to person		
19	HIV positive children should not be told about their status		
20	TB is a common co-infection amongst HIV positive people		

Key Points

- Stigma is a set of negative and often unfair beliefs
- Stigma impacts the HIV infected person and results in their reluctance in accessing healthcare
- Stigma can be eradicated using education programmes on HIV/AIDS and sexual reproduction that emphasize the rights of people living with HIV
- Support groups is a place where HIV infected persons give and receive both emotional and practical support as well exchange information

What is stigma?

Stigma is a set of negative and often unfair beliefs that a society or group of people have about something. Stigma is still a major obstacle to HIV infected persons accessing healthcare.

Why do people infected with HIV experience stigma?

- Fear of the unknown/ Myths due to lack of information
- People don't understand how HIV is transmitted and may be afraid of 'catching' it through social contact.
- Belief system/ perception and stereotypes
- Some people have strong views about sexual behaviour
- Some people may have negative feelings about HIV because of the social groups most affected by HIV

How does Stigma impact the HIV infected person?

- Societal or family rejection- Fear of being insulted, rejected, gossiped about and excluded from societal activities leads to people with HIV not disclosing their status
- Reluctance in accessing the healthcare facility/ Reluctance in HCT and preventative measures about contacting HIV/ Defaulting treatment
- Stigma can also result in people with HIV believing the things that other people say about HIV
- Stigma is one of the reasons that some HIV infected people have negative feelings about themselves and about having HIV

How can Stigma be eradicated?

Using education programmes on HIV/AIDS and sexual reproduction that emphasise the rights of people living with HIV

By knowing their rights, people living with HIV can be empowered in order to take action if these rights are violated

What are your thoughts on the following quotes?

"Discrimination is a violation of human rights and must not go unchallenged. Everyone has the right to live with respect and dignity."

- Ban Ki-moon
  United Nations Secretary-General

"Committing to making our world free of stigma and discrimination is not an option, it's a duty."

- Michel Sidibé
  UNAIDS Executive Director

It is important for people with HIV to talk to someone about their feelings on having contracted the illness and how it has affected their life. Support Groups are a good way to start the process.

SUPPORT GROUPS FOR PEOPLE LIVING WITH HIV/AIDS

A Support group is a place where people give and receive both emotional and practical support as well as exchange information. People with health conditions, as well as their friends and families, find support groups to be a valuable resource — a place where people can share medical information, get confirmation that their feelings are "normal", educate others, or just let off steam. For example, people with HIV/AIDS form support groups to help each other cope. With HIV, support groups have to go beyond psychological support and have to also focus on improving services.

Types of groups

The four most common types of groups that are used with People Living with HIV and AIDS (PLHA) or within ART programmes are:

1. Educational groups
2. Peer-led support groups
3. Therapeutic groups

1. Educational groups

The main objective of this type of groups is to transmit important information about a specific issue or common problem. (e.g. how ART works and its side effects). It often takes place in the form of a workshop or lecture.

2. Peer–led groups

The primary purpose of this type of group is to provide mutual support to individuals affected by HIV/AIDS. It could be for an people who have recently started taking treatment who make require support around side effects or living positively for example. They come to their peers to find ways of dealing with their challenges

3. Therapeutic groups

This is essentially a therapeutic conversation held amongst a group of people who have something in common. It is therapeutic in the sense that it has to bring out change in the way participants think or feel. The facilitator of this group could be: a mental health professional (e.g. psychiatrist, psychologist, social workers or psychiatric nurses), para – professional (health professional from another discipline or other who is specially trained for this function e.g. a nurse, an experienced community health worker or PLHA).

Before setting up a support group it is important to address the following question:

- What do we want to address?
- How are we going to address it?
- How are we going to use the information collected?
- How long will the support group run (period)?

Some support groups operate in clinics and referrals come through clinic staff. In this case the facilitator may have a ready source of potential members. In other cases he/she may need to do some ground work to find members. Here are some ***guidelines to consider:***

Guidelines to consider when forming a support group

- The recruiter needs to be clear about the basis of the support group
- The commonality of the problem among participants
- Decide on the age, gender, number of participants
- Decide on the duration

As a group establish how often the group will meet and at what time.

Lay down some ***basic ground rules.***

Basic Ground Rules for Support Groups

Confidentiality: Some groups use the motto: "What you see in our group, what you hear in our group, please let it stay in our group"

Respect: Group members must listen to each other without interrupting and should only speak one at a time

Language: Group members should agree to use a language understood by all and not to use language that might offend.

Non-judgemental attitudes: Group members should avoid being judgemental of other people's feelings, behaviours and views. (This does not mean that they cannot express disagreement with those views).

Length of each session: Members need to decide how each session should and how often they would like to meet.

Making your support group a success

The Facilitator has to have a clear role.

Role of the Facilitator:

- make sure there are a variety of activities before each and every session
- encourage open communication and discussion within the group
- stress the fact that all members of the group have equal status within the group

For the support group to be a success keep the following in mind:

- All members of the group should have a voice
- The group should be flexible
- The facilitator must make sure that members decide on the aims, rules and activities of the group
- The facilitator must encourage the group members to attend all the sessions on a regular basis
- Confidentiality needs to be stressed in all sessions

For all the sessions, members need to feel that they are learning new things

What can be done in support groups?

There are a variety of things that can be done in support group meetings, namely:

Talks and presentations from experts

Invite experts to speak with the group from time to time

Social events

The facilitator can organise social events that will bring fun but will also be good for the group's health.

Exercising

Members should be encouraged to do a lot of exercising. They do not have to belong to a gym, but they can exercise at home as individuals or start their own activities at their own time.

Nutritional education

A person living with HIV/AIDS should eat nutritious food daily. There are other ways and means that a support group can explore to ensure that members get a nutritious diet. For example, some support groups start their own vegetable garden and provide lunch for their members daily. The group can also share ideas about nutritional food.

NOTES

TEST YOUR KNOWLEDGE

1. **Why are support groups encouraged for persons living with HIV/AIDS ?**

2. **List the types of support groups available to people living with HIV/AIDS**

3. **Why is there stigma against persons living with HIV/AIDS?**

Score	

CHAPTER 17 - POST-TEST

1. **How is HIV spread?**

2. **Answer True/False**

   TB is the leading cause of death among people living with HIV .....

3. **Name 3 Key Populations at high risk for getting HIV in South Africa**

4. **Name 3 ways in which HIV infection can be prevented**

5. **Which tests are used to detect HIV Infection?**

6. **What is the 'Window Period'?**

7. **What is the role of Isoniazid Preventive Therapy?**

8. What is the Standard Treatment for HIV Infection in the Public Sector?

9. When do we test pregnant women for HIV?

10. Name 3 instances when an infant/ child should be tested for HIV?

11. When should the first HIV test be done for HIV exposed infant?

12. Answer True/False

Exclusive breastfeeding is recommended for the first six months for HIV infected infants

13. Name one way in which under nutrition/malnutrition is detected in children

14. Name 3 STIs common in HIV infection

15. Name 3 groups that are eligible for Pre-exposure Prophylaxis

Score	
Pre-test score	

ANNEXURE 1: RECOMMENDED FEEDING PLANS

Feeding a child from birth up to 6 months old

» Exclusively breastfeed on demand, day and night
» Baby to be breastfed a minimum of 8 times in 24 hours
» Do not give other foods or fluids including water

Feeding a child aged 6 - 12 months

» Continue breastfeeding on demand
» Start by giving 2-3 teaspoons of porridge, vegetables and fruit
» Increase amount and frequency gradually at age 6 - 8 months to 2 meals per day, increase up to 5 meals per day by 12 months old
» At 9 months of age, if not breastfed, cup feed with full cream cow's milk
» If cannot give cow's milk, give 6 nutritionally adequate feeds per day
» Give a variety of locally available foods
» Avoid sugary foods before 9 months of age

Feeding a child aged 1 - 2 years

» Breastfeeding on demand, or
» Give 2 - 3 cups of full cream milk every day
» Give at least 5 nutritious family meals per day
» One meal to have locally available protein e.g. eggs, beans, mopani worms
» Meals to include fresh fruit or vegetables twice a day
» Feed the child from his/her own plate/bowl of food
» Foods must be rich in iron and vitamins especially vitamins A and C

Feeding a child aged 2 years and more

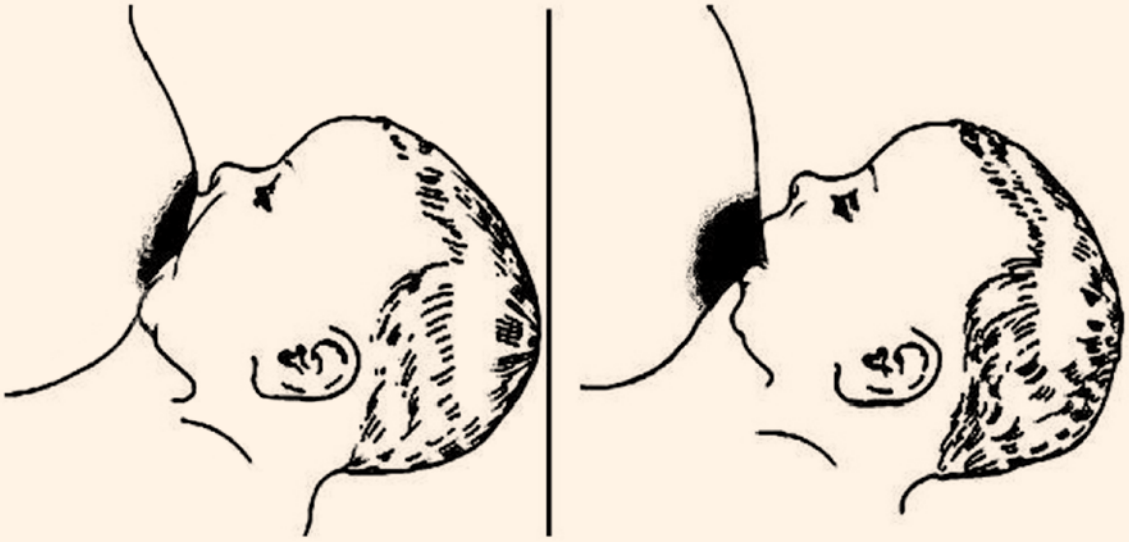
» Give at least 5 nutritious family meals per day
» One meal to have locally available protein e.g. eggs, beans, mopani worms
» Give 2 nutritious snacks between meals e.g. peanut butter bread with full cream milk or fresh fruit
» Foods must be rich in iron and vitamins

Changes to diet to promote weight gain

» Increase the quantity and variety of energy-rich foods
» Eat more starchy foods e.g. bread, maize, potatoes, rice, wheat, bananas
» Increase intake of protein rich foods e.g. beans, lentils, peas, groundnuts, peanut butter, seeds or add to maize

- Include meat, poultry, fish and eggs as often as possible
  - Minced meat, chicken and fish are easier to digest
  - Offal e.g. kidney and liver may also help to reverse weight loss
- Use more dairy products e.g. full-cream milk, sour milk, buttermilk, yoghurt, cheese, can be added to stews, soups, porridge, cereals, mashed potatoes
- Make hot drinks with fortified milk instead of water or use in tea, cereals or cooking. Fortified milk is: 4 x 15ml spoons of full cream milk powder added to 500ml cow's milk, stir well and keep in a cool place
- Gradually increase foods with fats/oils or increase the fat content of food by adding 5-6 teaspoons of fats or oils to food per day
- Increase the number of meals or easily available, easy to prepare snacks eaten daily e.g. fruit, yoghurt, carrots, chips and peanut butter sandwiches
- Eat larger amounts of food

ANNEXURE 2: GOOD VS POOR ATTACHMENT DURING BREASTFEEDING



Breastfeeding Counselling: a training course. WHO/CHD/93.4, UNICEF/NUT/93.2

Good attachment

Poor attachment

Mouth wide open

Areola more above than below

Lower lip turned downwards

Chin touching breast

UNICEF/WHO Breastfeeding Promotion and Support in a Baby-Friendly Hospital - 20 hour Course 2006

ANNEXURE 3: STRATEGIES FOR DISCLOSURE TO CHILDREN

Remember this is a continuous process. The child should be educated on the following depending on the age and maturity:

- Firstly, prepare the child for disclosure
- Find out from the child their knowledge of chronic disease
- Ask the child about HIV knowledge
- Give further explanation about HIV
- Find out from the child about how infection is possibly acquired
- Give the child examples or experiences
- If the child is ready then disclose

You need to take a serious consideration on the child's developmental stage because that will inform on how disclosure can be handled at a specific developmental stage.

Below are the strategies for disclosing to a child according to the child's age

- **Age 2-4 years**
  - Usually not disclosed to at this age
  - Emphasise the child's illness and health and delay disclosure of HIV status
  - Give information in response to the child's questions
  - Use play activities
  - Give explanation e.g. your blood needs to be checked
  - Teach them not to touch anybody's blood
  - Teach them good hygiene

- **Age 5-7 years**
  - The child has logical thinking at this age and they can understand the concept of illness
  - They may be taught about the chronic illnesses and the modes of transmission
  - They can be given responsibility of taking medication with the caregiver's supervision
  - Say messages like
    - "Take the medication so the germ fighter can be strong and you won't be sick much"
    - "You and I take medication to be strong"
    - "You cannot give the germ to anyone by kissing, hugging, eating from the same plate and sharing the same toilet"

» **Age 8-11 years**

- They have a greater understanding of illness and that it is caused by something not functioning correctly in the body
- It is important to start disclosure at this age if not before, therefore they can be told why they are taking medication
- Give more detailed information with concrete examples
- Focus on positive living and give responsibility to the child
- Give clear and short answers about transmission and the actual germ
- Help the child deal with stigma
- Open door policy for further questions later as they arise

» **12-18 years (Adolescence)**

- At this stage disclosure should have long happened.
- Caregivers who wait until the child reaches this age may have a problem because:
  - The child is faced with an identity crisis
  - Some at this stage may have lost their biological caregivers and there might be a lot of anger the adolescent is faced with
  - The caregiver should rather be dealing with how the adolescent should disclose to sexual partners, friends and how to handle stigma
- Often anti-authority, the caregiver is not always the best person to disclose to an adolescent

ANNEXURE 4: SOCIAL GRANTS FOR PEOPLE LIVING WITH HIV

The various grants discussed below are of relevance to People Living with HIV and AIDS

Social Relief of Distress

Social relief of distress is a temporary provision of assistance intended for persons in such dire material need that they are unable to meet their or their families' most basic needs.

Social Relief of Distress is paid to South African citizens or permanent residents, who have insufficient means and meet one or more of the following criteria:

- the applicant is awaiting payment of an approved social grant
- the applicant has been found medically unfit to undertake remunerative work for a period of less than 6 months
- no maintenance is received from parent, child or spouse obliged in law to pay maintenance, and proof is furnished that efforts made to obtain maintenance have been unsuccessful
- the bread winner is deceased and application is made within three months of the date of death
- the bread winner of that person's family has been admitted to an institution funded by the state (prison, psychiatric hospital, state home for older persons, treatment centre for substance abuse or child and youth care centre)
- the applicant has been affected by a disaster as defines in the Disaster Management Act or the Fund Raising Act, 1978
- the person is not receiving assistance from any other organisation or
- refusal of the application for social relief of distress will cause undue hardships.

Period of Social Relief of Distress (New Policy)

- Social Relief of Distress is issued monthly for a maximum period of 3 months. An extension of a further 3 months may be granted in exceptional cases.

Grants-in-aid

- the applicant must be in receipt of a grant for Older Persons
- Disability grant or a War Veteran's grant, and require full-time attendance by another person
- owing to his/her physical or mental disabilities
- must not be cared for in an institution that receives subsidy from the State for the care/housing of such beneficiary

Child support Grant

- the primary care giver must be a South African citizen, permanent resident or refugee
- both the applicant and the child must reside in South Africa
- applicant must be the primary care giver of the child/ children concerned
- the child/children must be under 18 years
- the applicant and spouse must meet the requirements of the means test
- child can not apply for more than six non-biological children
- child can not be cared for in state institution

Foster Care Grant

» the applicant and child must be resident in South Africa;
» court order indicating foster care status;
» the foster parent must be a South African citizen, permanent resident or refugee;
» child must remain in the care of the foster parent(s).

Care Dependency Grant

» the applicant must be South African citizen, permanent resident or refugee;
» the applicant and child must be resident in South Africa;
» child must be under the age of 18 years;
» must submit a medical / assessment report confirming permanent, severe disability;
» the applicant and spouse must meet the requirements of the means test (except for foster parents);
» the care-dependent child/children must not be permanently cared for in a State Institution

Disability Grant

The applicant:

» must be a South African citizen, permanent resident or refugee;
» must be resident in South Africa;
» must be 18 to 59 years of age;
» must submit a medical / assessment report confirming disability;
» medical assessment must not be older than 3 months at date of application;
» and spouse must meet the requirements of the means test;
» must not be maintained or cared for in a State Institution;
» must not be in receipt of another social grant in respect of him or herself

ANNEXURE 5: IMPORTANT CONTACT INFORMATION

Patient should be advised to visit the nearest SASSA office where they will be assisted.

SASSA Offices

Office	Address	Contact Details
SASSA Head Office	SASSA House 501 Prodinsa Building Cnr Steve Biko and Pretorius Streets Pretoria	Tel: 012 400 2000 (Switchboard) Website: www.sassa.gov.za
Eastern Cape	SASSA Office, BKB Building Cnr Fitzpatrick & Merino Road Quigney East London	Tel: 043 707 6300 GrantsEnquiriesEC@sassa.gov.za
Free State	African Life Building 75 St. Andrews Street Bloemfontein	Tel: 051 410 8304/5 GrantsEnquiriesFS@sassa.gov.za
Gauteng	28 Harrison Street Johannesburg 2000	GrantsEnquiriesGP@sassa.gov.za
KwaZulu Natal	1 Bank Street Pietermaritsburg 3201	Tel: 033 846 3300 GrantsEnquiriesKZN@sassa.gov.za
Limpopo	43 Landros Mare Street Polokwane 0699	Tel: 015 291 7400 GrantsEnquiriesL@sassa.gov.za
Mpumalanga	18 Ferreira Street Nelspruit 1200	Tel: 013 754 9380 GrantsEnquiriesM@sassa.gov.za
North West	SASSA House University Drive Mmabatho 2735	Tel: 018 389 4000 GrantsEnquiriesNW@sassa.gov.za
Northen Cape	95 - 97 Du Toit Span Road Kimberley 8300	Tel: 053 802 4900 GrantsEnquiriesNC@sassa.gov.za
Western Cape	Golden Acre, Adderley Street Cape Town 8001	Tel: 021 469 0200 GrantsEnquiriesWC@sassa.gov.za

TEST YOUR KNOWLEDGE ANSWERS FOR EACH CHAPTER

Chapter 1

1. 78 million people

   South Africa

2. Protects you from……germs……

   Helps the body……fight infection……

3. They protect the body from germs. They send signals to activate the body's immune response when they detect germs.
4. The B cells produce antibodies that are specifically developed for particular germs
5. b, c, a

Chapter 2

1. At around 6 weeks after initial infection
2. The CD4 count is a lab test that measures the number of CD4 cells in the blood
3. Viral Load measures the level of HIV in the blood
4. Yes, the CD4 tells us how the immune system is working, is also a guideline as to when treatment for HIV infection can be started.

Chapter 3

1. Blood

   Sexual Fluids (Male and Female)

   Breast Milk

2. Saliva, tears, sweat
3. Men who have sex with men (MSM)

   Sex Workers

   People who inject drugs

   Vulnerable children, orphans, youth

   Women 15-24 years old, four times greater risk of infection than men of same age group

4. More **frequent exposure** to the virus

   Presence of other Sexually Transmitted Infections (STIs)

   Involvement in risky behaviors such as drug and alcohol use around sex (when under the influence, condom use is disregarded or inconsistent)

Poverty, unemployment and lack of resources

Weak family and social **support** systems

Marginalisation

Inadequate access to **health-care service**

Population **migration** (migrant labourers move to cities for employment)

Gender inequality

Chapter 4

1. Abstinence, Be faithful to one partner, Correct and continuous usage of condoms

   Post exposure prophylaxis

2. PEP involves taking a short course of antiretroviral treatment to reduce the chances of contracting HIV following exposure

3. MSM, commercial sex workers, Correctional Centres Offenders

   Rape-PEP, Discordant couples

4. Short courses of ARVs can lead to drug resistance

5. Young women and girls

   Men and transgender women who have sex with men

   Sex Workers

   People who inject drugs

   Serodiscordant couples (HIV uninfected partner in the couple)

6. Abstinence, Being faithful to one partner, correct and continuous use of condoms, PEP, PreP

Chapter 5

1. 4 Stages
2. Candidiasis

   Cryptococcosis

   Herpes Simplex- infection greater than one month duration

   Kaposi's Sarcoma

   (Refer to OIs for more examples)

3. Use condoms consistently and correctly

   Avoid consuming unpasteurised milk and cheese, raw seed sprouts, drinking untreated water from lakes/rivers

   Preventive Therapy- IPT, Cotrimoxazole therapy, Cryptococcal infection treatment

Chapter 6

1. Counselling is a structured conversation with a purpose, between a counsellor and client.

   Together they explore feelings and options in order to help the clients resolve their problems.

   The conversation is governed by ethics and values within counselling

2. How is HIV transmitted

   What are the risks of HIV and how it can be prevented

   Importance of diagnosing HIV early

   The HIV testing process

   (Refer to section for more options)

3. A. Test negative
   - » Provide result clearly
   - » Explain the window period and the need for re-testing in 3 months

   B. Test positive
   - » The result is provided in a way the client understands
   - » Discuss possible emotions they may feel
   - » (Refer to section for more options)

4. HIV Rapid

   ELISA

   HIV PCR

5. a) HIV PCR √ b) HIV Rapid test

6. a) HIV Rapid b) ELISA

7. Period between time of infection and the point at which evidence of infection is detected

8. By 3 months

Chapter 7

1. This is the time period between when a person is diagnosed with HIV until they qualify to start ART
2. PJP, Toxoplasmosis, Malaria and other bacterial infections
3. To prevent active TB Disease

Chapter 8

1. A single tablet consisting of a combination of at least three drugs
2. Tenofovir (TDF)

   Emtricitabine(FTC)

   Efavirenz (EFV)
3. Patients who have a medical condition e.g. kidney disease

   Children and Adolescents ≤ 15 years
4. I Immune

   R Reconstitution

   I Inflammatory

   S Syndrome
5. TB

Chapter 9

1. True
2. a. Breastfeeding: 30%

   b. Pregnancy: 10%

   c. Labour and delivery: 60%
3. At first Booking
4. FDC
5. 3 monthly

Chapter 10

1. 6 weeks after delivery
2. At Birth
3. Yes
4. All HIV exposed Children

   Mother's Status Unknown

   Symptomatic Children

   (Refer to section for more examples)
5. At the 6 week clinic visit
6. Mother to child transmission is the major route of HIV infection in children, during pregnancy, delivery, breastfeeding

   A child can also get HIV infection through sexual abuse, wet nursing

   Pre-mastication
7. Due to their under-developed immune system, they are unable to fight off infections effectively
8. By the age of 5-6 years

Chapter 11

1. Use 8 teaspoons sugar and 1/2 teaspoon salt

   Mix well in 1 L of water, store in a clean and covered container in a cool place.

   Make a fresh solution every day
2. True
3. Measuring the MUAC

   Detecting feet swelling
4. 12 months to 59 months

Chapter 12

1. Most offenders are from communities with high rates of TB and HIV

   They may have undiagnosed HIV infection or may be on HIV treatment which may potentially be interrupted during their incarceration

   The conditions in Correctional Centres allows for easy spread of TB infection due to over-crowding and poor ventilation

2. At entry, during incarceration, as per request by offender, as part of routine screening campaigns, as part of integrated primary health care services, on release
3. Access to condoms and water-based lubricants;

   reducing vulnerability to sexual assault;

   post-exposure prophylaxis with established drug regimens including monitoring of drug safety and potential seroconversion;

   harm reduction programmes to reduce the risk of HIV-transmission related to substance abuse;

   education on risk behaviour and preventive measures with a focus on men having sex with men; and

   Medical Male Circumcision reduces the risk of HIV infection/transmission

Chapter 13

1. Early, Screening
2. True
3. Cough - any duration

   Weight loss

   Fever

   Drenching night sweats
4. 61%
5. Reduces the risk of developing TB disease

Chapter 14

1. Syphilis

   Gonorrhoea

   Herpes
2. There is an increased concentration of HIV in the semen and genital fluids of HIV infected persons with another STI

Chapter 15

1. The degree to which a client follows a treatment regimen that has been designed in a consultative partnership between the client and healthcare professional/counsellor
2. Adherence Tools

   Knowledge

   Behaviour Change

   Quality Adherence Counselling

3. It helps with the stress of having HIV and can actually improve their overall health
4. Stage 1: Pre-ART Readiness

   Stage 2: ART Initiation

   Stage 3: Maintenance

   Stage 4: Treatment Change Re-motivation
5. Age/Maturity

   Non-Adherent to ART
6. Parent/ Caregiver

Chapter 16

1. A Support group is a place where people give and receive both emotional and practical support as well as to exchange information. People with health conditions, as well as their friends and families find support groups to be a valuable resource — a place where people can share medical information, get confirmation that their feelings are "normal," educate others, or just let off steam.
2. Educational Groups

   Peer-led Groups

   Therapeutic Groups
3. **Fear** of the unknown/ Myths due to lack of information

   People **don't understand** how HIV is transmitted and may be afraid of 'catching' it through social contact. Belief system/ perception and **stereotypes**

   Some people have **strong views** about sexual behaviour

   Some people may have **negative feelings about HIV** because of the social groups most affected by HIV

PRE/POST TEST ANSWERS

1. Blood; Sexual Fluids; Breast Milk
2. True
3. Men who have sex with men (MSM); sex workers, people who inject drugs; vulnerable children, orphans, youth; women 15-24 years
4. Abstinence; be faithful to one partner; correct and continuous usage of condoms; post exposure prophylaxis
5. HIV Rapid; ELISA; HIV PCR
6. Period between time of infection and the point at which evidence of infection is detected
7. To prevent active TB Disease
8. A single tablet consisting of a combination of at least three drugs

   Tenofovir (TDF)

   Emtricitabine(FTC)

   Efavirenz (EFV
9. At first booking
10. All HIV exposed Children

    Mother's Status Unknown

    Symptomatic Children

    (Refer to section for more examples)
11. At Birth
12. True
13. Measuring the MUAC

    Detecting feet swelling
14. Syphillis; Gonorrhoea; Herpes
15. Young Women and girls

    Men and transgender women who have sex with men

    Sex Workers

    People who inject drugs

    Serodiscordant couples (HIV uninfected partner in the couple)

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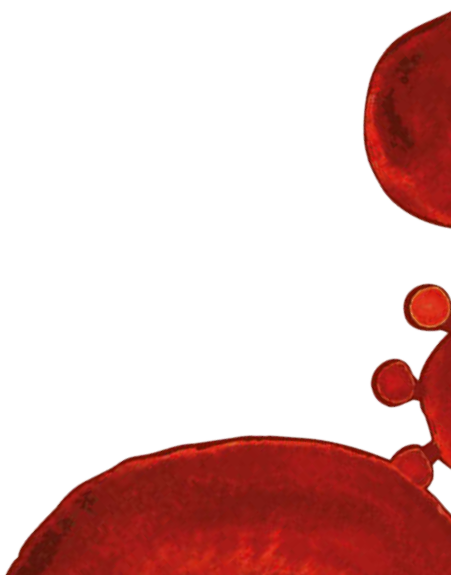

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PEPFAR

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Centers for Disease Control and Prevention

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