

A photograph of two hands, one larger and one smaller, cupping several red ribbons. The ribbons are arranged in a way that forms a stylized shape, possibly representing the AIDS awareness ribbon. The background is a warm, yellowish-orange color.

HIV

(Human
Immunodeficiency Virus)



MINISTRY OF HEALTH



NATIONAL STD/AIDS
CONTROL PROGRAMME



Acknowledgement

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It is good that you did the
HIV test.

Now you are aware about
your status.

Don't worry.

**Now we are here to help you and
no one else will get to know...**



All our services are fully confidential

There are many people living with HIV
having a normal lives.



Good news about HIV treatment

Anti Retroviral Treatment (ART) is very effective

ART is given free of charge since 2004

You can live a normal life with ART.

Let's learn to live positively with HIV

Because you can have a normal productive and healthy life like others.

Positive living



Stay active and energetic



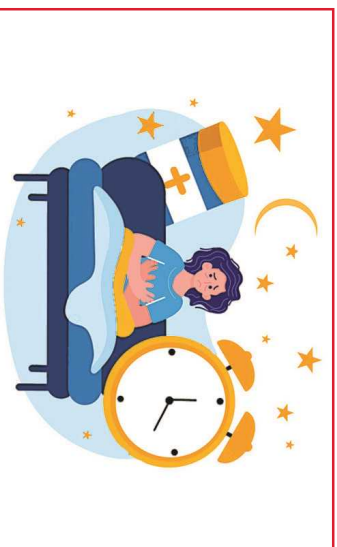
Avoid stress take enough rest



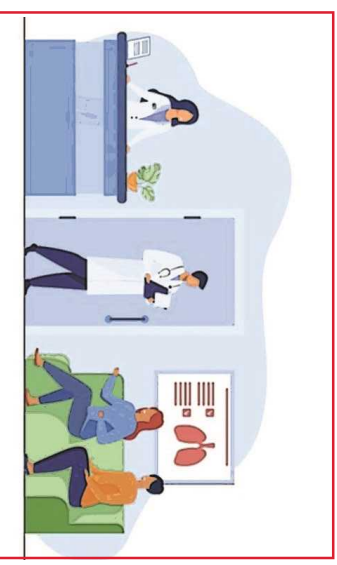
Balanced diet



Drink enough water



Adhere to your medications regularly



Attend the clinic regularly



Practice safe sex



Keep your counselling appointments



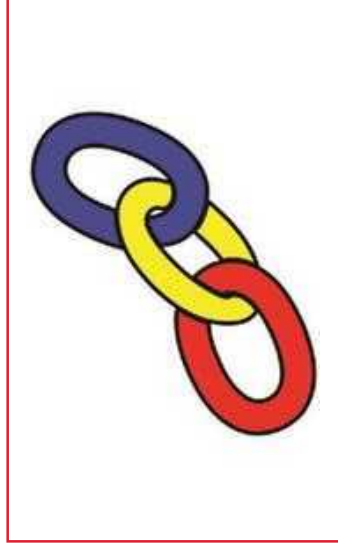
Go for PMTCT services



Avoid alcohol and drugs

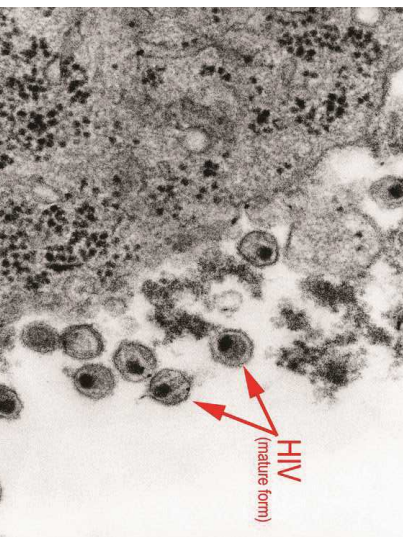
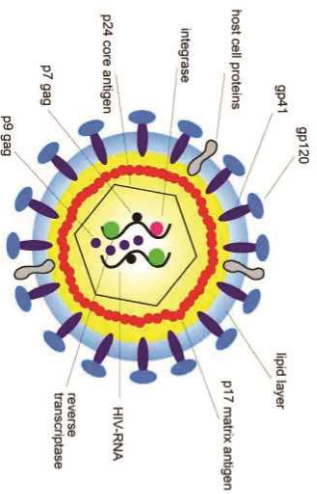


Join a support group



Link with support services
Explain support services available
such as allowance for clinic attendance, milk
powder, school items, support for
self-employment etc.

Human Immunodeficiency Virus (HIV)



H	Human	മനുഷ്യ
I	Immunodeficiency	ദുർബ്ബലത
V	Virus	വൈറസ്
A	Acquired	തദ്ദേശ
I	Immune	ദുർബ്ബലത
D	Deficiency	കുറവ്
S	Syndrome	രോഗസമുച്ചയം

**HIV attacks our immune system.
Immune system is important to fight against infections
and keep you healthy.**

If your immune system becomes weak, it is difficult to fight against infections.

Modes of transmission of HIV

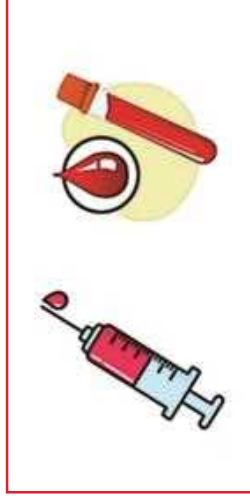
HIV is not transmitted by social contacts

Sexual transmission



- Peno-vaginal
- Peno-anal (**high risk**)
- Peno-oral (fellatio)
- Oro-vaginal (cunnilingus)

Blood and blood products



- Sharing needles, syringes
- Percutaneous injuries by contaminated instruments, needles
- Through unscreened blood/products (unlikely in Sri Lanka)

Mother to child



- During pregnancy
- During delivery
- During Breast feeding

Infectious materials

Blood, any bloody fluid, semen, rectal fluid, vaginal fluid, breast milk for children considered as infectious body fluids with sufficient amount of HIV.

Other potentially infectious materials (OPIM)

Pleural fluid, synovial fluid, cerebro spinal fluid (CSF)

HIV is NOT transmitted by



General social contacts



Sharing foods



Sharing toilets



Hugging and kissing



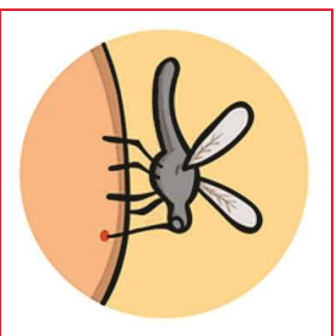
Coughing and sneezing



Sharing water



Animals



Mosquito or insect bites

HIV is not transmitted by

General social contacts

Hand-shaking, touching, door handles and towels, sharing a room.

Sharing foods, cutleries or utensils

This will not transmit HIV.

Sharing toilets

Not transmitting HIV.

Hugging and kissing

Including lip kissing and contact with saliva (If biting and bleeding then there is a risk).

Coughing and sneezing

Which produce droplet particles which are vary in size but HIV is not transmitted from droplets or not as an airborne disease.

Sharing water sources, bathing or swimming places

Tanks, reservoirs, streams, rivers, swimming pools, sharing wells or tube wells etc.

Animals

HIV is completely a human virus and can not transmit from animals.

Mosquito or insect bites

No cases reported (discuss using ESSE principal).

Sharing razors

No cases reported, advice not to share razors.

Human bites

If there is an injury or bleeding the person who has the blood contamination has the risk (no such cases reported).

Sucking breast milk by adults

No cases reported, small quantities of breast milk is not enough for a transmission among adults.

ESSE principles

Consider the four principals of transmission when discussing patients queries.

EXIT

The virus must exit the body of an infected person.

SUFFICIENT

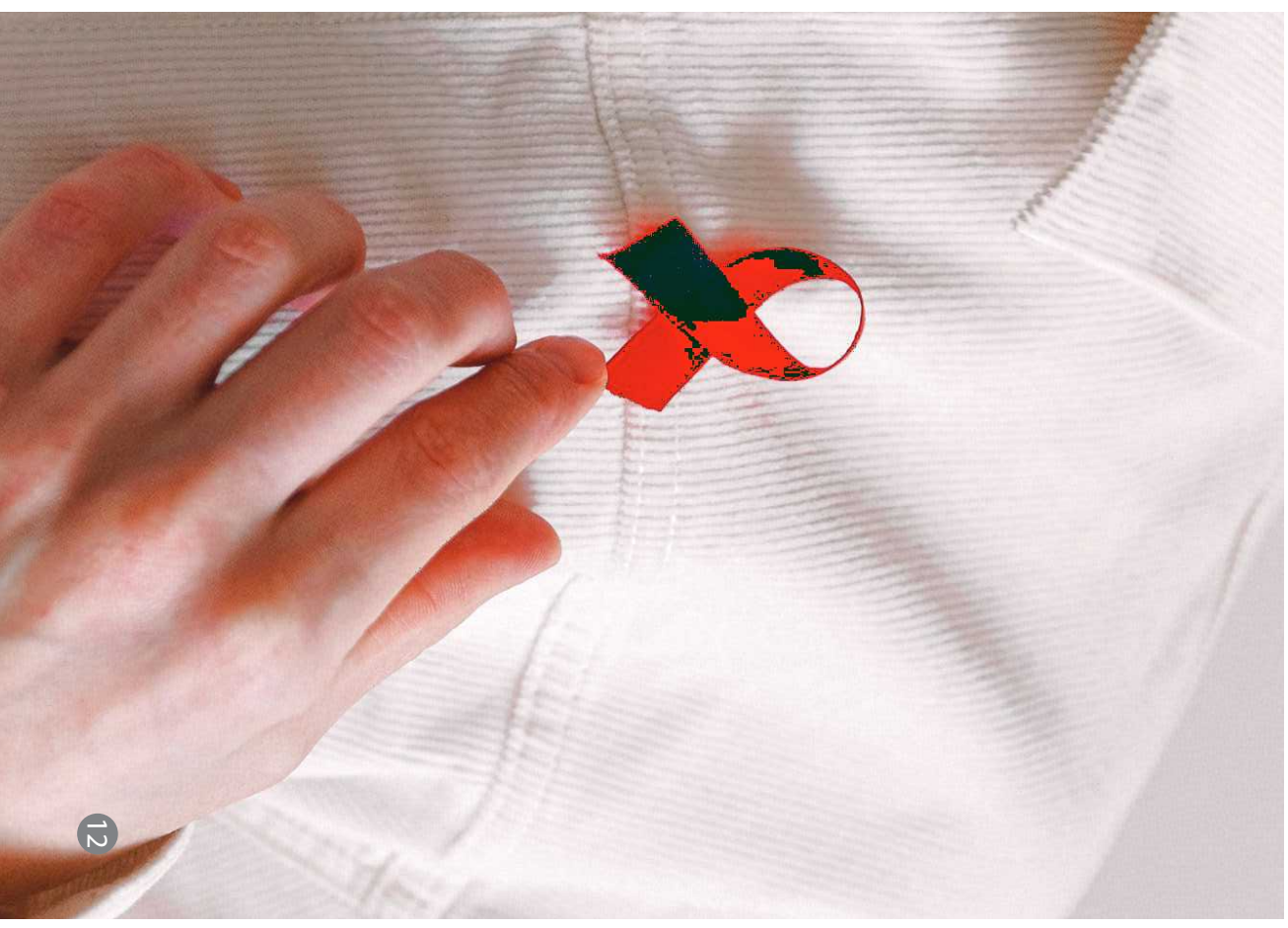
There must be sufficient quantities of the virus present to cause infection.

SURVIVE

The virus must be in conditions in which it can survive.

ENTER

The virus must enter the bloodstream of another person.





HIV myths



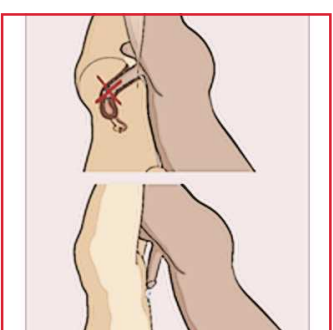
AIDS is deadly



Healthy looking persons are not having HIV



Casual sex is safer than commercial sex



“Pulling out” can prevent HIV



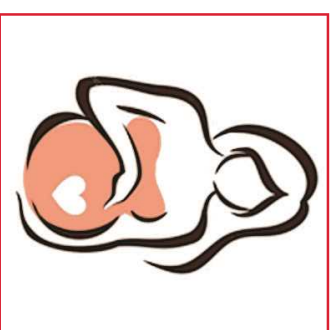
If both partners have HIV, there's no reason for a condom



HIV can be cured by herbal medicine



HIV infected will have poor quality of life and will die soon



HIV women can't get pregnant

Debunking HIV myths

AIDS is deadly

AIDS is not a deadly disease, now HIV can successfully be controlled with adherence to the medication without developing to AIDS stage.

Healthy looking persons are not having HIV

Most people do not have symptoms and signs of HIV infection. Can't tell by looking at them.

Casual sex is safer than commercial sex

Unprotected sex with anybody who is not mutually faithful could be risky.

Withdrawal method (coitus interruptus or "pulling out") can prevent HIV.

Contamination with vaginal, anal or pre seminal fluids can transmit HIV. Not necessary to ejaculate for the infection.

If both partners have HIV, there's no reason for a condom

Still need to use condoms. it's possible to transmit a different strain of HIV or another sexually transmitted infection to a partner

HIV can be cured by herbal medicine

So far there are no proven herbal medicines to cure HIV.

HIV infected people will have poor quality of life and will die soon

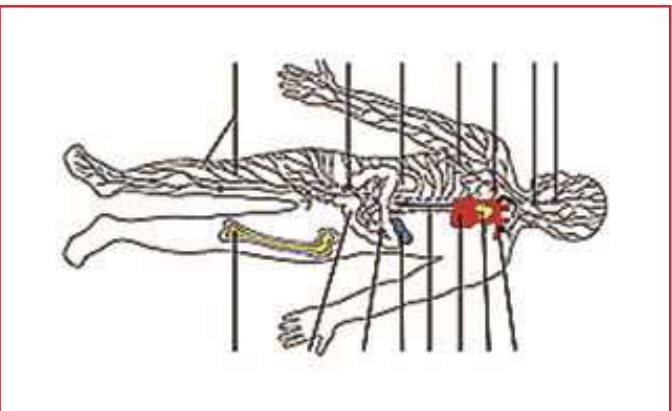
Now there are good effective treatments to control the virus and can lead a near normal life.

HIV women can't get pregnant

With proper treatment and follow up, HIV infected mother can have healthy babies without HIV.

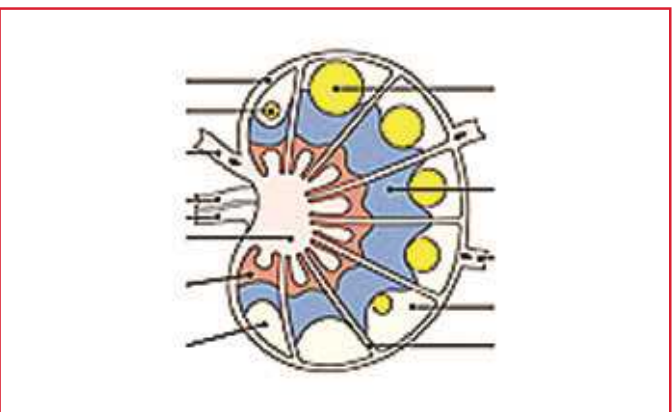
HIV weakens our immune system. Lets understand our immune system

System



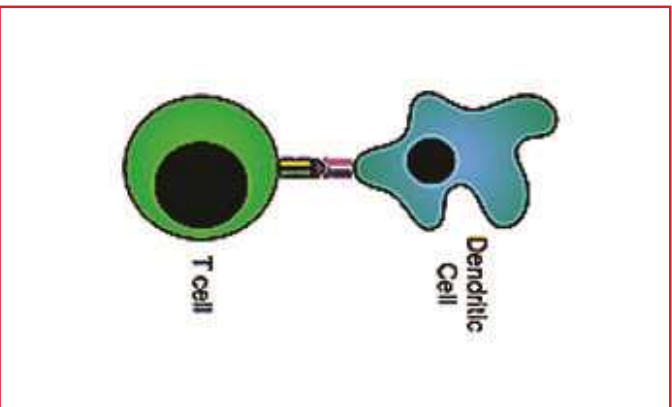
Lymphatic system
Blood
Interaction of Immune organs

Organs



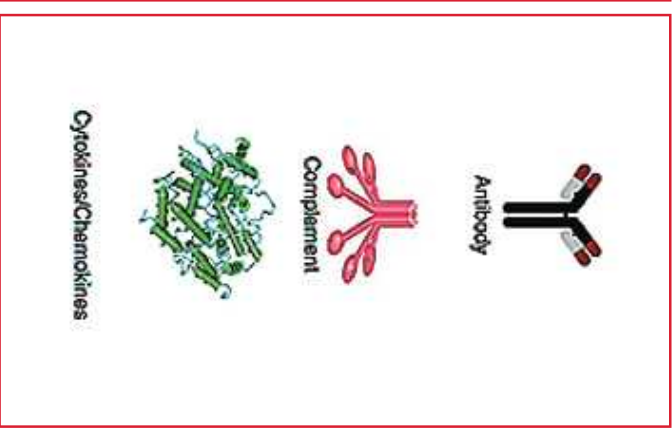
Lymph node
Spleen
Bone marrow
Thymus

Cells



Macrophage
Eosinphil
B cell
NK cell and more...

Molecules



Cytokines/Chemokines

Immune system

Introduce immune system as having three main parts;organs, cells and molecules

01 Organs/tissues

Bone marrow and thymus (primary), lymph nodes, lymph vessels, spleen, tonsils, adenoids, appendix, mucosal associated lymphatic tissue (MALT)

02 Cells

Lymphocytes: T-cells (CD_4 cells, CD_8 cells), B-cells, NK cells, neutrophils, eosinophils, basophils, monocyte, macrophage, dendritic cells etc.

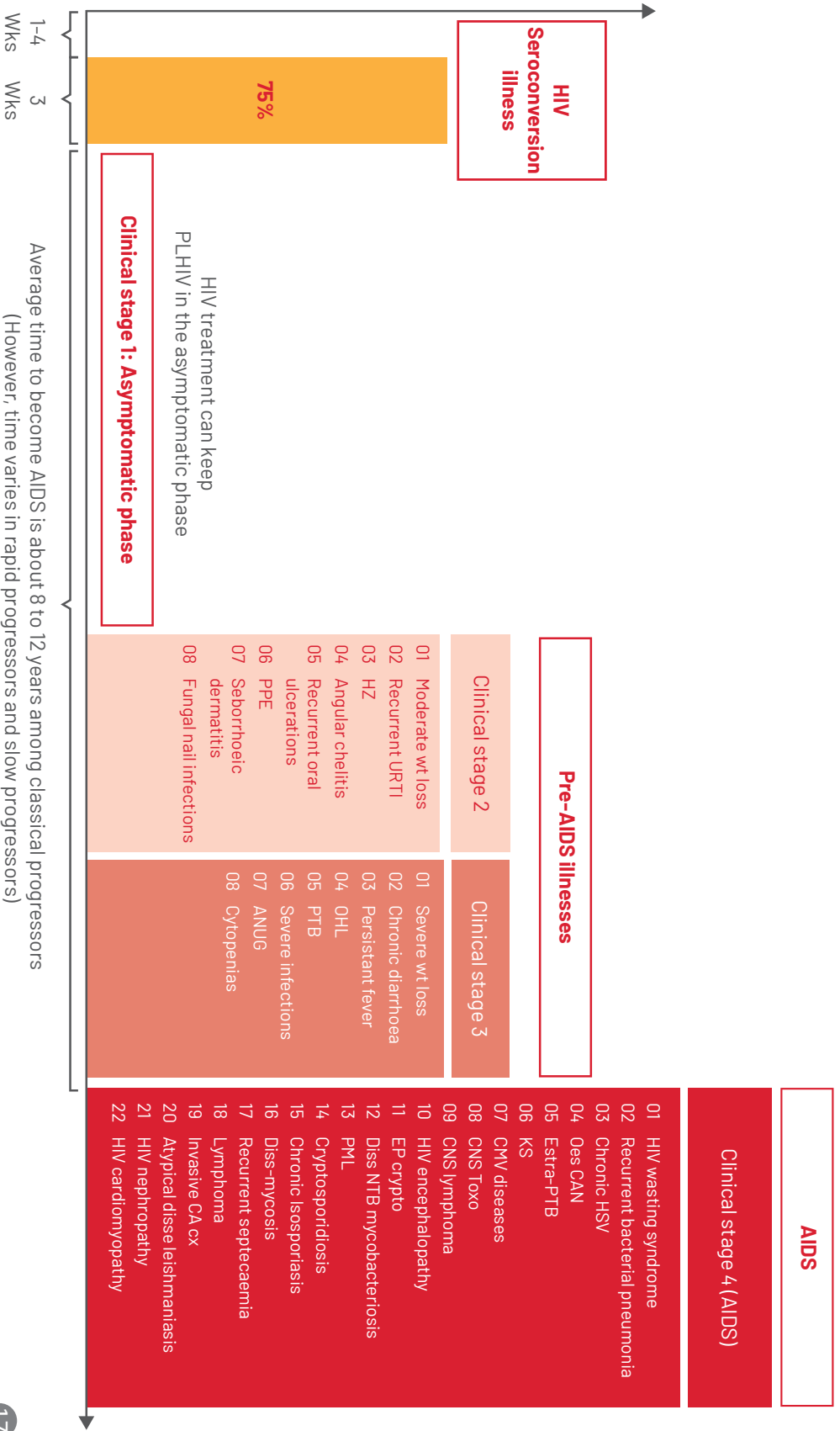
03 Molecules

Antibody, complements, cytokines, chemokines, adhesive molecule

HIV infects the CD_4 cells of our immune system. The normal count in a healthy individual vary from 600-1200 cells per microliter.



Natural history of HIV infection in adults (as per WHO clinical staging)



Clinical stages of HIV infection

Seroconversion illness (Acute retroviral syndrome)

Once infected with HIV, the virus multiplies rapidly in your body. Your immune system responds by producing antibodies in response to the virus. This period is known as seroconversion. Antibodies **appear within one to two weeks** and will continue to increase in the months after infection. During seroconversion, a person may experience **flu-like symptoms**, such as fever and body aches, rash, malaise, nausea, vomiting, diarrhea, sore throat, lymphadenopathy etc.

01 Stage 1; No symptoms

This phase is asymptomatic but in some patients can have persistent generalized lymphadenopathy (PGL).
Performance scale 1: asymptomatic, normal activity.

02 Stage 2; Mild symptoms

This phase usually progresses slowly but infectious. Many people will be asymptomatic for years (without HIV treatment).
Performance scale 2: symptomatic, normal activity.

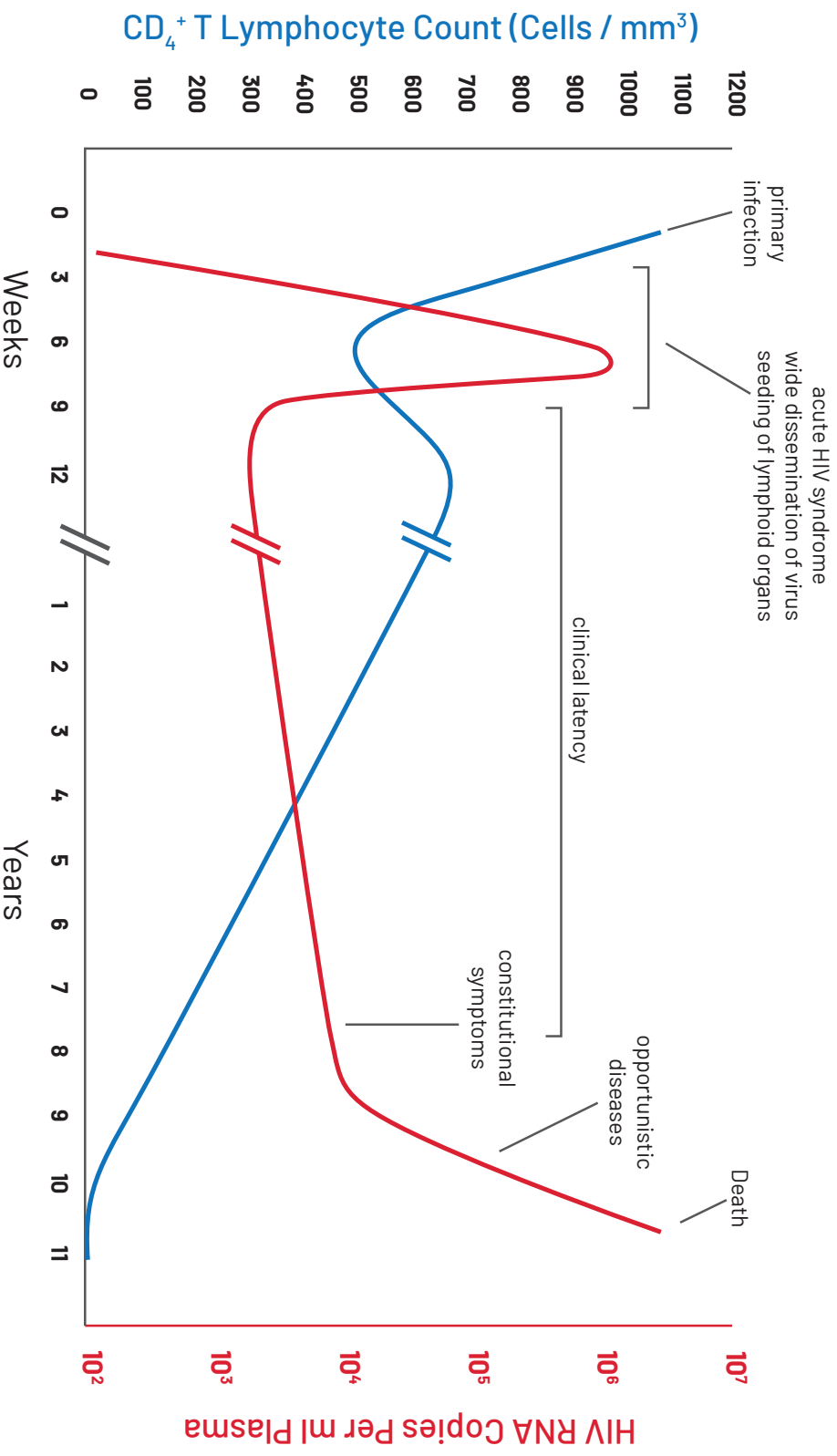
03 Stage 3; Advanced symptoms

The immune system deteriorates and opportunistic infections (OIs) start to appear.
Performance scale 3: bedridden < 50% of the day during last month.

04 Stage 4; (AIDS)

The most severe phase of HIV disease following severe damage to the immune system. An increasing number of **opportunistic infections** and **opportunistic malignancies**. This phase is highly infectious.
Performance scale 4: bedridden > 50% of the day during last month

CD₄ and Viral load change in untreated HIV infection



Explain the graph: In the absence of ART, the CD₄ cell count will decrease, and the viral load will increase with the emergence of opportunistic infections

Clinical presentation of HIV infection

Infection

Entry and start of the replication cycle of the virus is called the infection. (most of the time resulted from a risky sexual behavior)

Incubation period

Usually from 1-4 weeks.

Seroconversion illness (Acute retroviral syndrome)

Among infected, about 50-95% of patients are symptomatic and give rise to "viral fever" like illness which can present as fever, rash, malaise, nausea, vomiting, diarrhea, sore throat, lymphadenopathy etc. This illness may last from 2-3 days to maximally 3 weeks.

Primary HIV infection (PHI)/ Acute HIV infection

Usually refers to the first six months after infection.

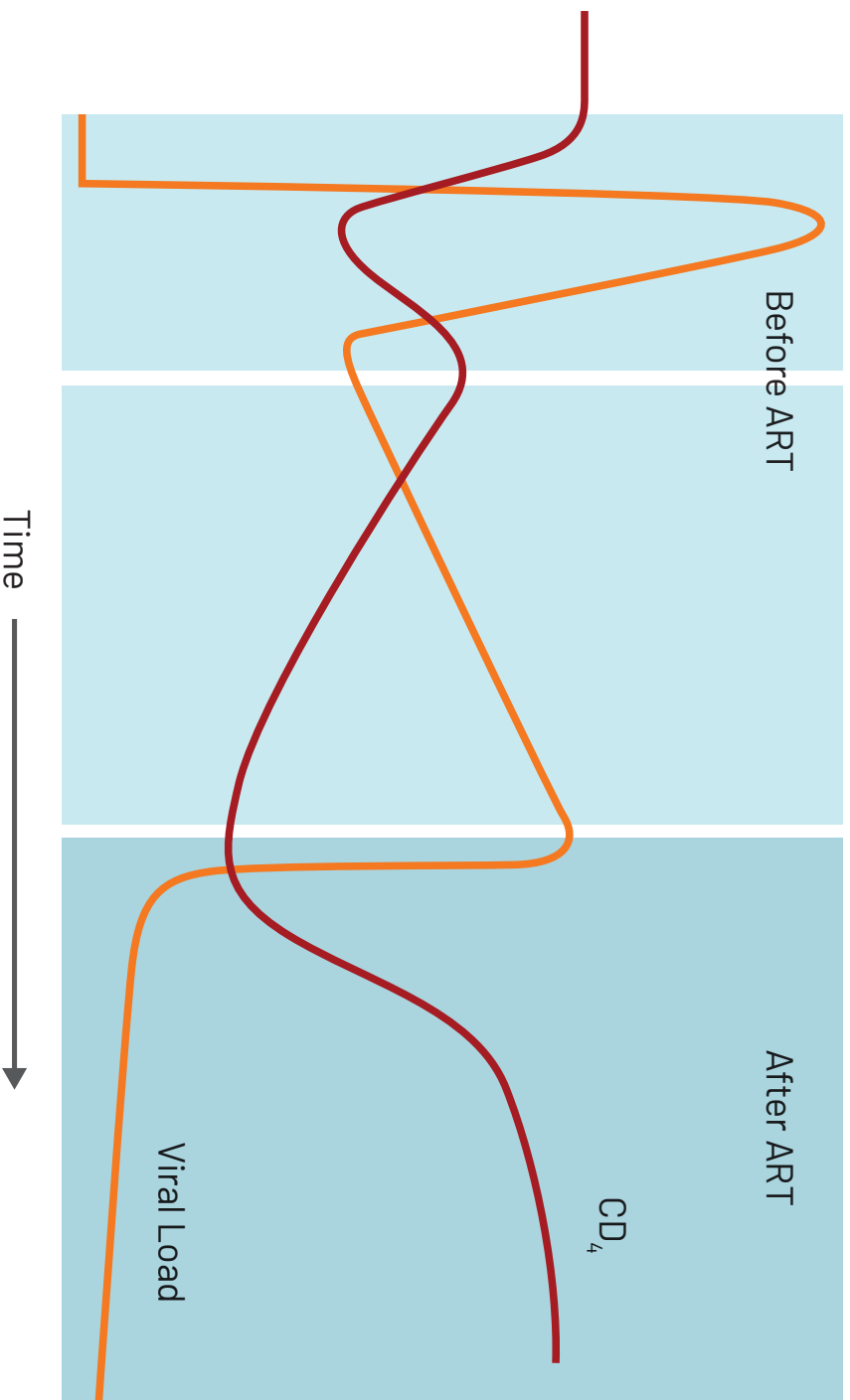
Chronic HIV infection

After six months, HIV enters to the chronic phase. This phase usually progresses slowly but infectious. Many people will be asymptomatic for years (without HIV treatment), after this phase, patient can develop pre-AIDS illnesses (WHO stage 2 and 3 diseases).

Acquired immune deficiency syndrome (AIDS)

The most severe phase of HIV disease following severe damage to the immune system. They get an increasing number of severe illnesses, called opportunistic infections and opportunistic malignancies. This phase is highly infectious. In this phase patient is having AIDS defining illnesses in isolation or in combinations.

Difference in treated HIV infection



ART can change the natural history

Benefit of taking ART

Viral load

Means number of viral copies per/ml of blood. ART can reduce your virus to less than the detectable level within 3–6 months.

CD₄ count

Normal CD₄ count in a healthy adult is between 600 to 1200 cells/ml. ART increases your CD₄ count and thereby increase your immunity level. If the CD4 count is less than 200 copies/ml, the immunity is very low and chance of infections are high and this level is defined as AIDS.

Transmissibility

ART reduces the viral load and thereby reduce the HIV transmissibility.

Opportunistic infection and malignancies

ART reduces viral load and increases the CD₄ count restoring the immunity. Therefore, the emergence of opportunistic infections or malignancies are reduced.

Quality of life

ART increases the quality of life.

Life expectancy

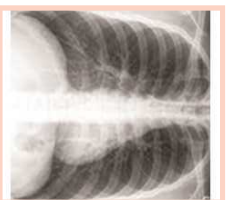
ART will give you the near normal life expectancy.

Consequences of not taking ART

Clinical stage 2



Weight loss



URTI



PPE



Angular cheilitis



Zoster



R. Oral ulcerations



Fungal Nail Infection

Clinical stage 3



Unexplained fever



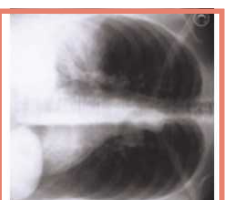
Persistent O. CAN



Oral Hairy Leucoplakia



ANUG



Severe infections at any site (pneumonia etc.)



Clinical stage 4 AIDS



Oes. candidiasis



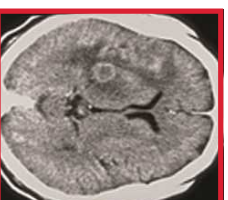
Recurrent pneumonia



Wasting syndrome



PCP

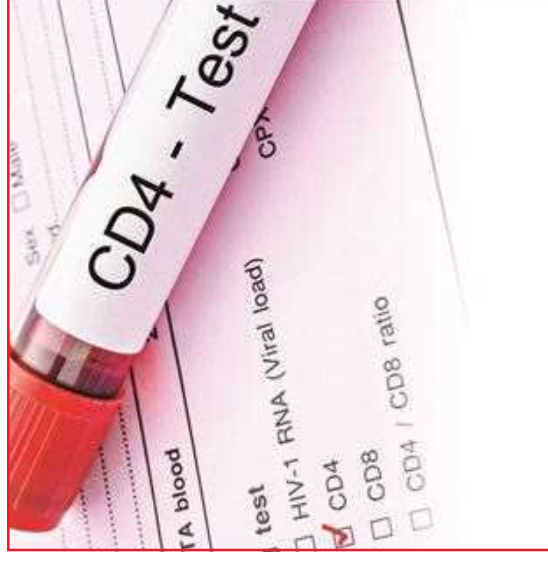


CNS toxo



CMV retinitis

Monitoring of the HIV disease progression

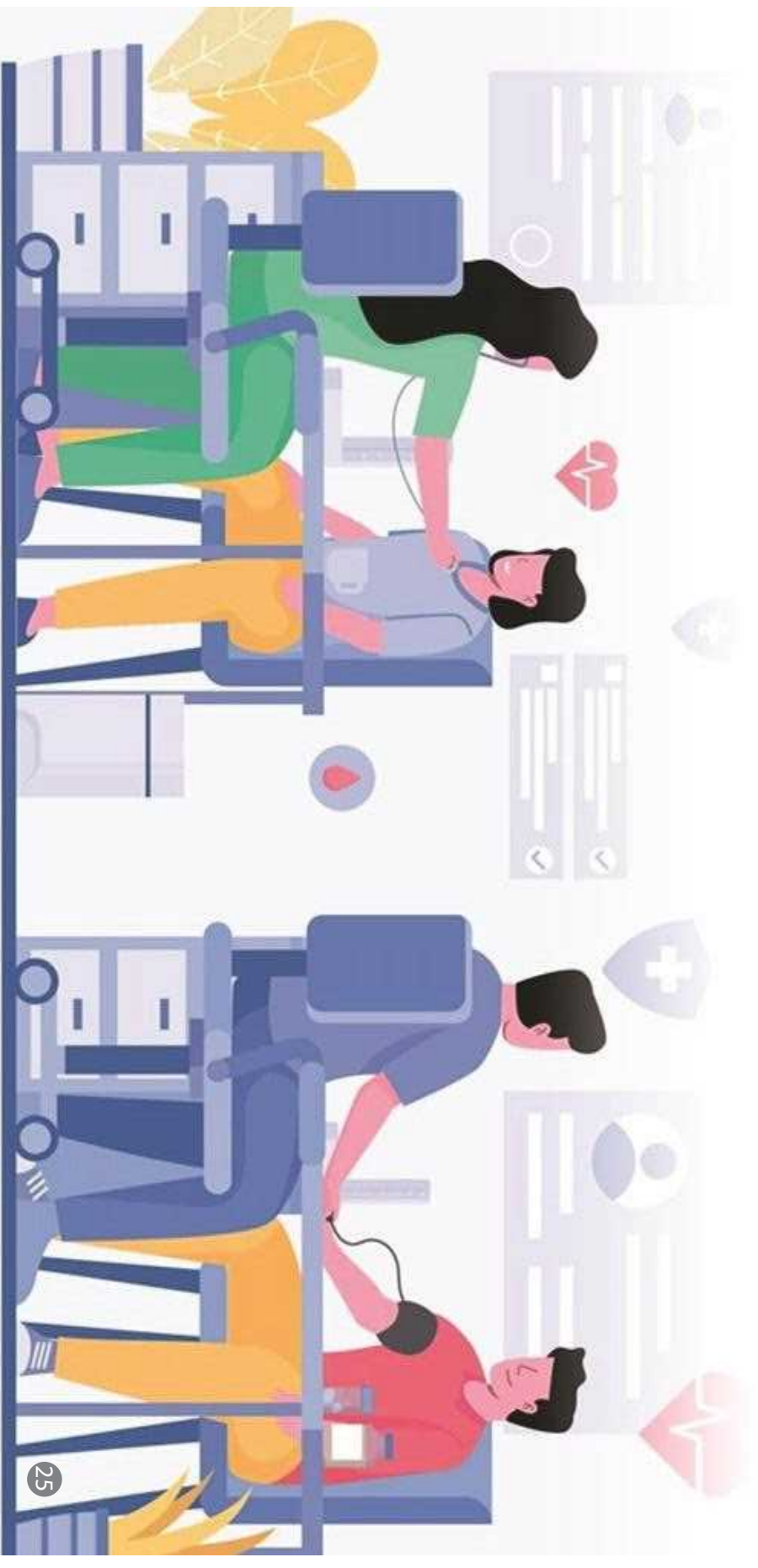


Patients with HIV is monitored by mainly three indicators

- **Viral load** (number of RNA copies per ml)
- **CD₄ count** (Number of cells per microliter) or **CD₄ percentage**
- **Clinical presentation** (clinical stages)

Initial clinical assessment and follow up

History, Examination and Investigations



History, Examination and Investigations

Initial clinical assessment includes

- **History taking**

The doctor will have a confidential discussion to ask the history of current and previous illnesses, sexual history, personal and social history in order to diagnose and provide services.

- **Examination**

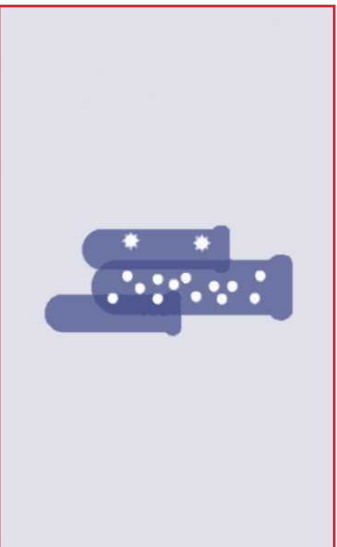
Then the doctor examines you for the clinical assessment.

- **Investigations**

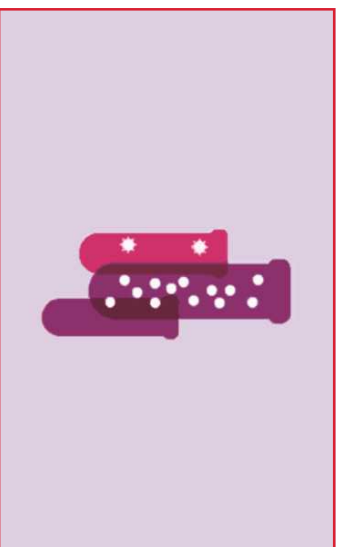
Next, you will have to under go blood tests, urine test, smear tests, and imaging for the assessment.



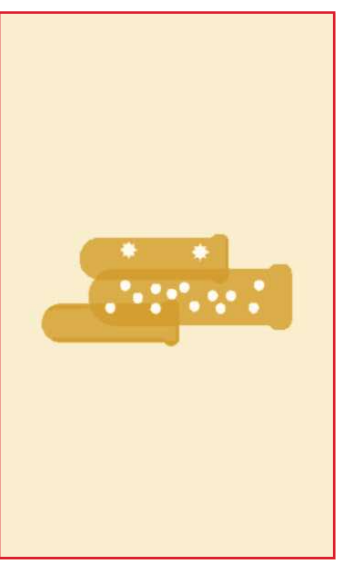
Important tests to be done before ART



CD₄ count



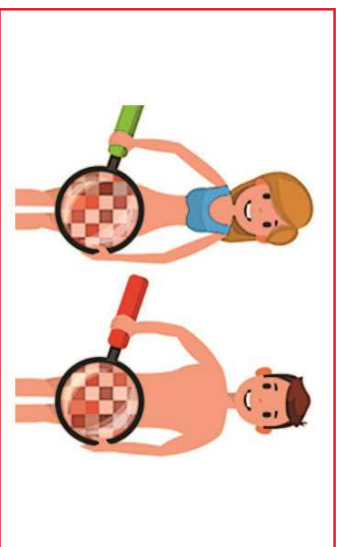
Viral load



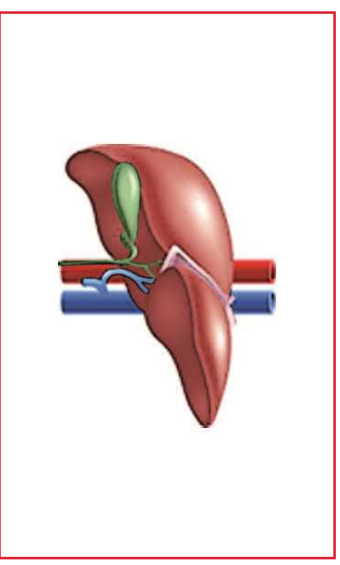
ART resistance test
(if necessary)



TB screening



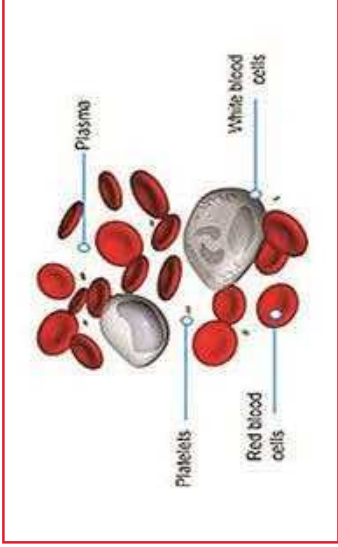
STI screening



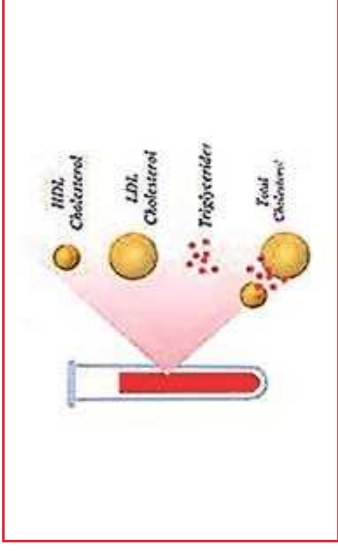
Viral hepatitis

Other tests for opportunistic infections
(like Toxo/CMV/Crypto)

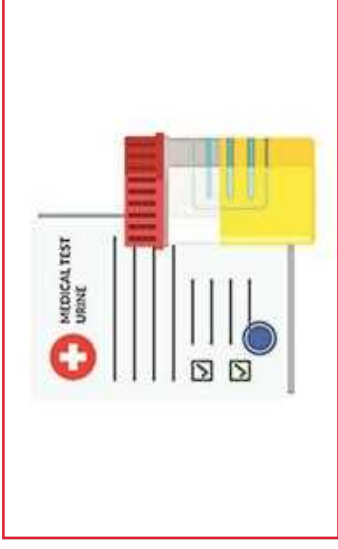
Important tests to be done before ART



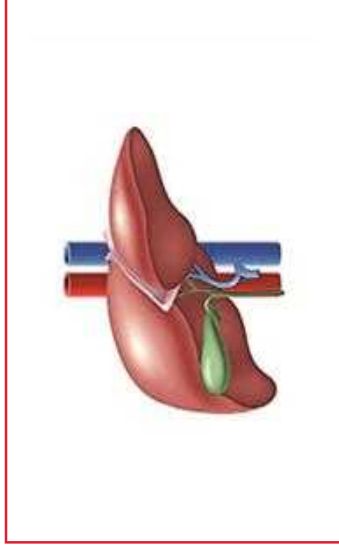
Full blood count



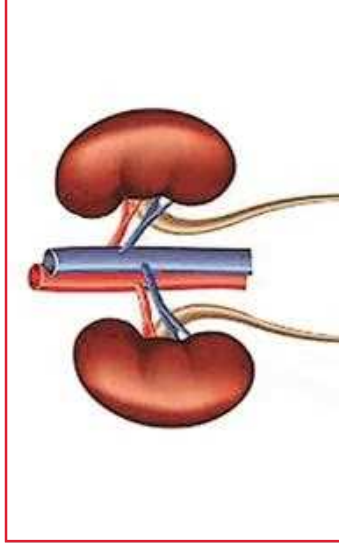
Lipid profile



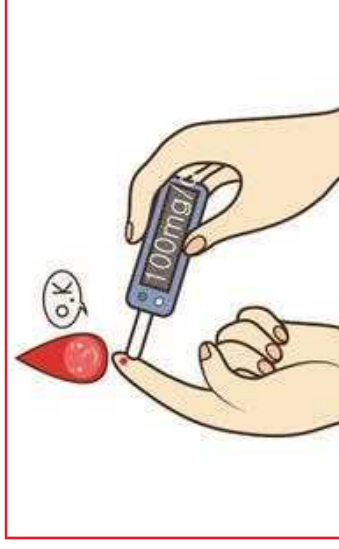
Urine full report



Liver function tests

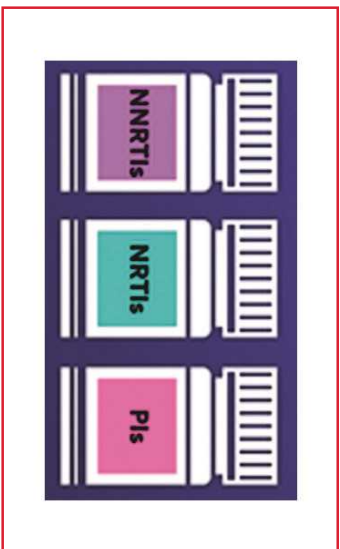


Renal function tests



Blood sugar tests

ART counselling (points for the discussion)



Introduction to HIV treatment



Adherence to HIV treatment



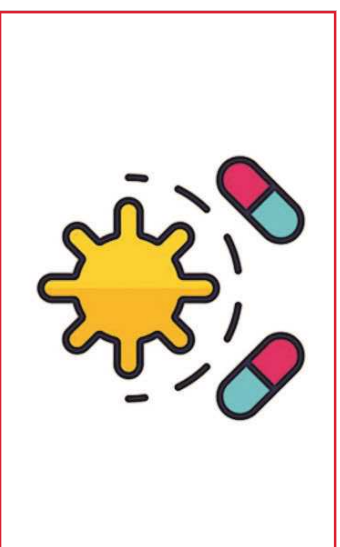
Missed doses



Side effects



Drug interactions



Drug resistance

Areas of ART counselling

■ Introduction

Antiretroviral therapy (ART) is a combination of HIV medicines to treat the HIV infection. It is a safe and proven effective way to suppress HIV replication in the body.

■ Modes of actions of ART

ART inhibits one or few steps of HIV replication at the target cells (CD4 cells)

■ Goal of HIV treatment

A main goal of HIV treatment is to reduce and maintain person's viral load to an undetectable level. An undetectable viral load means that the level of HIV in the blood is too low to be detected by a viral load test (usually <40 copies/ml)

■ Benefit of taking ART

HIV infection can be well controlled and suppressed with ART. Therefore, the damage to immune cells (CD₄ cells) is greatly reduced and restore the immunity which will increase the quality of life and life expectancy

■ Side effects

Most patients take ART without side effects. Mild side effects such as nausea vomiting, headaches, sleep disturbances are common when you first start ART which disappear within few weeks. Serious side effects are uncommon.

■ Medication interactions

Inform the patient that it is important to discuss the concurrent medications with the doctor before starting ART and also subsequent addition of drugs while on ART. Medication interactions can increase or decrease the bioavailability of ART or other important drugs. Advice to disclose about the use of life style drugs (such as alcohol, illicit drugs, supplements, over the counter drugs and herbs etc.) and also disease specific medications (such as hormonal contraceptives, azole antifungals, rifamycins, benzodiazepines, lipid lowering drugs etc.)

■ Drug resistance

If a person with HIV is not taking ART properly (incorrect dose /incorrect time and frequency), makes them to have suboptimal drug levels causing emergence of slightly different viral strains which can withstand the ongoing treatment pressure to the virus. This is called as "drug resistance".

Adherence to HIV treatment (ART)

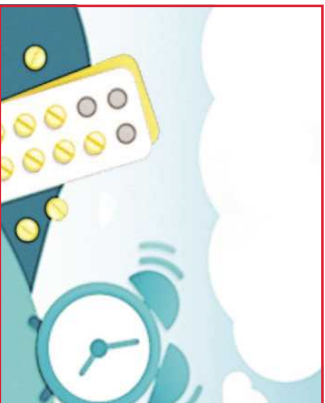
Adherence



Missed doses



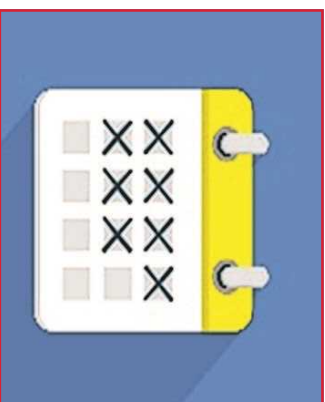
Tips to improve medication adherence



Alarm



Pill box



Calendar



Treatment supporter

ART counselling

- **HIV treatment adherence**

Treatment adherence includes starting HIV treatment, keeping all medical appointments, and taking HIV medicines every day and exactly as prescribed (also called **medication adherence**). HIV treatment adherence is key to stay healthy.

- **Medication adherence**

Is to take ART in correct dose at exact time and in correct frequency as prescribed by your doctor. Medicines are usually taken daily (but frequency vary in renal failures). **Exact time means 1 hour plus or minus at set time (two-hour window).**

- **Target of the medication adherence**

Always need to encourage the client to have over >95% of medication adherence
If you are adherent to the therapy. It reduces the number of HIV in the body to a very low level or an undetectable level which prevent advancing HIV to AIDS, protect your immune system. You won't transmit the virus sexually to the others (U=U).

- **Tips for medication adherence**

You can discuss some strategies to improve adherence such as keeping alarm, pill box, calendar, help of a treatment supporter.

- **Missed doses**

If you forget one dose, take it as soon as you remember. Don't take double doses at the same time and always contact your doctor.

How to prevent transmission of your infection to loved ones

Prevention with positives (PwP)

Protect your partner (marital/hetero)



Prevention options

- Continue your ART
- Use condom/Sero-positioning in sex
- PrEP for the partner
- nPEP after PrEP (if VL is high or PrEP is sub-optimal)

Protect your wife and unborn baby



Prevention options

- Continue your ART
- Use condom/Sero-positioning in sex
- PrEP for the partner
- nPEP after PrEP (if VL is high or PrEP is sub-optimal)

Protect your same sex partner (discuss if relevant)



Prevention options

- Continue your ART
- Use condom/Sero-positioning in sex
- PrEP for the partner
- nPEP after PrEP (if VL is high or PrEP is sub-optimal)

Protect your drug partner (discuss if relevant)



Prevention options

- Continue your ART
- STOP sharing of needles/syringes
- Use condom/Sero-positioning in sex
- nPEP after PrEP (if VL is high or PrEP is sub-optimal)

ART counselling

Discuss the options to prevent HIV among positives based on the type of partner and sero-status of the partner (seek consultant opinion for more details)

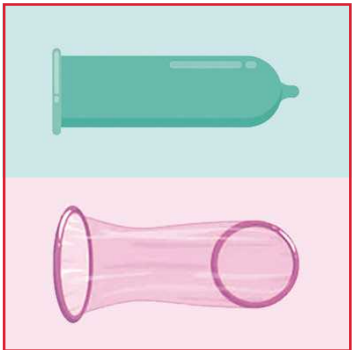
- **Protect your heterosexual partner**
 - If partner is negative
Ask the client to continue ART, use condoms/sero-positioning in sex, PrEP or PEP and PrEP for the negative partner when indicated
 - If partner is positive
Ask the client and the partner to continue ART. If any of the partners is having uncontrolled HIV, need to use condoms/sero-positioning to prevent transmission of resistant forms or types/subtype infections. Resistance test need to be done for the uncontrolled partner and ART should be reviewed.

- **Protect your unborn baby**
 - If the client or the partner is a positive female
Educate on the PMTCT plan and the possibility of having an uninfected baby by doing four interventions
 - 01 ART to mother
 - 02 safe delivery
 - 03 safe feeding
 - 04 ART to infant
 - If the client is a positive male
Ask the client to continue ART, Condoms, sero-positioning, and PrEP and PEP for the female partner when indicated.
 - If both the client and partner is positive
Ask the client and the partner to continue ART. If any of the partners is having uncontrolled HIV, need to use condoms/sero-positioning

- **Protect your same-sex partner (same sex partners)**
 - If partner is negative : ART treatment as prevention (TasP), Condoms, sero-positioning sex, PrEP/nPEP
 - If partner is positive : ART as prevention. Condoms, sero-positioning sex, PrEP/nPEP

- **Protect your drug partner**
 - If partner is negative : ART treatment as prevention (TasP), Condoms, sero-positioning sex, PrEP/nPEP
 - If partner is positive : ART as prevention. Condoms, sero-positioning sex, PrEP/nPEP

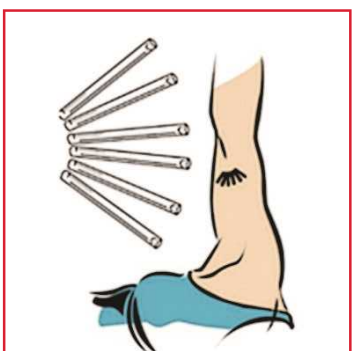
Contraceptive counselling



Condoms



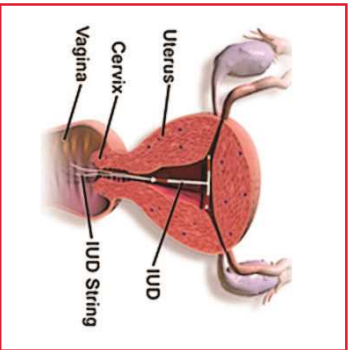
Oral contraceptive pills (OCP)



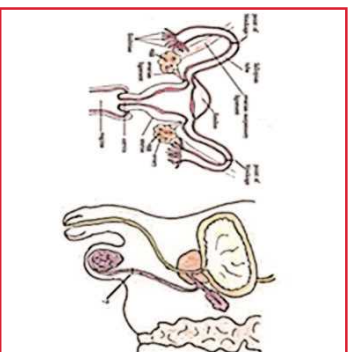
Subdermal implants



DMPA injections

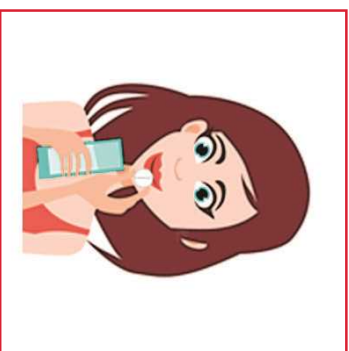


Intrauterine systems (IUS)



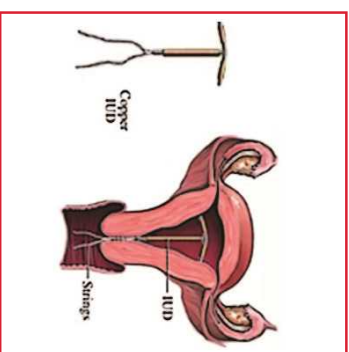
Permanent methods

LRT and Vasectomy



Emergency contraceptive methods

Emergency pill



Cu-IUS

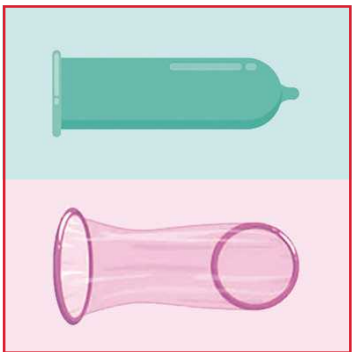
Contraceptive counselling

Contraceptive counselling

include, 1. introduction of available options, 2. discussion on the advantages and disadvantages, 3. Allowing the client to take an informed decision on the best suitable option, 4. Provision of support to start and maintain the selected option. (Discussion and taking a contraceptive history at every visit is important). Potential drug interactions, the impact of pill burdens on adherence should be considered, All contraceptive options should be discussed prior to prescription. Effectiveness of contraceptives depend on the **perfect** use and the **typical use**.

- **Condoms (e.g. Preethi, Durex)**
PROS: Dual protection (STI and pregnancy); no Side effects. No interaction with ART; emphasize on the **correct and consistent use**,
CONS: Rarely allergic reactions, associated myths
Effectiveness: perfect use >99%, typical use around 94%,
Return of fertility: No delay
- **OCP (e.g. Mithuri)**
PROS: Good to delay first or subsequent pregnancies, daily pills, Safe with NRTIs and INI,
CONS: Nausea, tiredness, headache, breast tenderness, cautious with PIs and avoid EFV, do not protect STIs
Effectiveness: perfect use 99.7%,
Return of fertility: No delay
- **DMPA injections (e.g : Depo - provera)**
PROS: Minimum interactions with ARV, safe, once in 3 months,
CONS: injection pain, need a provider, No STI protection,
Effectiveness: perfect use 99.8%,
Return of fertility: can delay up to 4 months
- **Sub-dermal implants (e.g : Norplant)**
PROS: Good for long term contraception (5 years), no need to remember
CONS: irregular bleeding, avoid with EFV, No protection against STIs,
Effectiveness: perfect use 99.9%,
Return of fertility: No delay

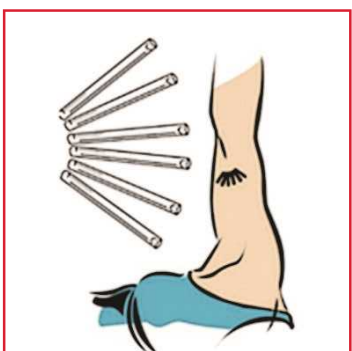
Contraceptive counselling



Condoms



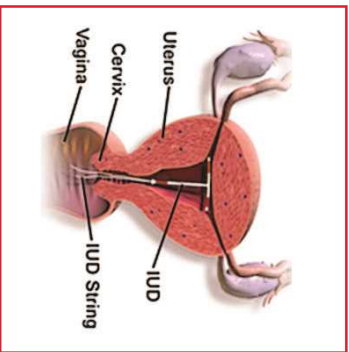
Oral contraceptive pills (OCP)



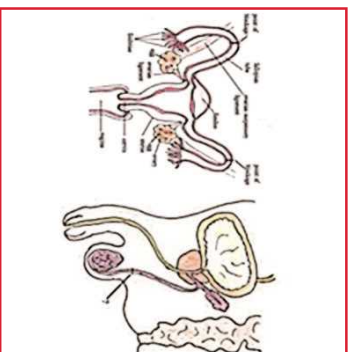
Subdermal implants



DMPA injections

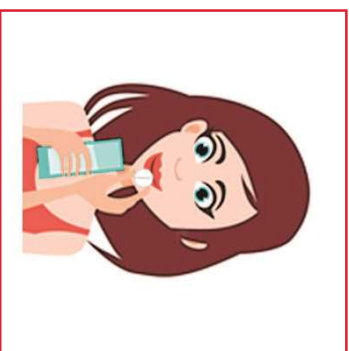


Intrauterine systems (IUS)



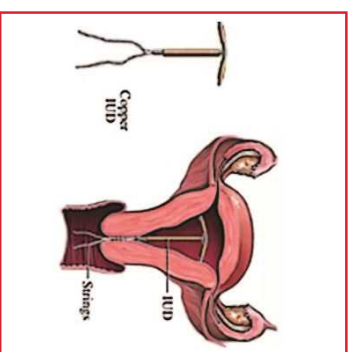
Permanent methods

LRT and Vasectomy



Emergency contraceptive methods

Emergency pill



Cu-IUS

- **Intrauterine systems (IUS)(E.g. Cu-IUS, LHG-IUS)**
 PROS: Suitable for long-term contraception (10 years),
 CONS: No STI protection, cautious with WHO stage 3 and 4 conditions.
 Effectiveness: perfect use 99.4%,
 Return of fertility: No delay (LNG-levonorgestrel)
- **Permanent methods (E.g. LRT, Vasectomy)**
 PROS: Suitable when family is completed, permanent method
 CONS: Non-reversible, No STI protection, Need the consent of both partners, easy to do with your planned LSCS,
 Effectiveness: LRT 99.5%, Vasectomy: 99.9%,
 Return of fertility: Extremely difficult
- **Emergency contraception (EC) (E.g. Postinor 1, Postinor 2, Cu-IUD)**
Oral EC:
 Levonorgestrel EC (1.5mg LNG): Up to 72 hours after UPSI or contraceptive failure.
 PROS: Women using liver enzyme inducing drugs (EFV, NVP) should be advised to use a Cu-IUD as EC. If this is not acceptable, the dose of levonorgestrel is doubled.
- Cu-IUD:**
 The most effective form of EC. For all women presenting between 0 and 120 hours of UPSI or within 5 days of earliest ovulation.



Contraceptive services can be obtained free of charge from Midwife, MOH clinics, STD clinics and from private sector

Counselling for the prevention of mother to child transmission of HIV

Four interventions reduce the risk of transmission from 40% to less than 2%, giving over 98% chance of having an uninfected healthy baby.

01

Treat the mother



02

Safe delivery
Planned C - Section
Planned Vaginal Birth



03

Prophylaxis for
the baby



04

Safe feeding



Sri Lanka has been certified by
WHO as a country that has
eliminated Mother to Child
Transmission of HIV



PMTCT counselling

Four interventions reduce the risk of transmission from 40% to <2%, giving >98% chance of having an uninfected healthy baby. Discuss only the relevant areas with the patient

01

Treatment of the pregnant mother

- **Newly identified mothers:** need to start recommended ART as early as possible (refer ART guideline).
- **Mothers already on ART:** Need to review and adhere to the regimen for safety of the baby (esp. avoid DTG during first 6 weeks because of NTDs).
- **Mothers presenting late in pregnancy (after 28weeks):** If known or presumed VL is >100,000 c/ml include Raltegravir 400mg twice daily or DTG 50 mg daily to the regimen for quick viral suppression.
- **Mothers presenting in labour at term:** stat dose of nevirapine 200mg (or zidovudine using 600mg loading dose and 300mg every 3 hours) and commence on fixed dose ZDV+3TC+RAL or ZDV+3TC+DTG as the preferred additional agent.

02

Safe delivery of the baby

- **Lower segment caesarian section (LSCS):** If the HIV control is sub optimal or doubtful.
- **Normal Vaginal delivery (NVD):** If the HIV control is optimal.

03

HIV prophylaxis for the baby

- **Infant prophylaxis:** Oral syrup nevirapine (NVP) for 6 weeks. One week after the completion of NVP syrup, baby is tested for HIV using a virological test (DNA or RNA NAAT).

04

Safe feeding in HIV

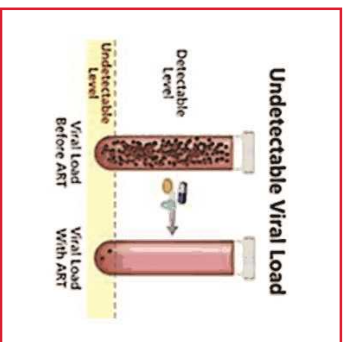
- **Formula feeding:** if the HIV control is suboptimal or doubtful.
- **Breast feeding:** Discouraged in Sri Lanka.

Preconception counselling in HIV

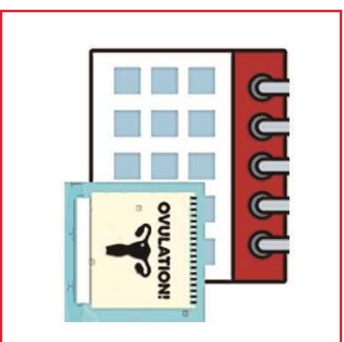
Discuss the importance of the following points



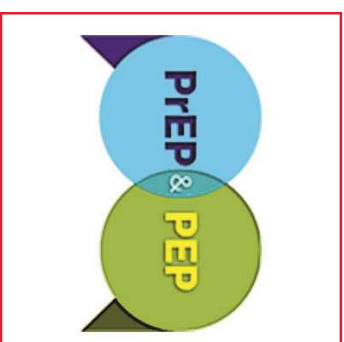
Discuss the plan of having a baby



Maintenance of undetectable VL with ART by the infected partner/s



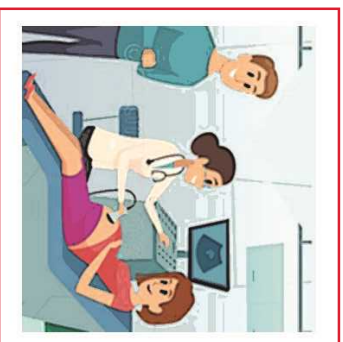
Plan a time and method of getting pregnant



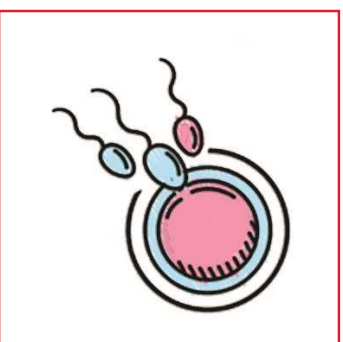
Use of HIV prophylaxis by uninfected partner



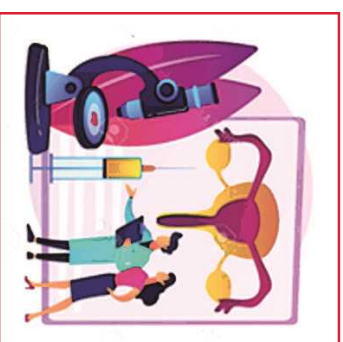
Inform the HIV clinic as soon as become pregnant



Attend routine antenatal care



Fertility assessment (if not getting pregnant)



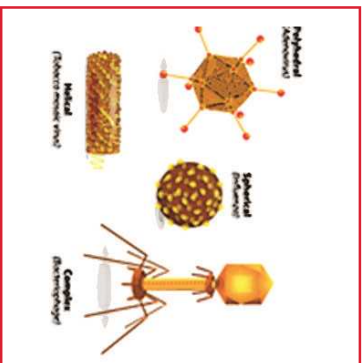
Refer for assisted techniques for conception if needed

Discuss preconception counselling options

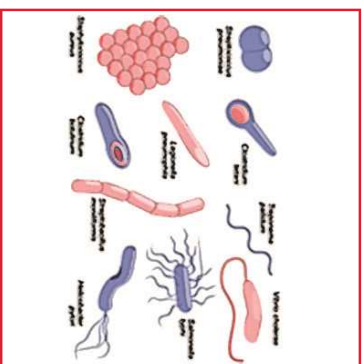
- **Discuss in detail the plan of having a baby and the possible risk:**
Encourage the couple to discuss the plan of getting pregnant.
- **Maintenance of undetectable VL by infected partner:**
Advise on the importance of maintaining the sustained virological response (SVR) by the infected partner/s. SVR means sustaining undetectable viral load for 6 months before natural unprotected vaginal sex for conception.
- **Planning the time and the method of getting pregnant:**
Discuss the methods of getting pregnant such as natural vaginal sex during fertile period after achieving SVR alone or supplemented with PrEP, self-insemination or intra vaginal insemination (if male not infected), intra-uterine insemination after sperm wash or donor insemination (if the male is infected) or In-vitro fertilization.
- **Use of HIV prophylaxis by the uninfected partner:**
- **Importance of informing the HIV clinic staff as soon as getting pregnant:**
Advise the patient that the importance of informing the HIV clinic staff about the conception for further information regarding the antenatal care, how to prepare for the safe delivery and safe feeding.
- **Attend routine antenatal clinics:**
Inform the couple that the need of continuing routine antenatal care while attending the HIV clinic.
- **Referral for assisted techniques of conception if needed:**
Sometimes even without fertility issues, some couples want to zero the risk of transmission by selecting an assisted techniques with no risk, then, support them for the desired techniques. If couples are sub-fertile refer for fertility centers for assisted techniques.

Management of opportunistic infections

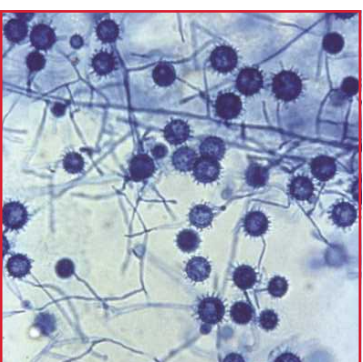
Opportunistic infections



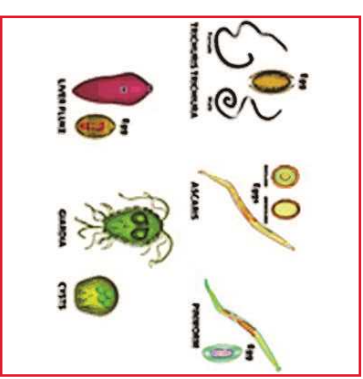
Virus



Bacterial



Fungus



Parasites

Opportunistic malignancies

Squamous cell carcinomas of epithelial tissues
(associated with HIV and HPV co-infection)

Hodgkin lymphoma (HL) and non Hodgkin lymphoma (NHL).
(associated with HIV and EBV co-infection)

Kaposi sarcoma (KS), primary effusion lymphoma (PEL), and multicentric Castleman disease (MCD).
(associated with HIV and HHV8 co-infection)

Primary CNS lymphoma.
(associated with HIV)

How to prevent opportunistic infections

■ Opportunistic Infections (OIs)

OIs are infections that normally do not cause a disease, but become pathogenic when the body's defense system is impaired. OIs usually occur in HIV at late stage of the disease when CD₄ count is low. OIs could be due to various viruses, bacteria, fungi or parasites infecting any part of the body. Some common OIs are Candidiasis, TB, PCP, CMV pneumonia.

■ Presentation of opportunistic infections

Symptomatic diseases can present as cough, fever, rashes, night sweat, weight loss, diarrhea, difficulty in breathing or swallowing, severe infections at any sites, signs and symptoms of intra cerebral disease etc.

■ Treatment of OIs

In general OI are treated first and antiretroviral therapy should be started as soon as patient is stable on OI treatment. When you get an OI, specific medicines other than ART will be added depending on the diagnosis for few months.

■ Prevention of OIs

Adherence optimization of HIV treatment (ART), practice good hygienic measures e.g. hand washing etc., vaccination against certain infections, INAH prophylaxis to prevent Tuberculosis.

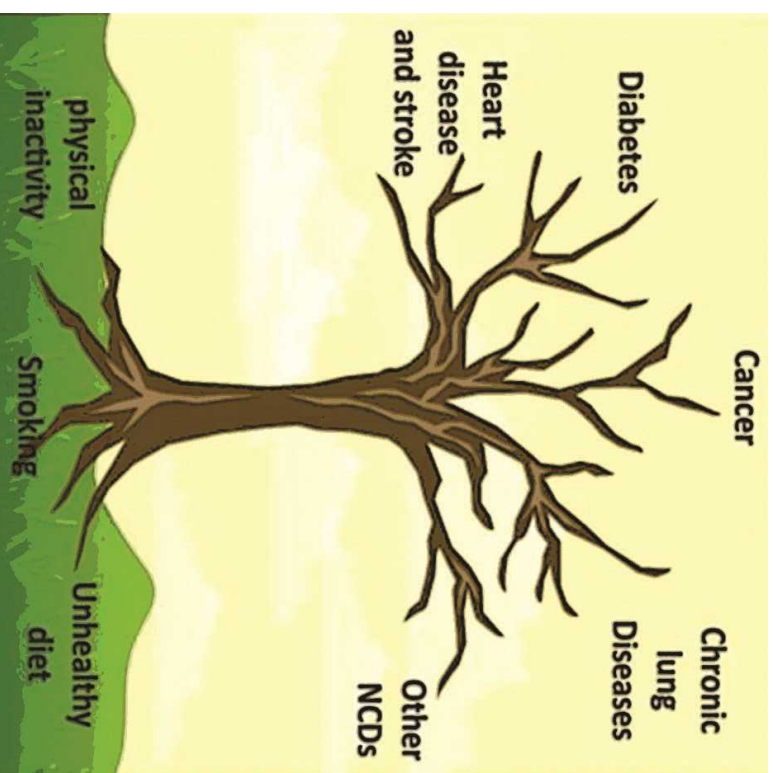
■ Opportunistic malignancies (OMs)

Malignancies that occur in excess frequency in the presence of the immunodeficiency of HIV infection.

Co-morbidities in HIV

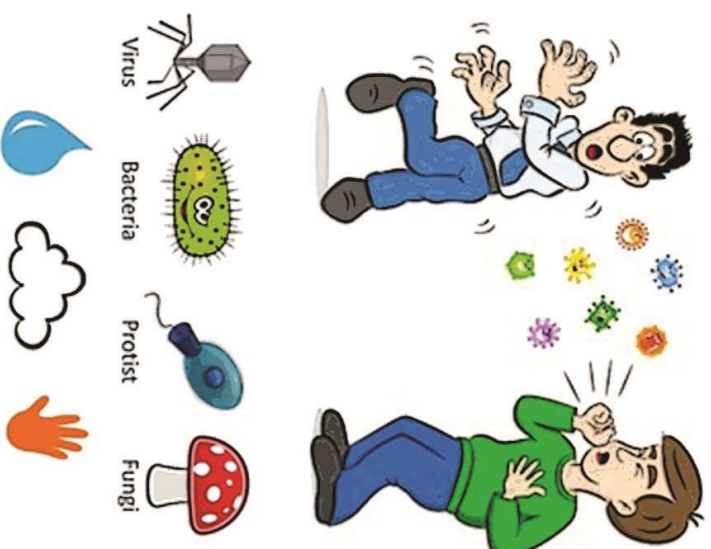
Co-morbidities are diseases outside the scope of the HIV illness

Non communicable diseases



Communicable diseases

Chicken pox, Dengue, COVID-19, Leptospirosis, MMR, Dysentery, viral hepatitis etc.



Common co-morbidities

Endocrine system

- Diabetes
- Hypothyroidism
- Hyperthyroidism

Cardio vascular diseases

- Hypertension
- Coronary vascular diseases
- Cerebro-vascular disease (stroke)

Respiratory diseases

- Asthma
- Chronic obstructive pulmonary diseases (COPD)
- Pneumonia

Sexually transmitted infections

- Herpes simplex,
- Syphilis
- Gonorrhoea
- M. genitalium

Liver diseases

- Viral hepatitis A, B, C, D, E
- Alcoholic liver diseases
- ART toxicity related

Renal diseases

- Chronic kidney disease (CKD)

Malignancies

- Cancer of any sites (Breast, Cervix, Prostate etc.)

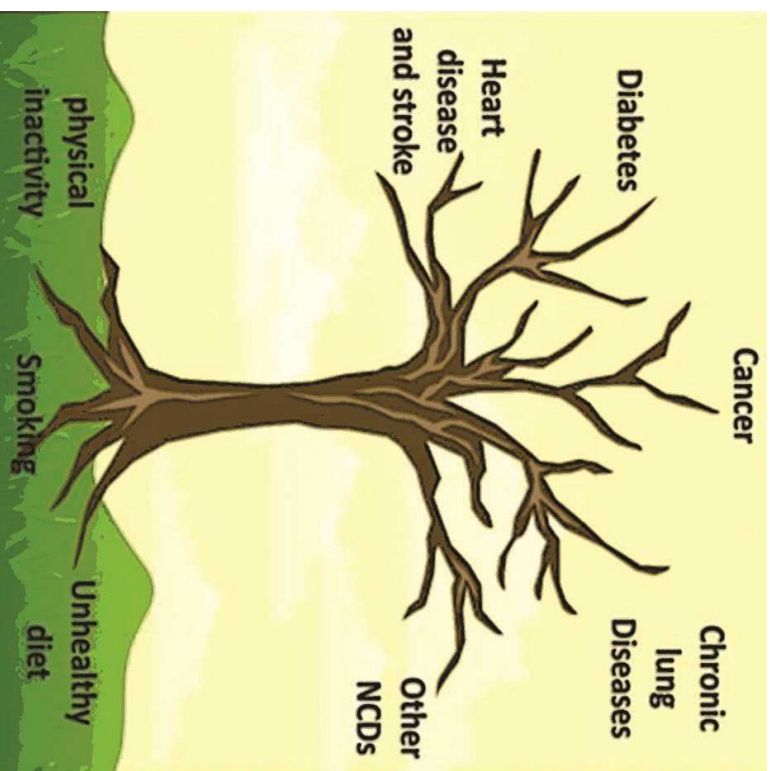
Mental disorders

- Substance dependence and abuse
- Depression
- Anxiety
- Schizophrenia
- Cognitive impairment

Co-morbidities in HIV

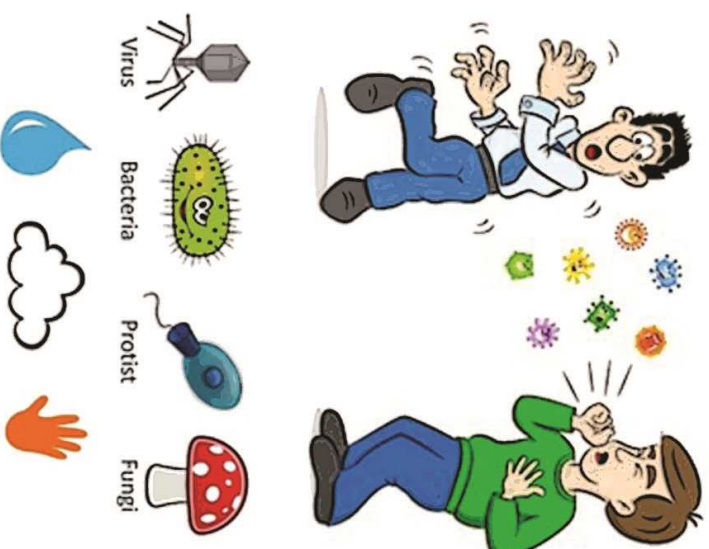
Co-morbidities are diseases outside the scope of the HIV illness

Non communicable diseases



Communicable diseases

Chicken pox, Dengue, COVID-19, Leptospirosis, MMR, Dysentery, viral hepatitis etc.



Management of co-morbidities in HIV

What are the co-morbidities in HIV infection

Comorbidity in HIV can be defined as a disease outside the scope of an AIDS-associated illness (opportunistic infections are excluded)

Management of co-morbidities

- Advise the patient to disclose any such illnesses with the HIV doctor or the doctor needs to explore and identify them by symptom/sign analysis or through the baseline investigations.
- Do relevant referrals or advise to follow up clinics if already on treatment, for the management of the condition (shared care).
- Advise the patient to inform about the medications currently on or any changes of medications done by relevant clinics in order to identify any medication interactions.

Vaccination in HIV infected adults

The following vaccines are recommended for people with HIV



Hepatitis B



Human papillomavirus



Influenza



Meningococcal vaccine



Pneumococcal vaccine



Hepatitis A

Vaccination in HIV infected adults

Introduction

Discuss about the types of recommended vaccines for HIV infected adults and its advantages and disadvantages. Explain the fact that vaccination needs to be recommended based on the potential risk of exposure.

Recommended vaccines

- Include hepatitis B, HPV vaccine, influenza, meningococcal, pneumococcal, hepatitis A and tetanus-diphtheria-pertussis (Tdap). These vaccines are advocated among HIV patients who have additional risk factors.
- Live viral vaccines, including measles-mumps-rubella (MMR), varicella, and zoster, can be considered for at-risk HIV patients who are clinically stable and have low level immunosuppression. ($CD_4 \geq 200$ cells/mm³).

ART centres, hotlines and contact details in Sri Lanka

Province	Clinic	Contact Number	Province	Clinic	Contact Number
Central	Kandy	081-2203622	Sabaragamuwa	Kegalle	035-2231222
	Matale	066-2053746		Rathnapura	045-2226561
	Nuwara Eliya	052-2223210		Embilipitiya	047-2230261
Eastern	Ampara	063-2224239	Southern	Balapitiya	091-2256822
	Batticaloa	065-2057078		Galle	091-2245998
	Kalmunai	067-2223660		Hambanthota	047-2222247
	Trincomalee	026-2222563		Matara	041-2232302
North central	Anuradhapura	025-2236461	Uva	Badulla	055-2222578
	Polonnaruwa	027-2225787		Monaragala	055-2276826
North western	Chilaw	032-2220750	Western	Colombo	011-2667163
	Kurunegala	037-2224339		Kalubowila	011-2763893
	Kuliyapitiya	037-2281261		Awissawella	036-2222003
	Puttalam	0322 265 261		Ragama	011-2960224
				Gampaha	033-2234383
Northern	Jaffna	021-2217756	Negombo	031-2239016	
	Vavuniya	024-2224575	Wathupitiwala	033-2280261	
	Kilinochchi	021-2283709	Kalutara	034-2236937	
	Mullaitivu	021-2061414	Panadura	038-2232261	
	Mannar	023-2250573			

Important web addresses and contact details



National STD/AIDS Control Programme - Sri Lanka

Ministry of Health, Nutrition & Indigenous Medicine



NSACP web address - www.aidscontrol.gov.lk



KNOW
4SURE.IK

Know 4 sure

Book your clinic reservation Online Reservations App
www.know4sure.lk

Non Governmental PLHIV Organizations

Name	Address	E mail	Contact Number
Positive hopes Alliance	479/2, Medawatta road, Weyangoda.	Su.pha2009@yahoo.com	0713586712
Lanka plus	55 Abhayarama lane, Naragenpita, Colomo 5.	lankaplus2001@yahoo.com	0112369069 0114901692
Positive Women Network Sri lanka	864/6 Thalagaha junction, Gothatuwa new town IDH.	pwnprincy@gmail.com	0114546244

Other supporting organizations

AIDS Foundation



No. 7, Wijerama Mawatha,
Colombo 7, Sri Lanka
Tel: 011 269 0230
Website: www.aidsfoundationlanka.org

Family Planning Association (FPA)



37/27 Bullers Lane,
Colombo 7, Sri Lanka.
Tel: 011 255 5455
Email: fpa@fpasrilanka.org
Website: ww.fpasrilanka.org



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Dr Vino Dharmakulasinghe	- Consultant Venereologist
Dr Anurudhda Karunaratne	- Acting Consultant Venereologist
Dr Vindya Perera	- Acting Consultant Venereologist
Dr Rachini Perera	- Acting Consultant Venereologist
Dr Heshani Colombage	- Acting Consultant Venereologist
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MINISTRY OF HEALTH



NATIONAL STD/AIDS
CONTROL PROGRAMME