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# Abbreviations and Acronyms

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<th>Description</th>
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<tbody>
<tr>
<td>3TC</td>
<td>Lamivudine</td>
</tr>
<tr>
<td>ABC</td>
<td>Abacavir</td>
</tr>
<tr>
<td>AFASS</td>
<td>Acceptable, feasible, affordable, sustainable and safe</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired immune deficiency syndrome</td>
</tr>
<tr>
<td>ANC</td>
<td>Antenatal care</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral treatment</td>
</tr>
<tr>
<td>ARV</td>
<td>Antiretroviral</td>
</tr>
<tr>
<td>ATV/ r</td>
<td>Atazanavir/ ritonavir</td>
</tr>
<tr>
<td>AZT</td>
<td>Azidothymidine, also known as zidovudine</td>
</tr>
<tr>
<td>BCG</td>
<td>Bacillus Calmette-Guérin</td>
</tr>
<tr>
<td>BD</td>
<td>Twice daily</td>
</tr>
<tr>
<td>CPT</td>
<td>Cotrimoxazole preventive therapy</td>
</tr>
<tr>
<td>CTC</td>
<td>Care and Treatment Clinic</td>
</tr>
<tr>
<td>TMP-SMX</td>
<td>Cotrimoxazole</td>
</tr>
<tr>
<td>d4T</td>
<td>Stavudine</td>
</tr>
<tr>
<td>DBS</td>
<td>Dried blood spot</td>
</tr>
<tr>
<td>ddI</td>
<td>Didanosine</td>
</tr>
<tr>
<td>DNA-PCR</td>
<td>Deoxyribonucleic acid-polymerase chain reaction</td>
</tr>
<tr>
<td>DMO</td>
<td>District Medical Officer</td>
</tr>
<tr>
<td>DRCHCO</td>
<td>District Reproductive and Child Health Coordinator</td>
</tr>
<tr>
<td>ELISA</td>
<td>Enzyme-linked immunosorbent assay</td>
</tr>
<tr>
<td>EFV</td>
<td>Efavirenz</td>
</tr>
<tr>
<td>EID</td>
<td>Early infant diagnosis</td>
</tr>
<tr>
<td>EPI</td>
<td>Expanded Program on Immunization</td>
</tr>
<tr>
<td>HCW</td>
<td>Healthcare worker</td>
</tr>
<tr>
<td>HIV</td>
<td>Human immunodeficiency virus</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>HLD</td>
<td>High-level disinfection</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, communication and education</td>
</tr>
<tr>
<td>IMCI</td>
<td>Integrated management of childhood illnesses</td>
</tr>
<tr>
<td>IPT</td>
<td>Isoniazid preventive therapy</td>
</tr>
<tr>
<td>LPV/r</td>
<td>Lopinavir / ritonavir</td>
</tr>
<tr>
<td>MSD</td>
<td>Medical Stores Department</td>
</tr>
<tr>
<td>MOHSW</td>
<td>Ministry of Health and Social Welfare</td>
</tr>
<tr>
<td>MTCT</td>
<td>Mother-to-child transmission of HIV</td>
</tr>
<tr>
<td>NACP</td>
<td>National AIDS Control Program</td>
</tr>
<tr>
<td>NGO</td>
<td>Nongovernmental organization</td>
</tr>
<tr>
<td>NVP</td>
<td>Nevirapine</td>
</tr>
<tr>
<td>OI</td>
<td>Opportunistic infection</td>
</tr>
<tr>
<td>PCP</td>
<td>Pneumocystis pneumonia</td>
</tr>
<tr>
<td>PCR</td>
<td>Polymerase chain reaction</td>
</tr>
<tr>
<td>PEP</td>
<td>Post-exposure prophylaxis</td>
</tr>
<tr>
<td>PLHIV</td>
<td>People living with HIV</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of mother-to-child transmission of HIV</td>
</tr>
<tr>
<td>RCH</td>
<td>Reproductive and Child Health</td>
</tr>
<tr>
<td>RRCHCO</td>
<td>Regional Reproductive and Child Health Coordinator</td>
</tr>
<tr>
<td>sdNVP</td>
<td>Single-dose nevirapine</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually transmitted infection</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>TDF</td>
<td>Tenofovir</td>
</tr>
<tr>
<td>VCT</td>
<td>Voluntary counselling and testing</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>ZDV</td>
<td>Zidovudine, the generic name for azidothymidine (AZT)</td>
</tr>
</tbody>
</table>
Introduction

The term “mother-to-child transmission” (MTCT) is used to describe transmission of HIV infection from a pregnant woman to her infant. It is the main cause of HIV infection in infants and children worldwide.

Definition

PMTCT (prevention of mother-to-child transmission of HIV) is the commonly used term for programmes and interventions designed to reduce the risk of mother-to-child transmission of HIV. MTCT is also referred to as vertical transmission or perinatal transmission.

Tanzania’s national PMTCT programme targets pregnant women, women of reproductive age and their sexual partners, children, families and communities. The goal of the PMTCT programme is virtual elimination of MTCT of HIV by 2015. The PMTCT programme aims to prevent HIV infection in children, giving babies the chance to be healthy and HIV free, and to provide women and their families with access to HIV prevention, testing, care, treatment and support. The primary PMTCT interventions in Tanzania include:

- HIV testing and counselling for pregnant women in ANC
- Partner HIV testing and counselling
- Delivery of ARV prophylaxis or treatment to prevent MTCT
- Safer delivery practices
- Infant-feeding counselling and support
- ART)care and support for mothers living with HIV and children
- Infant/child monitoring for proper growth and development
- Family planning services
- Infant/child HIV testing
This pocket guide is a reference tool for healthcare workers that provides easy access to guidance on prevention, treatment, care, and support services for mothers and families at risk for or infected with HIV. It is a part of a comprehensive package of PMTCT training materials, which can be references for detailed information on the topics covered in this guide.

**National PMTCT Programme**

The purpose of the PMTCT programme is to reduce MTCT and to improve care for parents and children living with HIV. The goal of the PMTCT programme is virtual elimination of MTCT of HIV by 2015. The programme's objectives are: To increase the percentage of HIV positive pregnant women who receive ARVs, to ensure access to care and treatment for mothers and babies living with HIV and to improve child survival among HIV exposed and infected children.

The PMTCT programme targets women of reproductive age, pregnant women, families, and the community.

**The comprehensive approach to PMTCT recommended in Tanzania consists of four elements:**

- Primary prevention of HIV infection
- Prevention of unintended pregnancies among women living with HIV
- Prevention of HIV transmission from mothers to their infants
- Provision of treatment, care, and support to women living with HIV, their partners, infants and families
Mother-To-Child Transmission (MTCT) of HIV Infection

MTCT may occur during:
- **Pregnancy**: As the foetus develops, HIV may cross the placenta.
- **Labour and delivery**: During delivery, the infant is exposed to high volumes of maternal fluids.
- **Breastfeeding**: Breast milk contains virus that may be transmitted through the infant’s digestive tract.

An infant will not always get HIV from its mother. Of 100 infants born to HIV-infected mothers, without any PMTCT intervention, up to 45 may become infected:
- 5–10 will become infected during pregnancy.
- 10–15 will become infected during labour and delivery.
- 5–20 will become infected during breastfeeding.

Factors increasing risk of MTCT during pregnancy, labour, and breastfeeding:
- High HIV viral load (large amount of virus in blood)
  - Newly infected with HIV
  - Advanced HIV disease (AIDS)
- Placental infection (viral, bacterial, fungal, parasitic)
- Prolonged rupture of membranes during labour (>4hrs)
- Sexually transmitted infections
- Prolonged duration of breastfeeding or mixed feeding
- Cracked nipples while breastfeeding or oral disease in the infant
Tanzania PMTCT Interventions

Major PMTCT interventions take place during:

ANC
- Group information session to discuss HIV, PMTCT and HIV testing (see “HIV Pre-Test Information”).
- Individual post-test counselling when HIV test results are received (see “Post-Test Counselling”).
- HIV re-testing during the third trimester.
- Follow-up ANC visits, with treatment, prophylaxis, care and support for women who are HIV-infected.

Labour & delivery
- HIV testing and counselling during labour and delivery.
- Obstetric interventions during labour and delivery, including safer delivery practices and ARV prophylaxis for the mother and infant (see “Care for HIV-Infected Woman during Labour”).

Ongoing RCH care
- Follow-up visits, with treatment and support for women who are living with HIV and their children, including infant/child HIV testing.
HIV Counselling and Testing

HIV counselling is a confidential dialogue between an individual and a healthcare worker aimed at enabling the individual to make personal decisions in the context of HIV.

HIV testing is a process that determines if a person is infected with HIV.

The 3 guiding principles of counselling and testing are:
1. Confidentiality
2. Informed consent
3. Post-test support and services

HIV counselling and testing should be accessible to all women of childbearing age.

HIV counselling and testing in ANC

- Group pre-test counselling is provided to all clients during initial ANC visit
- HIV test is offered as a part of routine ANC
- HIV test provided unless client refuses
- Individual or couple post-test counselling given to all clients regardless of test result

HIV counselling and testing in ANC is provider-initiated and routine
- HIV testing is offered as a routine part of ANC and RCH services.
- All women are given information about HIV, PMTCT and HIV testing and are routinely tested for HIV unless they specifically refuse (opt-out).
Offer all ANC clients HIV pre-test information at their first ANC visit.

### HIV pre-test information session

- HIV transmission and prevention
- Relationship between STIs and HIV
- MTCT and the availability of interventions to prevent MTCT
- Importance of early identification for an exposed infant
- HIV testing processes/procedure
- Availability and benefits of testing and counselling services for couples
- Benefits and risks of HIV testing
- Confidentiality
- Possible effects of positive and negative test results
- Importance of partner testing.
  - The possibility of discordant results
  - Disclosure and partner referral
- Explain risk reduction and available services.
  - Prevention of sexual transmission of HIV with safer sex, including condoms
  - PMTCT interventions, including ART or prophylaxis and safer infant feeding
  - Family planning
  - Importance of early infant diagnosis
  - Referral for treatment, care and support
- Importance of re-testing later in the pregnancy
- Encourage continuous healthcare attendance
When clients refuse HIV testing

- Reassure client that this refusal will not affect access to ANC or related services.
- Explore reasons for the refusal and address specific questions and concerns. Re-offer testing.
- If she still declines testing, inform the client that if she changes her mind, an HIV test can always be provided during a later visit.
- Document the refusal on the mother’s ANC card so that HIV counselling and testing can be offered at subsequent visits.
HIV Counselling and Testing for Couples

Considerations when working with couples
- Establish a relationship with both partners.
- Check each person’s understanding of HIV.
- Avoid letting one partner dominate the conversation.
- Check willingness of both partners to be tested.
- Explain the process of testing and the results:
  - How do they want to receive the results?
  - What kind of support can they give each other?
- Explore the advantages and disadvantages of knowing their status—as individuals and as a couple.
- Encourage them to discuss what it will mean to them if they do not get the same result.
- Explore who else might be affected by the HIV test outcome.

Discordant HIV results
Discordance refers to a difference in HIV status, such as when one partner is HIV positive and the other partner is HIV negative.
- Inform clients that HIV test results can differ between couples
- When discordance occurs, encourage the couple to practise safe sex
- Mention that one partner may be in the “window period” and will need to be retested in 3 months.
HIV Testing in Labour

Tanzania guidelines recommend that healthcare workers ask women who present in labour if they were tested for HIV during ANC. Any woman who has never tested HIV-positive and was either …

- Not tested during ANC, or
- Not provided with third trimester testing during ANC

…should be tested (or re-tested) during labour.

When a woman presents in **early labour**, 
- Provide pre-test information session (see next page)
- Conduct HIV testing unless she refuses.
- If she tests HIV-positive, give ARV prophylaxis to mother and infant.
- Provide post-test counselling before and/or after delivery (but before discharge) depending on the woman’s condition.

When a woman presents in **late labour (active phase)**, 
- Defer counselling and testing until after delivery.
- After delivery, provide pre-test information (see “HIV Pre-Test Information” on page 10)
- Conduct HIV testing unless she refuses.
- If she tests HIV-positive, offer ARV prophylaxis for the infant.
- Provide post-test counselling before discharge.

**Neither women nor their infants should be provided with prophylaxis unless the woman has been tested for HIV and found to be positive.**

**Conducting the labour and delivery pre-test session**

Pre-test information sessions are shorter in the labour and delivery setting than in ANC. Information is presented between contractions. Only the
most critical information is given during labour. Non-critical information can be given in the post-test session after delivery.

**Example of essential pre-test information script for women in labour**

- Hello, I am checking to make sure you have had all of the tests you needed for this pregnancy.
- Your ANC card shows you have not been tested for HIV during your pregnancy. Do you know what HIV is?
- (If the women says no) HIV is the virus that causes AIDS. Not everyone who has HIV looks or feels sick.
- If you have HIV, you can pass it to your baby during pregnancy, labour and delivery and breastfeeding.
- This is why we recommend that all pregnant women have an HIV test.
- If the test shows you have HIV, we can give you medicine immediately to lower the chance of passing HIV to your baby. After you give birth, the baby will also receive medicine, and we can refer you to where you, your baby and the rest of your family can get care and treatment.
- The HIV test will be done by drawing blood (or by a simple finger-prick).
- HIV testing is private. This means that only you and HCWs who are caring for you know your HIV test results.
- You have the right to refuse testing for HIV but we strongly recommend that you accept testing to help protect your baby.
- Unless you refuse, we will test you now and give you and your baby the best care based on your test results.
Types of HIV Tests

**HIV antibody tests:** tests to detect antibodies formed in response to the virus

- **Rapid tests**—Accurate, inexpensive tests that yield a result in less than 30 minutes
- **ELISA**—Enzyme-linked immunosorbent assay; also accurate but requires batching to be cost-effective, must be conducted in a laboratory and takes about 2 weeks to obtain results

Antibody test results may be negative in a recently infected person. There is a “window period” of up to 3 months during which there may not be enough HIV antibodies in the blood to be detected by a standard test.

In Tanzania, the nationally approved HIV rapid testing algorithm utilizes a ‘serial’ testing strategy. That is, a blood sample is tested with one HIV test kit first, and a second test kit is used only when the first HIV test kit revealed an HIV-positive test result. The actual tests used in the nationally approved HIV testing algorithm may change from time to time, based on the availability of new technologies and assessment of existing technologies.

**HIV viral tests:** tests to detect presence of virus

- **Polymerase Chain Reaction (PCR) test:**
  - **DNA PCR**—Detects the presence of virus
  - **RNA PCR**—Measures the amount of virus in the blood, also known as the “viral load”
HIV Testing Guidelines

- HIV testing is a routine part of ANC. All clients are provided with pre-test information and HIV testing unless they refuse. Written informed consent for HIV testing is not required.
- Results are given on the same day, whenever possible, and are entered in the client’s ANC card.
- All clients receive individual post-test counselling when they receive their HIV test results.

Interpreting HIV antibody tests

The result of an HIV test can be positive, negative, or inconclusive.

A confirmed positive HIV test means that antibodies to HIV are present in a person's blood and that the person is infected with the virus.

A negative test results can mean one of two things:
- Either the person is not infected with HIV,
- or
- The person is infected with the virus but the body has not had enough time to make a detectable amount of antibodies (the client was in the window period).

An inconclusive test result can mean that the test kit was damaged, the test was performed incorrectly, or the client was in the window period.
Draw Sample

First HIV Rapid Test

Non-reactive
- HIV Negative

Reactive
- Second HIV Rapid Test (same sample, if possible)

Non-reactive
- Inconclusive
  - Repeat First and Second HIV Rapid Test following same algorithm from beginning

Reactive
- HIV Positive

If results are still inconclusive, advise client/patient that he/she may be in acute HIV infection period; ask to return for another repeat HIV test in 2-4 weeks, following same algorithm or refer to higher-level facility; advise that protection is critical until results are known.
HIV Coding for ANC Cards

- Positive: PMTCT-1
- Negative: PMTCT-2
- Date tested or date refused: dd-mm-yyyy

Confidentiality must be protected

- Client’s personal and medical information, including HIV test results, may only be disclosed to other healthcare providers to ensure that the client receives the appropriate medical care.
- Only those healthcare workers who are directly involved in the client’s care will have access to the client’s records—and only on a “need-to-know” basis.
- All medical records and registers, whether or not they include HIV-related information, should be kept confidential and stored in a safe, secure place.
- Registers used to record services should use registration numbers to identify clients instead of names.
- When possible, the same counsellor should provide pre-test, post-test, and ongoing counselling.
- All HIV test results, whether positive or negative, must be given in person.
- Initial post-test counselling is provided to each client separately and privately, unless it is being conducted with a couple.
- Always give the results as soon as possible after the test
Post-Test Counselling

### Post-test counselling activities for all clients:

- Ask the client if she has any questions and address them if you can.
- Provide the HIV test result and assess the client’s understanding of the meaning of the result.
- Discuss partner HIV testing and the issue of discordance—the fact that her partner’s HIV status may be different from her own.
- Explore and encourage disclosure and partner testing, if such disclosure is safe and appropriate.
- Provide HIV risk assessment and individualised risk-reduction plans. Encourage risk-reducing behaviour, including safer sex.
- Provide the appropriate PMTCT essential messages according to the client’s HIV status.
- Offer appropriate information and referral according to women’s HIV status.
- Encourage and support follow-up ANC visits. These visits provide the opportunity to reinforce key PMTCT messages, provide follow-up counselling and make referrals for HIV treatment, care and support as necessary.

### Post-test counselling for a negative test result should include:

- Advice on adopting safer sex practices and family planning. It is important that women know that if they become infected during pregnancy or while breastfeeding, they face an increased risk of MTCT.
- Support to exclusively breastfeed for the first 6 months of life.
- Information on re-testing at 36 weeks of gestation, or before 36 weeks of gestation if she requests it or if she might be in the window period.
Post-test counselling for a positive test result should involve the following steps:

- Opportunity to discuss her feelings about her test result and her immediate concerns.
- Inform client about essential PMTCT services including ARVs for herself and for her infant.
- Provide infant-feeding education, counselling and support.
- Assess eligibility for ART. Make plans to initiate ART or ARV prophylaxis.
- Discuss safer sex practices and family planning.
- Give appointment for follow-up HIV care and treatment for her, her partner and her children or provide referral where appropriate.
- Discuss care for HIV-exposed children and infant/child testing.
- Identify sources of hope for the client, such as family, friends, community-based services, spiritual supports and treatment options. Make referrals when appropriate.
- Encourage client to keep subsequent ANC visits, stress the importance of delivering in a health facility, and schedule next ANC visit.

When the client’s HIV status is inconclusive:

- Inform client that she may be in the window period.
- Explain the need for repeat testing and reinforce information about MTCT and PMTCT.
- Give post-test counselling messages as for a HIV-negative client.
- Schedule repeat test for next ANC visit (sooner if she prefers) or within 6 weeks.
Care for HIV-Infected Woman during Labour

On admission, the admitting nurse should ask clients for their ANC card.

- Staff must look for identifying code on ANC card or referral notes.

Administer ART or ARV prophylaxis during labour in accordance with Tanzania guidelines.

- Continue ART or administer ARV prophylaxis during labour to reduce maternal viral load.

Use Standard Precautions (good infection prevention practices) for all client care.

- Use protective gear, safely use and dispose of sharps, sterilize equipment, and safely dispose of contaminated materials.

Minimise vaginal examinations.

- Perform vaginal examinations only when absolutely necessary using appropriate sterile technique.

Record all vaginal examinations on the partogram.

Avoid prolonged labour.

- Use a partogram to monitor the progress of labour and indicate medications used during labour, including ARV prophylaxis.
- Avoid artificial rupture of membranes, unless necessary.

Avoid unnecessary trauma during delivery.

- Avoid invasive procedures.
- Avoid routine episiotomy.
- Prevent genital tract/perineal lacerations.
- Minimise the use of vacuum extractors.
Minimise the risk of postpartum haemorrhage.

**Carefully manage all stages of labour to prevent infection and avoid prolonged labour.**

- Actively manage the third stage of labour, by using oxytocic medications and controlled cord traction.
- Perform uterine massage.
- Carefully remove all products of conception.

**Use safe transfusion practices.**

- Minimise blood transfusions.
- Use only blood screened for HIV, Hepatitis B and C, and when available, syphilis and malaria.
**Antiretroviral (ARV) Prophylaxis to Prevent MTCT**

**ART:** Long-term use of antiretroviral medications to treat maternal HIV to improve health and slow progression of the disease. ART also reduces MTCT.

**ARV prophylaxis:** Short-term use of antiretroviral medications to reduce HIV transmission from mother to infant.

**ART during labour and postpartum**
- HIV-infected women who are already receiving ART should continue taking their ARV medications during labour and postpartum according to their regular dosing schedule.
- Women on ART should not be given sdNVP.

**ARV prophylaxis during ANC, labour and postpartum**
HIV-infected women who are not eligible for ART for their own health should receive ARV prophylaxis:
- AZT 300 mg twice a day from as early as 14 weeks of gestation

ARV prophylaxis regimen during labour and postpartum for women with HIV (not in need of treatment) is listed in the tables below.

<table>
<thead>
<tr>
<th>Woman on ARV prophylaxis for 4 weeks or longer at time of labour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antepartum</strong></td>
</tr>
<tr>
<td>AZT 300 mg twice a day from 14 weeks of gestation</td>
</tr>
</tbody>
</table>
### Woman on ARV prophylaxis for less than 4 weeks at time of labour

<table>
<thead>
<tr>
<th>Antepartum</th>
<th>Intrapartum</th>
<th>Postpartum</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZT 300 mg twice a day from 14 weeks of gestation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✦ sd-NVP (200 mg) at start of labour +</td>
<td>✦ AZT (300 mg) twice a day +</td>
</tr>
<tr>
<td></td>
<td>✦ AZT (300 mg) twice a day +</td>
<td>✦ 3TC (150 mg) twice a day</td>
</tr>
<tr>
<td></td>
<td>✦ 3TC (150 mg) 12hrly from start of labour</td>
<td>✦ For 7 days after administration of sd-NVP</td>
</tr>
</tbody>
</table>

Sd-NVP is no longer recommended for use in labour unless the woman received a sub-optimal course of AZT. AZT + 3TC is administered after delivery to reduce risk of NVP resistance. If sd-NVP is not administered, AZT + 3TC is not necessary.
Special Considerations for Nevirapine Prophylaxis

To prevent NVP resistance, healthcare workers should:

- Document NVP administration clearly on medical records to avoid accidental repeat administration.

**False labour**

- Avoid repeating the maternal NVP dose if given during false labour at any point in time.
- Educate the mother to be able to distinguish true labour from false labour. Mothers should be instructed to take the NVP only at the onset of true labour.

**Vomiting**

- Repeat the dose of NVP for the mother after vomiting ONLY if it occurs within 30 minutes of NVP administration. No additional dose is required if the vomiting occurs after 30 minutes.
Infant ARV Prophylaxis

- All HIV exposed infants should receive ARV prophylaxis from birth or as soon as feasible thereafter. The sooner the infant dose of ARV prophylaxis is given, the greater its protective effect.
- Duration of infant ARV prophylaxis depends on whether or not the mother is on ART and the infant feeding method.

### Infants of mothers on ART: ARV prophylaxis regimen

<table>
<thead>
<tr>
<th>Feeding method</th>
<th>Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfed infants AND</td>
<td>Once daily NVP from birth until 6 weeks of age</td>
</tr>
<tr>
<td>Exclusively replacement fed infants</td>
<td></td>
</tr>
</tbody>
</table>

### Infants of mothers on ARV prophylaxis: ARV prophylaxis regimen*

<table>
<thead>
<tr>
<th>Feeding method</th>
<th>Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfed infants</td>
<td>Once daily NVP from birth until 1 week after all exposure to breast milk has ended, or for 6 weeks if breastfeeding ceases before 6 weeks</td>
</tr>
<tr>
<td>Exclusively replacement fed infants</td>
<td>Once daily NVP from birth until 6 weeks of age</td>
</tr>
</tbody>
</table>

* Infant ARV prophylaxis regimen is the same, regardless of duration of maternal ARV prophylaxis. This is also the same regimen for infants of mothers living with HIV who had no ARVs during pregnancy.
<table>
<thead>
<tr>
<th>Infant age</th>
<th>NVP daily dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ Birth to 6 weeks</td>
<td></td>
</tr>
<tr>
<td>♦ Birth weight 2000–2499 g</td>
<td>♦ 10 mg once daily</td>
</tr>
<tr>
<td>♦ Birth weight ≥2500 g</td>
<td>♦ 15 mg once daily</td>
</tr>
<tr>
<td>♦ &gt; 6 weeks to 6 months</td>
<td>♦ 20 mg once daily</td>
</tr>
<tr>
<td>♦ &gt; 6 months to 9 months</td>
<td>♦ 30 mg once daily</td>
</tr>
<tr>
<td>♦ &gt; 9 months to one week after all exposure to breast milk has stopped</td>
<td>♦ 40 mg once daily</td>
</tr>
</tbody>
</table>

*Low birth weight infants should receive mg/kg dosing, suggested starting dose is 2 mg/kg once daily.*
Immediate Care of the HIV-Exposed Newborn

Procedural recommendations

- Clamp cord immediately after delivery; avoid milking cord.
- Cover the cord with gloved hand or gauze before cutting to avoid splash of cord blood.
- Wipe infant’s mouth and nostrils at delivery of the head.
- Wipe infant dry with towel.
- Use suction only when the infant shows signs of distress or aspiration. Use either mechanical suction at less than 100 mm Hg pressure or bulb suction, rather than mouth-operation suction.
- Determine the mother’s feeding choice. If she is breastfeeding, place the infant on the mother’s breast. If she is replacement feeding, place the infant on her body for skin-to-skin contact and provide help with the first feed.
- Administer ARV prophylaxis as soon as possible following birth (see “Infant ARV Prophylaxis” on page 26)
- Administer tetracycline eye ointment.
- Administer BCG and polio vaccines.
- If mother is NOT breastfeeding, administer vitamin A 50,000 IUs at birth or within 6 months.

Follow-up infant care includes:

- Monitoring of infant feeding, growth, and development
- Vitamin A supplementation (see “Care of HIV-Exposed Infants” on page 71)
- Prevention and treatment of opportunistic infections
- HIV testing or clinical presumptive diagnosis of HIV testing
If HIV-infected provision or referral for ART
Immunisations and nutritional supplementation (see “Care of HIV-Exposed Infants” starting on page 71)
Immediate Postpartum Care of HIV-Infected Women

Immediate post-delivery care
Use Standard Precautions when assessing vaginal bleeding and dispose of bloodstained linens and pads safely.

HIV counselling and testing
- Women who received HIV testing during labour and delivery should receive additional HIV post-test counselling postpartum.
- Women of unknown HIV status should receive pre-test information, counselling and HIV testing, unless they decline, so that their infants can receive ARV prophylaxis if needed.
- Partners of women living with HIV who desire HIV testing should receive pre-test information, counselling and HIV testing.

Counselling about safer infant feeding
- Provide all women, regardless of HIV status, with counselling and support to exclusively breastfeed their infants for the first 6 months of life. Mothers who choose to replacement feed and for who replacement feeding is AFASS, should also be provided with counselling and support to replacement feed.
- Before discharge from the maternity, observe the mother as she implements her chosen infant feeding method.
- If the mother chooses not to breastfeed: discuss with her how she will cope with possible stigmatisation and advise her on the suppression of lactation.

ARV prophylaxis for mother and infant
- Teach mothers about the importance of and the correct way to administer ARV prophylaxis to their infants and to themselves.
Vitamin A supplementation
- Before discharge, administer vitamin A 200,000 IUs to the mother.

Immediate postpartum education
Regardless of HIV status, the mother will need the following information before discharge:
- How to access help in the event of postpartum haemorrhage
- How to dispose of potentially infectious materials such as lochia and blood-stained sanitary pads
- Perineal and breast care
- Care for the infant’s umbilicus
- Proper hygiene; changing diapers and washing the infant
- Recognizing signs and symptoms of postpartum infection and where to seek help
- Recognizing signs and symptoms of infant illness and HIV infection
- Infant feeding
- Dual protection for family planning and HIV infection prevention

<table>
<thead>
<tr>
<th>Symptoms of postpartum infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burning with urination</td>
</tr>
<tr>
<td>Fever</td>
</tr>
<tr>
<td>Increased heart rate</td>
</tr>
<tr>
<td>Foul smelling lochia</td>
</tr>
<tr>
<td>Cough (dry or producing sputum), shortness of breath</td>
</tr>
<tr>
<td>Redness, pain, pus, or drainage from incision or episiotomy</td>
</tr>
<tr>
<td>Severe lower abdominal tenderness</td>
</tr>
</tbody>
</table>
Education about and scheduling of comprehensive care visits for the mother and infant

- Schedule postpartum follow-up for the mother and infant, including immunisations before discharge.
- Record infant’s HIV exposure status on their immunisation cards. Let mothers know that infants should be followed monthly at the Under-Five clinic.
- Educate mothers about need for the infant to start cotrimoxazole preventive therapy (CPT) at 4 weeks of age or as soon as possible thereafter.

How to promote linkages for postpartum care

- During ANC, tell all clients that postpartum care is important.
- Give mothers referral information for follow-up care including the time, location, and contact information for the appointment.
- Give women postpartum appointments upon discharge from labour and delivery facility.
- For women likely to give birth at home, schedule the first follow-up appointment during ANC.
- Establish procedures to confirm that women attend a referral appointment.
- Train home birth attendants to encourage women who give birth at home to come into a health facility within 24 hours.
Follow-up Postpartum Care for the Mother

Follow up postpartum care of the mother with HIV infection includes:

- Assessment of healing and routine physical assessment for primary care needs (see below)
- Infant-feeding support (see “Infant-Feeding Recommendations” on page 37)
- HIV treatment, care and support, including routine reassessment for ART eligibility (clinical staging and CD4 testing)
- Prevention and treatment of opportunistic infections
- Cervical cancer screening
- Prevention and treatment of malaria
- Sexual and reproductive health care, including family planning and counselling about safer sex (see below)
- Psychological and social support
- Nutritional counselling care and support
- Home-based care as needed

- The first postpartum appointment should be within one week (7 days) after birth.
- Subsequent visits should take place at 28 days and again 42 days after birth.
- Refer women back to HIV care and treatment follow-up at the CTC at their 42-day visit if care and treatment services are not available at the RCH.
Assessment of healing and routine physical assessment

- Checks client records:
- Were there any complications during delivery?
- Is client receiving any treatments?
- Is the client HIV-infected?

<table>
<thead>
<tr>
<th>Ask the Client</th>
<th>Perform Routine Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>- When and where did you deliver?</td>
<td>- Measure blood pressure and temperature.</td>
</tr>
<tr>
<td>- How are you feeling?</td>
<td>- Monitor uterine involution. Feel the client’s uterus. It should be well contracted, hard, and round.</td>
</tr>
<tr>
<td>- Have you had any pain or fever or heavy bleeding since delivery?</td>
<td>- Check healing of any repaired genital/perineal lacerations.</td>
</tr>
<tr>
<td>- Do you have any problem with passing urine?</td>
<td>- Examine the vulva and perineum for tears, swelling or pus</td>
</tr>
<tr>
<td>- Have you decided on any contraception?</td>
<td>- Confirm that postpartum bleeding has stopped.</td>
</tr>
</tbody>
</table>
| - How do your breasts feel? | - Check for signs of infection: look at the client’s sanitary pad to estimate the amount of bleeding and examine the lochia.  
  - Does the lochia smell? (Foul smelling lochia with fever is a sign of infection.) |
| - Do you have any other concerns? | - Check for signs of anaemia: look for paleness or pallor in the mother. |

Family planning counselling

- Discuss condom use as dual protection against STIs, HIV, and unplanned pregnancy.
- Discuss the importance of safer sex to prevent the spread of HIV and other STIs.
Support the mother's choice of contraceptive method.
Give the mother advice on how to recognize STI symptoms and where to go for STI assessment and treatment.
Answer any questions she may have about safer sex.

All mothers should be counselled to start using some form of contraception within 6 weeks of delivery.

Contraceptive choices for HIV-infected women

- Nearly **ALL** methods of contraception are safe for use by women with HIV.
- **Condoms** are important as dual protection—to prevent pregnancy, most STIs and further transmission of HIV. HIV infected women need continuing protection against STIs.
- **Hormonal contraceptives**, including combined oral contraceptive pills and injectable methods (such as Depo-Provera/DMPA), are highly effective birth control methods, but:
  - There may be interactions between hormonal contraceptives and certain ARV medications. Clients should understand that the clinical significance of these interactions is unclear but that using a back-up method like a condom is recommended to avoid unintended pregnancy.
  - Rifampicin can lower the efficacy of some hormonal contraceptives. Women taking rifampicin for tuberculosis usually need to use a back-up method of contraception like condoms.

Important notes about hormonal contraceptives.

- Combined oral contraceptives may decrease breast milk production.
- Progestin-only contraceptives should be started 6 weeks after delivery.
**IUDs** can be used successfully in HIV-infected women on ART and in asymptomatic or mildly symptomatic women. IUDs are **not** usually recommended for women with advanced HIV infection who are not receiving ART.

**Spermicides,** or **diaphragm with spermicides** should not be used by HIV-infected women due to enhanced risk of HIV transmission.

**Fertility awareness-based methods** are difficult and unreliable for women on ART or those with advanced HIV disease due to changes in menstrual cycle and higher body temperatures.

**Lactation amenorrhea method (LAM)** is a temporary contraceptive method that should only be used by women who (i) are less than 6 months postpartum, (ii) are exclusively breastfeeding, and (iii) have not resumed menstruating. Women who meet all three of these criteria have only a 1% to 2% chance of getting pregnant. As this method is temporary, every effort should be made to get women who desire family planning, on another method well before 6 months postpartum.

**Sterilization** is a permanent method of birth control and an excellent method for women who do not desire any more children. There is no medical reason to deny sterilization to women living with HIV.

**HIV and fertility**

- HIV may reduce fertility by as much as 40% but ART increases fertility. Women on ART should be made aware of the possibility of their fertility returning. Emphasize that family planning can reduce unintended pregnancy.
- Men living with HIV are more likely to have low sperm count and low sperm quality than HIV-negative men.
Infant-Feeding Recommendations

Infant-feeding guidelines for HIV-infected women
Tanzania’s guidelines for women living with HIV are to exclusively breastfeed for the first 6 months of life unless replacement feeding with commercial infant formula is acceptable, feasible, affordable, sustainable and safe (AFASS).

Exclusive Breastfeeding: Feeding an infant ONLY breast milk and no other liquids or solids, with the exception of prescribed drops or syrups consisting of vitamins, mineral supplements or medicines.

Replacement Feeding: Feeding infant something OTHER THAN breastmilk. During the first 6 months of life, the only replacement feed that meets an infant’s nutritional requirements is commercial infant formula.

Mixed Feeding: Feeding both breast milk and other liquids (such as water, tea, formula, cow’s milk) or foods (such as porridge or rice). Mixed feeding during the first 6 months of life is never recommended and should be avoided by all women, regardless of HIV status.

Complementary Feeding: Any food, whether manufactured or locally prepared, that is added to a child’s diet when the child reaches 6 months of age. Complementary foods are needed because breastmilk or replacement foods alone do not satisfy the child’s nutritional requirements after this age.
### Infant feeding recommendations according to HIV status

<table>
<thead>
<tr>
<th>Client situation</th>
<th>First 6 months</th>
<th>&gt;6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-negative woman</td>
<td>Exclusive breastfeeding</td>
<td>Introduce complementary foods while continuing to breastfeed till 2 years of age and beyond</td>
</tr>
<tr>
<td>Woman living with HIV</td>
<td>Exclusive breastfeeding</td>
<td>Introduce complementary foods while continuing to breastfeed (with prophylaxis) to 12 months of age. At 12 months:</td>
</tr>
</tbody>
</table>
|                          |                 | - If the child is HIV-uninfected or of unknown HIV status—stop breastfeeding gradually if a nutritionally adequate and safe diet without breast milk can be provided.  
                          |                 | - If the child is known to be HIV-infected — continue breastfeeding till 2 years of age and beyond. |
| Woman of unknown HIV status | Exclusive breastfeeding | Breastfeeding and complementary foods until 2 years and beyond. Encourage HIV testing |
| Replacement feeding is AFASS | Replacement feeding | Replacement feeding and complementary foods until 2 years and beyond |

- If replacement feeding with infant formula is AFASS, then an HIV-infected woman may gradually stop breastfeeding after 6 months.
Infant-Feeding Counselling for HIV-infected Women

Infant-feeding counselling should be offered during:

- **Antenatal Care:** Provide infant-feeding counselling over several sessions. If a mother is unlikely to return to ANC, provide her with all of the essential infant-feeding information during the first visit.

- **Postnatal Care:** Visit mother and infant immediately after the birth (either in the maternity ward or at home) and schedule another visit within 7 days to monitor infant-feeding progress.

Additional counselling sessions may be required when the:

- Child is sick
- Child is nearing 6 months of age, to discuss the introduction of complementary foods at 6 months of age
- Mother returns to work
- Mother decides to change feeding methods
Using the infant feeding flowchart on the following page

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>If this is the mother's first infant-feeding counselling session and…</td>
<td></td>
</tr>
<tr>
<td>She is pregnant or recently delivered:</td>
<td>Follow Steps 1–4.</td>
</tr>
<tr>
<td>She already has a child:</td>
<td>Follow Steps 1 and 4.</td>
</tr>
<tr>
<td>If the mother has already been counselled but has not yet learned how to</td>
<td></td>
</tr>
<tr>
<td>breastfeed (or formula feed) and…</td>
<td></td>
</tr>
<tr>
<td>She is pregnant or recently delivered:</td>
<td>Follow Step 4 only.</td>
</tr>
<tr>
<td>She already has a child:</td>
<td>Follow Steps 4 and 5.</td>
</tr>
<tr>
<td>If this is a follow-up visit…</td>
<td>Begin with Step 5.</td>
</tr>
</tbody>
</table>
Infant-Feeding Counselling Flow Chart for Women with HIV

**Step 1**
Explain the risks of MTCT and how to reduce risks.

**Step 2**
Discuss infant feeding options: exclusive breastfeeding and formula feeding*.

**Step 3**
Conduct AFASS Assessment if mother is interested in formula feeding*.

**Step 4**
Provide support to implement her decision. Provide take-home flyer.

**Step 5**
- Provide follow-up counselling and support.
- Discuss duration of breastfeeding (or formula feeding).

**Postnatal Visits**
- Monitor growth.
- Check feeding practices and whether any change is envisaged.
- Check for signs of illness.
- Discuss complementary feeding from 6 months.
- Discuss transition to animal milk.

* If formula feeding is AFASS, help the mother choose between breastfeeding and formula feeding.
Infant-feeding counselling steps

Introduce the infant feeding counselling session; provide an overview of the session

- **Step 1: Explain the risks of MTCT and How to reduce risks**, discuss MTCT and how to reduce risk of MTCT during breastfeeding:
  - Enrol in HIV care and treatment. Explain the use of ARVs for PMTCT during the breastfeeding period and its significance in reducing risk of HIV transmission.
  - Take all of your medicines every day
  - Deliver your baby in a healthcare facility.
  - Breastfeed or formula feeding your baby exclusively.

- **Step 2: Discuss infant feeding options** with focus on government recommendation to breastfeed exclusively for the first 6 months. If she want to know more about formula feeding, proceed to Step 3, if she has decided to breastfeed, proceed to Step 4.

- **Step 3: Conduct AFASS assessment.** If woman expresses interest in formula feeding, conduct the AFASS assessment. Ask the questions below.
<table>
<thead>
<tr>
<th>Definition</th>
<th>Possible Questions for Clients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acceptable:</strong> The mother perceives no significant barrier(s) to choosing a feeding option for cultural or social reasons or for fear of stigma and discrimination.</td>
<td>✷ How would your partner feel about replacement feeding? How about your family?</td>
</tr>
<tr>
<td><strong>Feasible:</strong> The mother (or other family member) has adequate time, knowledge, skills and other resources to prepare feeds and to feed the infant as well as the support to cope with family, community and social pressures.</td>
<td>✷ How do you feel about waking up at night to prepare formula for your baby? ✷ How far are you from the clinic and how do you usually get here? ✷ Do you work? If so, are there other caregivers that will be able to prepare formula feeds and feed the infant as often as needed?</td>
</tr>
<tr>
<td><strong>Affordable:</strong> The mother and family, with available community and/or health system support, can pay for the costs of the replacement feeds—including all ingredients, fuel and clean water—without compromising the family’s health and nutrition spending.</td>
<td>✷ How would you feel about your ability to cover the monthly costs of formula feeding? ✷ Where do you go for health services?</td>
</tr>
<tr>
<td><strong>Sustainable:</strong> The mother has access to a continuous and uninterrupted supply of all ingredients and products needed to implement the feeding option safely for as long as the infant needs it.</td>
<td>✷ Do the markets or shops in your area ever run out of formula? ✷ Do you expect to have the same income you have now for your baby’s first year?</td>
</tr>
</tbody>
</table>
**Safe:** Replacement foods are correctly and hygienically stored, prepared and fed in nutritionally adequate quantities; infants are fed with clean hands using clean utensils, preferably by cups.

- What is your source of drinking water and how far away is it?
- What do you use for cooking fuel and where do you get it?
- Do you have a refrigerator with reliable power?
- Where is the toilet facility? Is it shared?
- Is anyone in your home frequently ill with diarrhoea?

**Step 4: Provide support to implement her decision**

- **Breastfeeding mothers:**
  - Discuss positioning and attachment
  - Discuss exclusive breastfeeding and avoidance of mixed feeding
  - Provide demonstration
  - Encourage on-demand breastfeeding

- **Formula feeding mothers**
  - Ensure she meets ALL AFASS criteria, if not then encourage breastfeeding, if so then proceed with following
  - Discuss how to prepare and store infant formula
  - Discuss cup feeding
  - Discuss exclusively formula feeding in first 6 months (i.e. not breastfeeding at all)
  - Provide demonstration

**Step 5: Provide follow up counselling and support based on infant-feeding choice/method**

- Check infant growth
- If mother is breastfeeding, check infant ARV prophylaxis (NVP) dose and adjust for weight. Ensure infant receives NVP daily
• Discuss infant HIV testing
• Discuss CPT
• If the infant is approaching 6 months: discuss complementary feeding
• Ensure mother is in care for her HIV disease, re-assess for ART (or prophylaxis if she is pregnant) eligibility
# Breastfeeding

## Exclusive breastfeeding

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easily digestible and gives infants all the nutrients and water they need for the first 6 months of life.</td>
<td>Continued risk of MTCT</td>
</tr>
<tr>
<td>Has protective antibodies and growth factors</td>
<td>Requires feeding on demand (8–10 times in 24 hours)</td>
</tr>
<tr>
<td>Does not irritate an infant’s stomach and intestines.</td>
<td>Mothers require additional 500 kcal/day to support exclusive breastfeeding</td>
</tr>
<tr>
<td>Always available</td>
<td></td>
</tr>
<tr>
<td>Improves brain growth and development.</td>
<td></td>
</tr>
<tr>
<td>Provides close contact that deepens mother-child bond.</td>
<td></td>
</tr>
<tr>
<td>Reduces mother’s risk of some cancers and helps space her pregnancies.</td>
<td></td>
</tr>
</tbody>
</table>

## Maternal nutrition

Lactating women need an additional 500 kcal every day.

This is the equivalent of one extra meal a day, for example, 2 bananas, 1 piece of fried chicken, 1 cup of rice, and a serving of spinach.
Breastfeeding—Positioning and Attachment

Good breastfeeding technique begins with correct positioning and attachment.

**Positioning the baby**

- Baby’s whole body should be held close and face the mother.
- Baby’s arms should not be wedged between the baby and mother’s body.
- Baby’s head and body should be in a straight line.
- Baby’s bottom should be supported and not resting on her lap.
- Baby’s head should face the breast.
- Baby’s face should be close to the breast with the tip of the nose opposite the nipple.
- Baby’s chin should touch the breast.
- There are many positions in which a mother can breastfeed, including standing up. What is important is for the infant to take enough breast tissue into the mouth so that he can suckle effectively.

**Showing the mother proper attachment**

- Make sure the mother is comfortable and relaxed.
- Position the infant’s head close to the mother’s body and facing her breast. The infant’s head and body should be supported by the mother’s forearm and hand.
- Show the mother how to support her breast with the other hand: First finger underneath the breast, supporting it and thumb on top of breast (not too close to the nipple).
Explain and show her how to help infant attach: Touch the nipple to the infant’s lips; once the infant opens his or her mouth wide, help the baby to take the areola and underlying tissues into the mouth.

The infant will stretch the breast tissue to form a long “teat”; the nipple forms only about 1/3rd of the “teat”.

Look and listen for signs of proper attachment:

- Baby’s mouth is wide open
- More areola seen above than below
- Baby’s chin is touching the breast
- Baby’s lower lip curved outward
- Baby makes slow, deep sucks, sometimes pausing; milk flows well
- Baby makes deep, gulping sounds
Managing Breast Conditions

Preventing sore or cracked nipples
- Check positioning; encourage baby to open wide when latching on.
- Offer baby short, frequent feedings to encourage a less vigorous sucking.
- Nurse on the least sore side first, if possible
- When removing baby from your breast, break the suction gently by pulling on baby's chin or corner of mouth.
- Change feeding position at each feeding.
- *Cracked nipples should be assessed for candida and treated as indicated.*

Management of blocked ducts
- Offer the affected breast first to ensure strong suckling.
- Gently massage lump towards the nipple.
- Use warm compresses and showers, nursing immediately after.

To relieve engorgement, teach the mother to:
- Support the breasts well, do not bind them.
- Apply warm compresses to increase comfort, alternating with cold compresses to reduce swelling.
- Express enough milk to relieve discomfort.
- Relieve pain with an analgesic such as paracetamol.
- To prevent reoccurrence in breastfeeding mothers, consider increasing the number of feedings, up to every 3 hours.
Mastitis

**Signs and symptoms:**
- Sudden, unilateral, localized tenderness and soreness
- Heat and swelling
- Fever
- Chills, body aches and fatigue

**Management of mastitis:**
- Express and discard the milk frequently from the affected breast(s).
- If only one breast is affected, the woman may continue to breastfeed from the healthy breast.
- Do not feed from affected breast; instead express milk and discard. If the milk from the healthy breast is not enough to cover the baby’s needs, the woman may express and heat-treat milk from the affected breast and give it to the baby.
- If both breasts are affected the woman should stop breastfeeding (while expressing breast milk frequently) until the mastitis is healed.

**CARESS**
- Compresses (hot and cold)
- Antibiotics (if necessary)
- Rest
- Effective, gentle, and frequent milk removal
- Stress identification and management
- Support and follow-up
Replacement Feeding with Commercial Infant Formula

<table>
<thead>
<tr>
<th>Commercial infant formula</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>✷ No risk of HIV transmission.</td>
<td>✷ Does not contain antibodies, which protect infants from infection, so there is an increased risk of diarrhoea and pneumonia and may develop malnutrition. Must be prepared properly, with clean water, and must have reliable supply.</td>
</tr>
<tr>
<td></td>
<td>✷ Made especially for infant, includes most of the nutrients that an infant needs.</td>
<td>✷ It requires soap, utensils, fuel for preparation. Safer preparation requires careful measurement and must be made fresh for each feed, day and night (unless there is access to a refrigerator).</td>
</tr>
<tr>
<td></td>
<td>✷ Others can help feed infant.</td>
<td>✷ It is expensive.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✷ The mother must stop breastfeeding completely, or she will continue to risk transmitting HIV to her infant.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✷ Mother may be asked why she is not breastfeeding her infant.</td>
</tr>
</tbody>
</table>
Safe Preparation of Commercial Infant Formula

Getting ready step 1: Gather supplies needed for formula feeding, supplies needed for formula feeding include the following:

- Pot for sterilising
- Fuel (firewood, gas, electricity, paraffin)
- Feeding cup for the infant
- Clean water
- Soap
- Measuring utensil calibrated in millilitres
- Tin of formula with the scoop provided by the manufacturer
- Brush for cleaning the cup

Getting ready step 2: Clean, sterilise and store equipment for formula feeding

Cleaning

- Wash hands with soap and water and dry using a clean cloth.
- Wash all feeding and preparation equipment thoroughly in hot soapy water.
- Rinse thoroughly in safe water.

Sterilising

- Fill a large pan with water.
- Place the cleaned feeding and preparation equipment into the water. Make sure that the equipment is completely covered with water and that no air bubbles are trapped.
- Cover the pan with a lid and bring to a rolling boil for at least 1–2 seconds.
- Keep the pan covered until the feeding equipment is needed.
Equipment for feeding may also be sterilised in a commercial steriliser (follow manufacturer's instructions).

Storing

Wash and dry hands; use sterilised forceps or clean hands to handle sterilised equipment. If removed from the steriliser before it is needed, keep covered in a clean place.

How to prepare a cup feed: The 12 steps

1. Clean and disinfect a surface on which to prepare the feed.
2. Wash hands with soap and water and dry using a clean cloth.
3. Boil some safe water. Make sure the water comes to a rolling boil for at least 1–2 seconds.
4. Read the instructions on the formula packaging to find out how much water and how much powder you need. Adding more or less formula than instructed could make infants ill.
5. Pour the correct amount of boiled water into a cleaned and sterilised feeding cup. The water should be no cooler than 70ºC, so do not leave it for more than 30 minutes after boiling.
6. Add the exact amount of formula to the water in the feeding cup. Level the scoop (that came with the formula) with a clean knife or the handle of a spoon. Never use heaped scoops.
7. Mix thoroughly by stirring with a cleaned and sterilised spoon.
8. Cool to feeding temperature.
9. Dry the outside of the cup with a clean or disposable cloth.
10. Check the temperature of the feed by dripping a little onto the inside of the wrist. It should feel lukewarm, not hot.
11. Feed the infant (see next section “Feeding an Infant with a Cup”)
12. Throw away any feed that has not been consumed within 1 hour.
Cup Feeding

Feeding an infant with a cup

- Position the infant’s head in the crook of the mother’s arm, close to the mother’s body.
- Hold the cup of milk to the infant’s lips.
- Tip the cup so that the milk just reaches the infant’s lips (the cup will rest lightly on lower lip).
- Infant will become alert and open his/her mouth and eyes.
- DO NOT POUR the milk into the infant’s mouth—hold the cup to the infant’s lips and let the infant take it.
- When the infant has had enough, his/her mouth will close and no more will be taken in.
- Measure the infant’s intake at each feeding over 24 hours.
Feeding from 6-24 Months

Introducing complementary foods:
- Begin offering weaning foods at 6 months, gradually increasing the amount, variety, and consistency of the foods offered.
- Initial feeds may include 4–6 tablespoons of fruit juice or mashed fruit daily, or about ¼ to ½ cup porridge after milk feeds.
- Infants who are ill or malnourished have higher energy requirements and require more frequent feedings.

Milk
- Continue with breast milk, commercial infant formula, or home-prepared modified animal milk.
- Animal milk requires no dilution after 6 months.
- Continue to boil fresh animal milk to destroy bacteria.

After complementary foods have been introduced the infant will continue to need breast milk or milk in some form frequently throughout the day.

Other foods
- Infants with a family history of allergies or food sensitivities should not be introduced to cow’s milk, egg white, and fish until after 12 months of age.
- Pureed, mashed, and semi-solid foods may be served at 6 months.
- At 8 months, children can pick up and eat certain foods independently.
- At 12 months, children can eat most adult foods.
- Avoid nuts, grapes, raw carrots, hard candy, and other foods that may lodge in the trachea.
- Peanuts and other nuts can be given after 3 years of age, unless the infant is allergic.
## Age appropriate complementary foods and their characteristics

<table>
<thead>
<tr>
<th>Age</th>
<th>Texture</th>
<th>Frequency</th>
<th>Amount at each meal</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-8 months</td>
<td>Start with thick porridge, well mashed foods; Continue with mashed family foods</td>
<td>2-3 meals per day plus frequent breastfeeds. Depending on the child’s appetite, offer 1-2 snacks</td>
<td>Start with 2-3 tablespoonfuls per feed increase to 2/3 cup*</td>
</tr>
<tr>
<td>9-11 months</td>
<td>Finely chopped or mashed foods, and foods that baby can pick up</td>
<td>3-4 meals plus breastfeeds. Depending on the child’s appetite, offer 1-2 snacks</td>
<td>3/4 cup*</td>
</tr>
<tr>
<td>12-24 months</td>
<td>Family foods, chopped or mashed if necessary</td>
<td>3-4 meals plus breastfeeds. Depending on the child’s appetite, offer 1-2 snacks</td>
<td>1 full cup*</td>
</tr>
</tbody>
</table>

If infant is not breastfed, give in addition: 1-2 cups of milk per day and 1-2 extra meals per day.

* One teaspoon = 5 ml
+ One cup = 250 ml
### WHO Clinical Staging for Adults and Adolescents

#### Clinical stage 1
- Asymptomatic
- Persistent generalized lymphadenopathy (PGL)

#### Clinical stage 2
- Unexplained moderate weight loss (<10% of presumed or measured body weight)
- Papular pruritic eruptions
- Seborrheic dermatitis
- Fungal nail infections
- Recurrent respiratory tract infections (sinusitis, tonsillitis, otitis media and pharyngitis)
- Herpes zoster
- Angular cheilitis
- Recurrent oral ulcerations

#### Clinical stage 3
- Unexplained severe weight loss (>10% of presumed or measured body weight)
- Unexplained persistent fever (above 37.5°C intermittent or constant, for longer than 1 month)
- Oral hairy leukoplakia
- Persistent oral candidiasis
- Unexplained chronic diarrhoea for longer than 1 month
- Severe bacterial infections (e.g. pneumonia, empyema, pyomyositis, bone or joint infection, meningitis, bacteraemia)
- Pulmonary TB
- Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis
- Unexplained anaemia (<8g/dL), neutropenia (<0.5 x 10⁹ per litre) and/or chronic thrombocytopenia (<50 x 10⁹ per litre)
### Clinical stage 4

- HIV wasting syndrome
- Pneumocystis pneumonia
- Recurrent severe or radiological bacterial pneumonia
- Chronic herpes simplex infection (orolabial, genital or anorectal of more than 1 month’s duration or visceral at any site)
- HIV encephalopathy
- Extrapulmonary cryptococcosis including meningitis
- Disseminated non-tuberculous mycobacteria infection
- Progressive multifocal leukoencephalopathy (PML)
- Chronic cryptosporidiosis
- Chronic isosporiasis
- Visceral herpes simplex infection
- Oesophageal candidiasis (or candidiasis of trachea, bronchi or lungs)
- Extrapulmonary TB
- Kaposi’s sarcoma
- Central nervous system (CNS) toxoplasmosis
- Cytomegalovirus infection (retinitis or infection of other organs)
- Disseminated mycosis (extrapulmonary histoplasmosis or coccidiomycosis)
- Recurrent septicaemia (non-typhoidal Salmonella)
- Lymphoma (cerebral or B cell non-Hodgkin)
- Invasive cervical carcinoma
- Atypical disseminated leishmaniasis
- Symptomatic HIV-associated nephropathy or symptomatic HIV-associated cardiomyopathy

*Unexplained refers to where the condition is not explained by other conditions.*
Clinical Care for the Woman with HIV

The pregnant woman who tests positive for HIV must be referred to a CTC where specialists can help manage her HIV infection.

**ART referral**

<table>
<thead>
<tr>
<th>When to refer clients to a CTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ When a client tests positive for HIV</td>
</tr>
<tr>
<td>♦ When a HIV-positive client shows signs and symptoms of an opportunistic infection*</td>
</tr>
<tr>
<td>♦ When a HIV-positive client who is receiving ART:</td>
</tr>
<tr>
<td>• Shows signs of serious ARV medication side effects</td>
</tr>
<tr>
<td>• Is prescribed new (non-ARV) medications</td>
</tr>
<tr>
<td>• Shows signs of poor adherence to ART</td>
</tr>
</tbody>
</table>

**Warning signs of HIV disease progression**

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ Chronic diarrhoea</td>
</tr>
<tr>
<td>♦ Painful or difficulty swallowing</td>
</tr>
<tr>
<td>♦ Weight loss of more than 10% of body weight</td>
</tr>
<tr>
<td>♦ Trouble breathing/shortness of breath which may indicate TB</td>
</tr>
<tr>
<td>♦ Persistent fever of unknown origin</td>
</tr>
</tbody>
</table>

* When an RCH client without confirmed HIV infection shows signs and symptoms of an opportunistic infection, she should be referred to the nearest HIV counselling and testing site either within the RCH clinic or at an external facility.
<table>
<thead>
<tr>
<th>Clinical signs and symptoms of selected diseases or infections</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuberculosis</strong></td>
<td>Persistent, productive cough (especially blood streaked), weight loss, night sweats and fever</td>
</tr>
<tr>
<td><strong>PCP</strong></td>
<td>Severe shortness of breath, non-productive cough, fever, chills, fatigue</td>
</tr>
<tr>
<td><strong>Candidiasis</strong></td>
<td></td>
</tr>
<tr>
<td> Oral (thrush): creamy white patches on a red base on posterior pharynx.</td>
<td></td>
</tr>
<tr>
<td> Oesophageal: difficulty swallowing in clients with advanced HIV disease</td>
<td></td>
</tr>
<tr>
<td> Vaginal: white or yellow discharge with itching, burning; sometimes painful intercourse.</td>
<td></td>
</tr>
<tr>
<td> Penile: inflammation and redness on the head of the penis</td>
<td></td>
</tr>
<tr>
<td><strong>Herpes zoster</strong></td>
<td>Starts with an acute sensitivity in a band-like region of the skin on one side of the trunk, head or neck, one arm or thigh followed by bumpy reddish rash in the same band-like pattern. Later symptoms include pain, burning, itching or tingling sensation with rash developing into clustered blisters on a red base.</td>
</tr>
<tr>
<td><strong>Kaposi’s sarcoma</strong></td>
<td>Pink-to-purple painless spots or nodules on the skin surface or in the oral cavity</td>
</tr>
<tr>
<td><strong>Toxoplasmosis</strong></td>
<td>The most common clinical manifestation is encephalitis, usually caused by focal brain lesions. Symptoms of encephalitis can include fever, headache, confusion, weakness, disorientation, speech disturbances, seizures, visual defects, movement disorders and personality changes.</td>
</tr>
<tr>
<td><strong>Cryptococcal meningitis</strong></td>
<td>Presents as severe headache with fever. The patient may report fatigue or memory problems</td>
</tr>
</tbody>
</table>
and may also complain of nausea or blurred vision. Family members may report personality changes

<table>
<thead>
<tr>
<th>Clinical signs and symptoms of selected diseases or infections</th>
<th>Fever, myalgia (muscle aches and pains), joint pains, chills, enlarged spleen, mental confusion, abdominal pain, diarrhoea, nausea and vomiting, loss of appetite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td></td>
</tr>
</tbody>
</table>
Prophylaxis for Pneumocystis Pneumonia (PCP)

Cotrimoxazole preventive therapy (CPT) should be offered to:

- All pregnant women living with HIV, regardless of clinical stage.
- If not pregnant:
  - Symptomatic HIV (WHO stages 2, 3 and 4) and/or
  - CD4 cell counts <350 cells/mm³

Cotrimoxazole dosing 960 mg daily

160mg of trimethoprim (TMP) and 800mg of sulphamethoxazole (SMX)

1 double strength tablet (160 mg TMP/800mg SMX)

or

2 single strength tablets (80mg TMP/400mg SMX) daily

CPT in pregnancy

- CPT should be given to all HIV positive pregnant women irrespective of clinical stage or CD4 cell count.
- Women who are on CPT and become pregnant should continue CPT throughout pregnancy.
- Caution should be exercised when initiating CPT in women in the first trimester of pregnancy and with women who may not have access to good nutrition, because TMP-SMX can cause a deficiency in folic acid.
- Pregnant women who are receiving CPT do not need sulfadoxine pyrimethamine (SP) to prevent malaria prophylaxis.
- For CPT after delivery, refer to the adult criteria in the guidelines for management of HIV/AIDS.
Actions for persons with suspected intolerance to TMP-SMX

- Stop TMP-SMX in clients who develop severe skin reactions, renal or hepatic insufficiency or haematological toxicity
- In patients with only a mild allergy, consider desensitisation to TMP-SMX
- Although not recommended — because it has not been proven safe during pregnancy or breastfeeding — when necessary, Dapsone 100mg may be substituted for cotrimoxazole
- Consider referring women with sulfa allergies to the HIV specialist
Malaria Prevention

Ensure all pregnant women with HIV are taking CPT (see “Prophylaxis for Pneumocystis Pneumonia (PCP)” on page 62). Women not taking CPT (e.g., women who test HIV-negative) should be provided with intermittent presumptive treatment for malaria (IPT) with sulfadoxine-pyrimethamine (first dose given at 20–24 weeks of gestational age and the second IPT dose should be administered at 28–32 weeks).

Advise all pregnant women on malaria prevention measures:
- Eliminating possible mosquito breeding places in and around the home
- Use of insecticide-treated bed nets (ITN) for everyone in the family
- Regular screening for malaria
- Other preventive measures, e.g., the use of ferrous sulphate and folic acid to prevent anaemia
ART for Pregnant Woman with HIV

Combining at least 3 ARV medications to reduce HIV viral load as much as possible—and for as long as possible—is the standard of care for HIV treatment.

- ART does not cure HIV.
- Always use 3 different ARV medications for long-term treatment.
- ARV medications must be taken every day otherwise, they will not work.
- Selecting which ARV medications to use should be done by an experienced clinician.
- Other medications will interact with ARV medications.

When to start ART in pregnant women

<table>
<thead>
<tr>
<th>Clinical eligibility for antiretroviral treatment (ART)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmed HIV infected AND</td>
</tr>
<tr>
<td>CD4 count ≤ 350 cells/mm³ regardless of WHO Clinical stage OR</td>
</tr>
<tr>
<td>WHO Clinical stage 3 OR</td>
</tr>
<tr>
<td>WHO Clinical stage 4</td>
</tr>
</tbody>
</table>
ART in pregnancy

- ART can start at any point during pregnancy.
- Treatment should start as soon as possible, even if a woman is in the first trimester of pregnancy.
- The antiretroviral drug efavirenz (EFV) is contraindicated in the first trimester of pregnancy.
First-line ART in Tanzania

<table>
<thead>
<tr>
<th>Pregnant women and those of childbearing age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zidovudine (AZT) + Lamivudine (3TC) + Nevirapine (NVP)</td>
</tr>
</tbody>
</table>

**Dosing**
- AZT — 300 mg twice a day
- 3TC — 150 mg twice a day
- NVP — 200 mg daily for 2 weeks then 200 mg twice a day
- NVP requires a dosage increase after initiation to decrease the frequency of rash or hepatotoxicity.

First-line ART in Tanzania

<table>
<thead>
<tr>
<th>All other adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zidovudine (AZT) + Lamivudine (3TC) + Efavirenz (EFV)</td>
</tr>
</tbody>
</table>

**Dosing**
- AZT — 300 mg twice a day
- 3TC — 150 mg twice a day
- EFV — 600 mg once daily at night on an empty stomach

**Special considerations:**
- AZT has been shown to cause anaemia. Severe anaemia should be ruled out before starting the first-line regimen of AZT + 3TC + NVP. Women who have a haemoglobin of <7.5 should not be started on regimens containing AZT.
- EFV should be avoided for use by women of childbearing potential unless effective contraception can be ensured, because it may cause birth defects if taken during the first trimester.
- For women who are co-infected with TB, additional medicine, treatment and clinical management are required to minimise drug...
interactions that may occur when ARV medications are co-administered with TB treatment.

Adherence

Adherence is crucial to the efficacy of ART.

- ARV medications must be taken every day to be effective.
- Missing even 1 or 2 doses, taking medication late, or taking medication with certain foods can lower concentrations of ARVs in the blood.
- Make sure clients know that ART is not a cure and that medications must be taken every day on schedule.
- Review each medication in the ARV regimen with clients to highlight food and beverage restrictions, discuss how to manage expected side effects and plan a dosage schedule that works for the client.
- Monitor for adherence through pill counts and encourage client to bring all medications to appointments.
- Provide simple written information, diagrams, or pictures on when to take medications.
- Work with the local care and treatment clinic to understand how to report side effects of ARV medications.

Counselling clients on ARV side effects

<table>
<thead>
<tr>
<th>Common ARV side effects and suggested clinical actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
</tr>
<tr>
<td>Take medication with food. If on AZT, reassure that this is common, usually self-limited. Treat symptomatically. If persists for more than 2 weeks (14 days) or worsens, call for advice or refer to CTC.</td>
</tr>
<tr>
<td>Headache</td>
</tr>
<tr>
<td>Give paracetamol. Assess for meningitis. If on AZT or EFV, reassure that this is common and usually self-limited. If persists more than 2 weeks (14 days) or worsens, call for advice or refer to CTC.</td>
</tr>
<tr>
<td>Diarrhoea</td>
</tr>
<tr>
<td>Hydrate. Follow clinic protocol for managing diarrhoea.</td>
</tr>
<tr>
<td>Condition</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Diarrhoea</td>
</tr>
<tr>
<td>Fatigue</td>
</tr>
<tr>
<td>Anxiety, nightmares, psychosis, depression</td>
</tr>
<tr>
<td>Blue/black nails</td>
</tr>
<tr>
<td>Rash</td>
</tr>
<tr>
<td>Fever</td>
</tr>
<tr>
<td>Yellow eyes (jaundice)</td>
</tr>
<tr>
<td>Abdominal or flank pain</td>
</tr>
<tr>
<td>Symptom</td>
</tr>
<tr>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>ART. Nevirapine is most common cause. Call for advice or refer to CTC.</td>
</tr>
<tr>
<td>Pallor: anæmia</td>
</tr>
<tr>
<td>Tingling, numb or painful feet/legs</td>
</tr>
<tr>
<td>Cough or difficult breathing</td>
</tr>
<tr>
<td>Changes in fat distribution</td>
</tr>
</tbody>
</table>
Care of HIV-Exposed Infants

Follow up visits
HIV disease can progress very rapidly in children. Many HIV-infected children will die from their disease before they are diagnosed, unless they are carefully followed up. It is therefore important that healthcare workers strongly encourage mothers living with HIV to keep all infant follow-up appointments and to seek medical help when the child becomes ill or the she suspects a problem.

Follow-up visit schedule
Tanzania guidelines recommends that follow-up care for infants coincide with the immunisation schedule indicated on the Road to Health Card:
- At birth (for infants delivered at home)
- At ages 6, 8 and 12 weeks
- Once a month from 12 weeks to 1 year
- Quarterly from 1 to 2 years
- At 18 months for HIV diagnosis

Vitamin A supplementation

<table>
<thead>
<tr>
<th>Age</th>
<th>Dose: Breastfed infants</th>
<th>Dose: Replacement fed infants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 6 of age months</td>
<td>None</td>
<td>50,000 IU</td>
</tr>
<tr>
<td>At 9-12* months</td>
<td>100,000 IU</td>
<td>100,000 IU</td>
</tr>
<tr>
<td>At 15-18 months</td>
<td>200,000 IU</td>
<td>200,000 IU</td>
</tr>
<tr>
<td>At 21-24 months</td>
<td>200,000 IU</td>
<td>200,000 IU</td>
</tr>
</tbody>
</table>

* Timing should correspond with measles vaccination.
Immunisations

<table>
<thead>
<tr>
<th>Age of Infant</th>
<th>Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>BCG*, OPV-0</td>
</tr>
<tr>
<td>4 weeks</td>
<td>DPT-HBV-1, OPV-1</td>
</tr>
<tr>
<td>8 weeks</td>
<td>DPT-HBV-2, OPV-2</td>
</tr>
<tr>
<td>12 weeks</td>
<td>DPT-HBV-3, OPV-3</td>
</tr>
<tr>
<td>9 months</td>
<td>Measles* (if no severe immunodeficiency)</td>
</tr>
</tbody>
</table>

**Key:**

BCG = Bacille Calmette Guerin  
OPV = oral polio vaccine  
DPT-HBV = combined diphtheria, pertussis, tetanus and hepatitis B vaccine

*BCG and measles vaccine should be given to all children except those children with symptoms of advanced HIV/AIDS.*

Cotrimoxazole preventive therapy (CPT)

**HIV-exposed children**

- *Every* infant born to an HIV-positive mother should receive CPT, beginning at 4 weeks or as soon as possible thereafter.
- CPT should be continued until the child is proven to be HIV antibody negative at 18 months or older and the mother has stopped breastfeeding.

For children with presumptive diagnosis of HIV infection

- Start CPT at any age and continue until HIV status is confirmed negative and there is no risk of transmission through breastfeeding.

For HIV-infected children, CPT should be given to:

- All HIV-infected infants <12 months of age.
All HIV-infected children between 1 and 4 years of age who have clinical signs or symptoms suggestive of mild, advanced or severe HIV disease (WHO Stage 2, 3 and 4).

All children >12 months of age whose CD4 % is less than 15%.

All HIV-infected children >5 years of age should start or continue CPT according to adult guidelines.

If ART is not available for the HIV-infected child, CPT should be continued indefinitely.

<table>
<thead>
<tr>
<th>Recommended daily dosage</th>
<th>Suspension</th>
<th>Paediatric tablet</th>
<th>SS adult tablet</th>
<th>DS adult tablet</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6 months</td>
<td>2.5ml</td>
<td>1 tablet</td>
<td>¼ tablet</td>
<td>----</td>
</tr>
<tr>
<td>100 mg SMX /20 mg TMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 months – 5 years</td>
<td>5 ml</td>
<td>1 tablets</td>
<td>½ tablet</td>
<td>----</td>
</tr>
<tr>
<td>200mg SMX /40 mg TMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;6 – 14 years</td>
<td>10 ml</td>
<td>4 tablets</td>
<td>1 tablet</td>
<td>½ tablet</td>
</tr>
<tr>
<td>400 mg SMX/80 mg TMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;14 years</td>
<td>----</td>
<td>----</td>
<td>2 tablets</td>
<td>1 tablet</td>
</tr>
<tr>
<td>800 mg SMX/ 160 mg TMP</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Frequency: once a day
Suspension: 5 ml syrup 200 mg/40 mg. Paediatric tablet: 100 mg/20 mg. Single-strength adult tablet: 400 mg/80 mg. Double-strength adult tablet: 800 mg/160 mg
Diagnosis of HIV in Infants and Young Children

Diagnostic services for HIV-exposed infants and young children are a critical part of follow-up care. However,

- Infants may have ongoing exposure to HIV through breastfeeding. Negative test results are therefore not definitive until 6 weeks after the complete cessation of breastfeeding.
- Maternal antibodies cross the placenta during pregnancy. All infants born to mothers living with HIV receive maternal antibodies and will test antibody positive at birth, regardless of their own infection status. Maternal antibodies persist in the infant’s system for 15–18 months, therefore a positive antibody test results for an infant less than 18 months of age may not reflect the infant’s true HIV infection status.

Viral tests such as HIV DNA PCR, detect the actual virus (not the antibody) and can be used for a definitive diagnosis in HIV-exposed infants starting as early as 4 weeks of age.

Guidelines for diagnosis for HIV-exposed infants and children

- HIV-exposed infants and children can receive viral testing as early as 4 weeks of age to determine their HIV status.
- When viral testing is not available, symptomatic children <18 months of age should receive antibody testing to confirm HIV exposure. Healthcare workers can make a presumptive diagnosis of HIV infection based on a positive antibody test, the child’s clinical symptoms and, if available, the child’s CD4 percentage.
- Any child >18 months of age can be tested with antibody tests.
- A positive HIV test result at 18 months usually indicates infection.
If the infant or child is breastfeeding, HIV testing should be repeated 6 weeks after the complete cessation of breastfeeding, regardless of the testing methodology that is used.

**Presumptive diagnosis of HIV infection in an exposed infant**

<table>
<thead>
<tr>
<th>Presumptive diagnosis of a severe HIV infection should be made if the child:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Has a confirmed positive HIV antibody test$^a$ AND</td>
</tr>
<tr>
<td>2. Has a diagnosis of any AIDS-indicating condition$^b$ OR</td>
</tr>
<tr>
<td>3. Is symptomatic with two or more of the following:</td>
</tr>
<tr>
<td>a. Oral thrush$^c$</td>
</tr>
<tr>
<td>b. Severe pneumonia$^c$</td>
</tr>
<tr>
<td>c. Severe sepsis$^c$</td>
</tr>
</tbody>
</table>

Other factors that support the diagnosis of HIV disease in an HIV-seropositive infant include:

- Recent HIV-related maternal death or advanced AIDS in the mother
- If available, a CD4 percentage of less than 20%

a. **Although HIV antibody tests are difficult to interpret for children under the age of 18 months, when accompanied by these other symptoms, the antibody test can be used to form the presumptive diagnosis of HIV.**

b. **AIDS-indicating conditions include some but not all HIV WHO Paediatric Clinical Stage 4 indicators, such as PCP, oesophageal candidiasis, cryptococcal meningitis, cerebral toxoplasmosis, HIV wasting and Kaposi sarcoma.**

c. **As defined by the Integrated Management of Childhood Illness.**
HIV viral testing by PCR for infants and children less than 18 months of age

**Age of child at time of evaluation**

- 4 – 6 weeks\(^a\)
  - DNA PCR
    - Positive: Child is infected
    - Negative
      - Current or recent (within 6 weeks) breastfeeding?
        - YES
          - NO: Child uninfected
        - YES
          - Repeat HIV testing 6 weeks after complete cessation of breastfeeding\(^b\). Use age appropriate testing algorithm:
            - 6 weeks – 9 months old
            - 9 – 18 months old

- 9 – 18 months old
  - HIV antibody testing
    - Positive\(^c\)
    - Negative\(^d\)
      - HIV DNA PCR
        - Positive: Child is infected
        - Negative
          - Current or recent (within 6 weeks) breastfeeding?
            - YES
              - NO: Child uninfected
            - YES
              - Repeat antibody testing 6 weeks after complete cessation of breastfeeding\(^b\).
                - Positive
                - Negative: Child uninfected

**Age at time of HIV antibody testing**

- 9 – 18 months
  - HIV DNA PCR testing
    - Positive: Child is infected
    - Negative: Child uninfected
  - If >18 months, child is infected

---

\(^a\) Use age appropriate testing algorithm:
- 6 weeks – 9 months old
- 9 – 18 months old
a. A positive DNA PCR test at any age indicates HIV infection: DNA PCR testing is recommended beginning at 4–6 weeks of age to maximise sensitivity.

b. If a child experiences HIV-related symptoms, irrespective of previous test results, conduct HIV testing even if child has not stopped breastfeeding.

c. If DNA PCR testing is not available, repeat antibody testing 6 weeks after complete cessation of breastfeeding. If the child is less than 18 months of age at time of the repeat test, the child should be tested again at 18 months of age or older (as per national guidelines).

d. A negative antibody testing for a child 9 to 18 months of age, who has not breastfed for at least 6 weeks before the test is conducted, can be used to exclude HIV infection.

HIV diagnosis using antibody tests in children 18 months and older

- Child is at least 18 months old
  - HIV antibody testing
    - Positive: Child is infected
    - Negative:
      - Current or recent (within 6 weeks) breastfeeding?
        - YES
          - Repeat HIV antibody testing at least 6 weeks after complete cessation of breastfeeding.
          - Positive: Child is infected
          - Negative: Child uninfected
        - NO: Child uninfected

-a. If a child experiences HIV-related symptoms, regardless of prior test results, repeat testing even if child has not stopped breastfeeding.
## Signs and symptoms of HIV infection in children

<table>
<thead>
<tr>
<th>Is symptom specific to HIV?</th>
<th>Signs and conditions</th>
</tr>
</thead>
</table>
| Common in children who are HIV infected; also seen in ill, uninfected children | - Chronic, recurrent otitis media with discharge  
- Persistent or recurrent diarrhoea  
- Failure to thrive (slow growth)  
- TB |
| Common in children who are HIV infected; uncommon in uninfected children | - Severe bacterial infections, particularly if recurrent  
- Persistent or recurrent oral thrush  
- Chronic parotiditis (swelling of the parotid gland, often painless)  
- Generalised persistent noninguinal lymphadenopathy in two or more sites  
- Hepatosplenomegaly (enlargement of the liver and spleen)  
- Persistent or recurrent fever  
- Neurologic dysfunction  
- Herpes zoster (shingles), single dermatome  
- Persistent generalised dermatitis unresponsive to treatment |
| Specific to HIV infection | - PCP  
- Oesophageal candidiasis  
- Lymphoid interstitial pneumonitis  
- Herpes zoster (shingles) with multidermatomal involvement  
- Kaposi sarcoma |
### WHO Clinical Staging for Infants and Children

<table>
<thead>
<tr>
<th>Clinical stage 1</th>
<th>Clinical stage 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>✷ Asymptomatic</td>
<td>✷ Recurrent oral ulcerations</td>
</tr>
<tr>
<td>✷ Persistent generalised lymphadenopathy</td>
<td>✷ Unexplained persistent parotid gland enlargement</td>
</tr>
<tr>
<td><strong>Clinical stage 2</strong></td>
<td><strong>Clinical stage 2</strong></td>
</tr>
<tr>
<td>✷ Unexplained persistent hepatosplenomegaly</td>
<td>✷ Recurrent or chronic upper respiratory tract infections (otitis media, otorrhea, sinusitis or tonsillitis)</td>
</tr>
<tr>
<td>✷ Papular pruritic eruptions</td>
<td>✷ Unexplained persistent parotid gland enlargement</td>
</tr>
<tr>
<td>✷ Extensive wart virus infection</td>
<td>✷ Lineal gingival erythema (LGE)</td>
</tr>
<tr>
<td>✷ Extensive molluscum contagiosum</td>
<td>✷ Herpes zoster</td>
</tr>
<tr>
<td>✷ Fungal nail infections</td>
<td>✷ Recurrent or chronic upper respiratory tract infections (otitis media, otorrhea, sinusitis or tonsillitis)</td>
</tr>
<tr>
<td><strong>Clinical stage 3</strong></td>
<td><strong>Clinical stage 3</strong></td>
</tr>
<tr>
<td>✷ Unexplained moderate malnutrition not adequately responding to standard therapy</td>
<td>✷ Oral hairy leukoplakia</td>
</tr>
<tr>
<td>✷ Unexplained persistent diarrhoea (14 days or more)</td>
<td>✷ Acute necrotizing ulcerative gingivitis or periodontitis</td>
</tr>
<tr>
<td>✷ Unexplained persistent fever (above 37.5 intermittent or constant, for longer than one month)</td>
<td>✷ Pulmonary TB</td>
</tr>
<tr>
<td>✷ Persistent oral candidiasis</td>
<td>✷ Severe recurrent bacterial</td>
</tr>
<tr>
<td>(after first 6-8 weeks of life)</td>
<td>pneumonia</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>✷ Oral hairy leukoplakia</td>
<td>✷ Unexplained anaemia (&lt;8 g/dl), neutropenia (&lt;0.5 x 10^9 per litre) and/or chronic thrombocytopenia (&lt;50 x 10^9 per litre)</td>
</tr>
<tr>
<td>✷ Symptomatic lymphoid interstitial pneumonitis (LIP)</td>
<td>✷ Chronic HIV-associated lung disease including brochiectasis</td>
</tr>
<tr>
<td><strong>Clinical stage 4</strong></td>
<td></td>
</tr>
<tr>
<td>✷ Unexplained severe wasting or severe malnutrition not adequately responding to standard therapy</td>
<td>✷ HIV encephalopathy</td>
</tr>
<tr>
<td>✷ Pneumocystis pneumonia</td>
<td>✷ Kaposi’s sarcoma</td>
</tr>
<tr>
<td>✷ Recurrent severe presumed bacterial infections (such as empyema, pyomyositis, bone or joint infection or meningitis but excluding pneumonia)</td>
<td>✷ Oesophageal candidiasis (or candidiasis of trachea, bronchi or lungs)</td>
</tr>
<tr>
<td>✷ Central nervous system toxoplasmosis (after one month of life)</td>
<td>✷ Chronic herpes simplex infection; (orolabial or cutaneous of more one month’s duration or visceral at any site)</td>
</tr>
<tr>
<td>✷ HIV encephalopathy</td>
<td>✷ Extrapulmonary TB</td>
</tr>
<tr>
<td>✷ Cytomegalovirus infection (retinitis or cytomegalovirus infection affecting another organ, with onset at age older than one month)</td>
<td>✷ Chronic cryptosporidiosis</td>
</tr>
<tr>
<td>✷ Extrapulmonary cryptococcosis (including meningitis)</td>
<td>✷ Disseminated endemic mycosis (extrapulmonary histoplasmosis, coccidiomycosis)</td>
</tr>
<tr>
<td></td>
<td>✷ Disseminated non-tuberculous mycobacteria infection</td>
</tr>
<tr>
<td>Chronic isosporiasis</td>
<td>Candida of trachea, bronchi or lungs</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>HIV-associated cardiomyopathy or HIV-associated nephropathy</td>
<td>Cerebral or B cell non-Hodgkin lymphoma</td>
</tr>
<tr>
<td>Progressive multifocal leukoencephalopathy (PML)</td>
<td></td>
</tr>
</tbody>
</table>
ART in Children

Clinical criteria for starting ART in HIV-infected children

- All HIV-infected children less than 24 months of age, regardless of CD4 percentage or clinical stage
- All HIV-infected children 24 months to five years of age with confirmed HIV infection:
  - WHO paediatric clinical stage 3 or 4 regardless of CD4 percentage OR
  - WHO paediatric clinical stage 1 or 2 if CD4 percentage <15%

Preferred First Line ART options for children

- Zidovudine (AZT) + Lamivudine (3TC) + Nevirapine (NVP) for children <3 years
- Zidovudine (AZT) + Lamivudine (3TC) + Efavirenz (EFV) or Nevirapine (NVP) for children ≥3 years old
- Abacavir (ABC) + Lamivudine (3TC) + Efavirenz (EFV) for children ≥3 years or Nevirapine (NVP) for children <3 years
- Stavudine (d4T) + Lamivudine (3TC) + Nevirapine (NVP) available also as FDC for children

\textit{d4T is an alternate for AZT in cases of anaemia (Hgb <7.5 g/dL). It should be noted that d4T in liquid formulation needs refrigeration. Also, potential side effects, such as peripheral neuropathy, are difficult to recognise in children.}
Linkages to Treatment, Care, and Support Services

Linkages among local care and support services can ensure that women who are living with HIV and their families receive comprehensive care.

Linkages to maternal and child health (MCH) and HIV services may include:
- HIV care and treatment clinics
- Community MCH workers who focus on health promotion and support services

Linkages to family planning services may include:
- Access to safe and effective contraception

Linkages to health programmes for clients with special needs:
- Local agencies or clinics for clients with STIs or tuberculosis, or agencies or clinics addressing other primary healthcare needs
- Programmes to assist and treat injection drug users

Linkages to community-based AIDS service organisations:
- Voluntary counselling and testing sites for partners
- Programmes offering nutritional support
- Organizations that provide palliative care and home-based care
- Support groups or networks for people living with HIV/AIDS
- Faith-based organizations; programmes offering psycho-social support
- Programmes that offer housing, transportation, or legal assistance
Creating a Safe Work Environment

Standard Precautions are practices designed to protect healthcare workers and clients from bloodborne pathogens or infections that may spread in the healthcare setting.

They are applied when caring for all clients, regardless of diagnosis.

Standard Precautions include the following interventions:

- Consider every person (patient or healthcare worker) as potentially infectious and susceptible to infection.
- Use appropriate hand hygiene techniques.
- Wear personal protective equipment.
- Appropriately handle sharps, which include hypodermic and suture needles, scalpel blades, lancets, razors and scissors, patient care and resuscitation equipment and linen.
- Appropriately manage patient placement and patient environmental cleaning.
- Safely dispose of infectious waste materials, including sharps, to protect those who handle them and to prevent injury and the spread of infection to the community.
- Process instruments by decontamination, cleaning and then either sterilisation or high-level disinfection using national recommended procedures.
- Apply waterproof dressing to cover all cuts and abrasions on healthcare workers.
- Promptly and carefully clean spills, blood or other body fluids.
Hand hygiene
There are 4 types of hand hygiene:
- Washing hands with soap and clean water
- Washing hands with an antiseptic agent and clean water
- Using alcohol-based hand rubs

Hand washing with plain soap and water is one of the most effective methods to prevent transmission of bloodborne pathogens and minimise the spread of infection.

Handwashing with soap and water or antiseptic agent
- Wet hands and apply enough plain or antiseptic soap to cover hands
- Rub all surfaces for at least 20 seconds — over front and back of hands and between fingers and finger tips
- Rinse hands and dry thoroughly with a single-use towel
- Use the towel to turn off faucet
- Procedure requires a total of 40–60 seconds.

Alcohol-based handrubs
- Apply a palmful of the product and cover all surfaces of the hand.
- Rub hands together (front, back, between fingers and finger tips) until hands are dry
- Procedure requires a total of 20–30 seconds.

<table>
<thead>
<tr>
<th>Your 5 moments for hand hygiene</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Before touching a client</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Before clean/aseptic</td>
</tr>
<tr>
<td>Procedure</td>
<td>Why?</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>3 After body fluid exposure risk</td>
<td>To protect the client against harmful germs, including the client’s own, from entering his/her body</td>
</tr>
<tr>
<td>4 After touching a client</td>
<td>When leaving a patient’s side, clean your hands after touching the patient and before touching an object or another patient.</td>
</tr>
<tr>
<td>5 After touching client surroundings</td>
<td>Even if you didn’t touch the client, clean your hands after touching an object or furniture in the client’s immediate surroundings.</td>
</tr>
</tbody>
</table>
**Tips for effective glove use**

- Wear gloves that are the correct size.
- Use water-soluble hand lotions and moisturisers to prevent hands from drying and cracking. Avoid oil-based lotions or creams.
- Do not wear rings.
- Keep fingernails short (less than 3 mm beyond the fingertip).
- Store gloves where they are protected from extreme temperatures.

**Tips for careful handling of sharps**

- Always point the sharp end away from yourself and others.
- Pass scalpels and other sharps with the sharp end pointing away from staff. Whenever possible, place the sharp on a table or other flat surface (a tray) where it can then be picked up by the receiving person.
- Pick up sharps one at a time and never pass handfuls of sharp instruments or needles.
- Avoid recapping and performing other manipulations of needles by hand. If recapping is necessary, use the single-hand scoop technique.
- Collect used syringes and needles at the point of use in a sharps container that is puncture-proof and leak-proof and that can be sealed before completely full.
Safe Decontamination of Equipment

Decontamination is the first step is to make equipment safe to handle. This important step kills both hepatitis B and HIV.

- Decontamination requires a 10 minute soak in a 0.5% chlorine solution.
- After 10 minutes, remove the items from the chlorine solution and either rinse with water or clean immediately.

**Formula for making a dilute solution**

<table>
<thead>
<tr>
<th>From a concentrated solution</th>
<th>Total Parts (TP) water = ( \frac{% \text{ Concentrate}}{% \text{ Dilute}} - 1 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>From a dry powder</td>
<td>Grams/litre = ( \frac{% \text{ Dilute}}{% \text{ Concentrate}} \times 1000 )</td>
</tr>
</tbody>
</table>

Routine procedures for decontaminating equipment

- Use heavy gloves.
- Dismantle all equipment before cleaning.
- Clean equipment with soap and hot water prior to disinfection or sterilisation.
- Wear additional protective clothing such as aprons, gowns, goggles, and masks when at risk for splashing with body fluids.
- Rinse thoroughly after chemical disinfection.

Effective cleaning with soap and hot water is an important first step that removes a high proportion of microorganisms and is needed to successfully complete the decontamination process.
DECONTAMINATION
Soak in 0.5% chlorine solution
10 minutes

THOROUGHLY WASH AND RINSE
Wear gloves and other protective barriers (glasses, visors or goggles)

STERILIZATION
- Chemical
  Seak
  10-24 hours
- Autoclave
  106 kPa pressure (15 lbs/in²)
  121°C (250°F)
  20 min. unwrapped
  30 min. wrapped
- Dry Heat
  170°C
  60 minutes

HIGH-LEVEL DISINFECTION (HLD)
- Boil or Steam
  Lid on
  20 minutes
- Chemical
  Seak
  20 minutes

COOL
(use immediately or store)
Risk Reduction in the labour and delivery setting

The potential for exposure to blood and body fluids containing HIV is high during labour and delivery. Healthcare workers should provide appropriate and sensitive care to women with HIV infection while ensuring safety and reducing risk for themselves and others.

Tips for reducing the risk of occupational exposure in the obstetric setting:

- Cover broken skin or open wounds with watertight dressings.
- Wear suitable gloves when exposure to blood or other body fluids is likely.
- Wear doubled surgical gloves during vaginal delivery.
- Wear boots, a waterproof plastic apron, masks and protective eyewear during delivery.
- Pass all sharp instruments onto a tray, rather than hand-to-hand, and use the “hands-free” technique.
- Cover the infant’s umbilical cord with a gloved hand or gauze before cutting.
- Use elbow-length or gauntlet gloves during manual removal of placenta.
- Use needle holders when suturing.
- When episiotomy is necessary, use an appropriate-size needle (21 gauge, 4 cm, curved) and needle holder during the repair.
- If blood splashes on skin, immediately wash the area with soap and water. If splashed in the eye, wash the eye with water only. If blood splashes on the floor, wash it away using chlorine.
- Dispose of solid waste (e.g., blood-soaked dressings and placentas) safely according to facility procedures.
Steps in Post-Exposure Management

Step 1: Administer first aid (exposure site management)
- Possible occupational exposure to HIV requires immediate action
- Apply first aid to reduce contact time with blood or body fluids.
- Immediately wash areas of the skin exposed to potentially infectious fluids with soap and water. Avoid milking the site.
- For an exposure to the eye, flush with water or normal saline.
- For an exposure to the mouth, spit out the fluid immediately, rinse mouth using water or saline and spit out again. Repeat process.
- Do not use caustic agents such as disinfectants on exposed areas.

Step 2: Report the exposure
- Report the accident to the immediate supervisor and to the person in charge of PEP. Complete an injury report form.

Step 3: Establish eligibility for PEP
- The supervisor should conduct a risk assessment immediately, regardless of time of day. Risk assessment determines the severity of the exposure and whether any immediate action is required. If the risk is assessed as “low risk”, the HCW should complete an injury report form; no further action is required. See table below.
## Risk assessment questions

### Location of exposure

<table>
<thead>
<tr>
<th>Location of exposure</th>
<th>Questions</th>
</tr>
</thead>
</table>
| Percutaneous                 | ◆ How deep was the injury?  
 ◆ What type of needle was used? |
| Mucosal                      | ◆ What was the estimated volume of blood or bodily fluid on the mucosal surface? |
| Nonintact skin (e.g., bruised skin) | ◆ What is the condition of the skin?  
 ◆ How long was the skin in contact with the infected blood or bodily fluid? |

### Severity of exposure

<table>
<thead>
<tr>
<th>Severity of exposure</th>
<th>Questions</th>
</tr>
</thead>
</table>
| High-risk exposure   | ◆ Large quantity of blood  
 ◆ Device visibly contaminated with source person’s blood  
 ◆ Procedure involving needle placed directly into client's vein or artery  
 ◆ Deep injury  
 ◆ Injury with hollow-bore needle  
 ◆ High viral load in source person  
 ◆ Acute infection  
 ◆ Advanced HIV disease (AIDS) |
| Low-risk exposure     | ◆ Exposure to small volume of blood or blood contaminated with fluids from asymptomatic HIV-infected patient with low viral load  
 ◆ Exposure following an injury with a solid or blunt needle  
 ◆ Any superficial injury or mucocutaneous exposure |
## HIV status of source person

<table>
<thead>
<tr>
<th>The source person is HIV positive</th>
<th>Initiate (or continue) PEP</th>
</tr>
</thead>
</table>
| The source person is HIV negative | Stop the PEP regimen for the exposed person  
|                                  | Perform follow-up HIV testing at 6 weeks and at 3 months for both the source and exposed person, as it is possible that the source person was in the window period when the exposure occurred |
| The source person is unable to be contacted, or does not consent to HIV testing | If there is a possibility that the source could be HIV infected, and the injury is significant, PEP should be started in the absence of the source person’s test results. |

## HIV status of healthcare worker

| Exposed HCW is HIV infected | There is no need to continue (or initiate) PEP because a positive result would indicate that the HCW was infected with HIV before the incident  
|                            | The HIV-infected HCW should be referred to a CTC for evaluation while ensuring that confidentiality is maintained |

### Step 4: Prescribe and dispense PEP medications

- If the exposure is assessed as “significant” and the HCW gives informed consent, the first dose of PEP with ARV medications should be given as soon as possible, in accordance with national or facility PEP guidelines.

- Conduct pregnancy test should on all female HCWs of reproductive age if their pregnancy status is unknown. If possible, this should be done before initiating PEP.
Counsel on side effects of ARV medications including nausea, malaise, headache and/or anorexia.

Ensure a full month's supply of ARV medications once PEP has been started.

ARV medications should be taken as soon as possible and no later than 72 hours after an exposure.

**Step 5: Provide follow-up care and HIV testing, monitor and manage ARV toxicity**

- Conduct repeat HIV testing at 6 weeks, 12 weeks and 6 months after the exposure. If the exposed HCW tests negative after 6 months, he or she is not infected with HIV.

- Monitor for ARV drug toxicity. Full blood count, liver function tests and renal function tests should be repeated at 2 weeks.

- Counsel on safer sex practices following the exposure until HIV infection can be ruled out at 6 months. Anyone exposed to HIV should refrain from donating blood, plasma, organs, tissue or semen until infection can be ruled out.
### Recommended PEP ARV regimen according to risk category

<table>
<thead>
<tr>
<th>Risk category</th>
<th>ARV prophylaxis</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk</td>
<td>AZT 300 mg twice a day and 3TC 150 mg twice a day (Use fixed-dose combinations of the above medications when possible*)</td>
<td>28 days</td>
</tr>
<tr>
<td>High risk</td>
<td>AZT 300 mg twice a day and 3TC 150 mg twice a day* and EFV 600 mg once nightly on an empty stomach</td>
<td>28 days</td>
</tr>
</tbody>
</table>

* Fixed-dose combinations include Combivir or Duovir, 1 tablet twice a day.

*For pregnant women, replace EFV with LPV/r 133.33/33.3mg (3 capsules BD)*
Burnout Syndrome in Health Care

Warning signs and symptoms of burnout
- Changes in mood, eating, and sleeping patterns
- Accident-prone
- Unable to make decisions; poor concentration, or forgetfulness
- Sensitivity to criticism
- Elevated blood pressure, palpitations, dry mouth, or upset stomach
- Arguing with colleagues
- Low energy and productivity

Healthcare workers sometimes put themselves at higher risk of burnout by having unrealistic goals.

Personal strategies to minimise or prevent burnout
- Find a support group of peers.
- Find a mentor or someone you can speak with in confidence who will guide and support you.
- Take a refresher course, a new course, or learn a new skill to help you in your work.
- Take structured breaks during work hours.

Most importantly, healthcare workers should try to:
- Exercise, eat properly, and get enough rest.
- Make time for themselves and their families.
PMTCT Programme Management

There are four levels of management in the overall national health system and likewise in the PMTCT programme:

- National
- Regional
- District and
- Facility level

The National PMTCT Coordinator (at the RCH), heads the PMTCT program and the Regional/District Reproductive and Child health coordinators (RRCHCO and DRCHCO) are responsible in assisting the Regional and District Medical Officers in coordinating the implementation of the PMTCT programme.

Coordination between regional, district and national levels is very important within this decentralised approach to PMTCT programme planning and implementation.
Organisation of the National PMTCT Programme, Ministry of Health and Social Welfare
The PMTCT team at the facility level

A successful PMTCT programme requires the support and cooperation of the entire health team in the facility. Team members include:

- Doctors
- Nurses
- Laboratory personnel
- Pharmacists
- Records personnel
- Administrative staff
- Social workers and nutritionists where available

Management at the facility level

The facility management team comprises the Facility In-charge, Antenatal Care In-charge, Labour Ward In-charge, Laboratory In-charge, Pharmacy In-charge, Records In-charge and Community Contact Person.

The facility team responsibilities are:

- On-site supervision;
- Promotion of the Baby Friendly Hospital Initiative;
- Ordering of supplies, testing kits, and ARVs from the main store;
- Collection of data, preparation, analysis and discussion of monthly PMTCT reports;
- Submission of PMTCT reports to the District Medical Officer’s (DMO) office;
- Facilitation of community-based activities;
- Collaboration and partnership with other actors in PMTCT and HIV and AIDS; and
- Referral of clients to care and treatment centres (CTC) and other services, e.g. family planning or tuberculosis clinics.
PMTCT commodities management

Commodities management ensure that healthcare workers have the supplies and equipment they need to provide PMTCT services. The products in the PMTCT programs are categorised into the following groups:

Antiretroviral medicines (ARVs)
- Nevirapine tablets and suspension
- Zidovudine tablets and suspension
- Lamivudine tablets
- Other medicines for ART, including efavirenz (EFV)

Medicines for prevention and treatment of opportunistic and common infections
- Albendazole tabs/ suspension
- Amoxicillin capsules/ syrup
- Betamethasone cream
- Clotrimazole vaginal pessaries (doses), pack of 6
- Clotrimazole cream
- Cotrimoxazole syrup (for children)
- Cotrimoxazole tablets
- Daktarin oral jelly
- Ferrous sulphate
- Folic acid tabs
- Fluconazole tabs
- Multivitamin tablets
- Multivitamin syrup
- Nystatin oral suspension
- Nystatin cream
HIV test kits, reagents and supplies

- Determine® HIV 1/HIV 2, kit of 100 tests
- SD Bioline HIV 1/ HIV2, kit of 20 tests
- UNIGOLD, kit of 25 tests
- Vacutainer tubes, pack of 100
- Vacutainer needles, pack of 100
- DBS kits
- PCR reagents

Routine Equipment and Supplies to Support PMTCT

- Small refrigerator
- Timer
- Cotton wool rolls
- Antiseptic, e.g. soaps
- Chlorhexidine 0.25%
- Disinfectant / Lysol, 5 liter can
- Iodine solution, 250ml – 10%
- Gloves (latex), non-sterile disposable
- Gloves, surgical sterile size 7.5 and 8
- Gloves, long-sleeved, surgical sterile size 8
- Goggles/ Eyeglass shield
- Apron
- Boots
- Dried Blood Spot (DBS) pack
- Syringes
- Lancets
- Band aids
Methylated spirit
- Sodium hypochlorite (e.g. JIK)
- Suction tubes
- Hb machines

**PMTCT programme monitoring and evaluation**

PMTCT programme monitoring tracks actual performance against previously determined objectives. Evaluation provides feedback on how programme interventions are working. Indicators and targets for PMTCT measure progress towards the goal of decreasing mother-to-child transmission of HIV.

Some key PMTCT indicators include but are not limited to:

- Percentage of pregnant women who know their HIV serostatus
- Percentage of HIV-infected pregnant women who receive ARVs to reduce risk of MTCT
- Percentage of HIV-infected pregnant women assessed for ART eligibility (either by clinical staging or CD4)
- Percentage of HIV-exposed infants receiving any HIV test (antibody or virological) by age of 18 months
- Percentage of HIV-exposed infants who received ARV prophylaxis
- Percentage of HIV-exposed infants receiving CPT by 2 months of age
- Percentage of HIV-exposed children tested with DNA PCR by four to six weeks of age
- Percentage of HIV-infected women receiving infant feeding counselling/support at the first infant follow-up visit
- Percentage of postpartum HIV-infected women who receive family planning services
- Percentage of male partners of pregnant women who know their HIV status
Healthcare workers have an important responsibility to collect and record accurate and up-to-date data using the PMTCT forms and registers, and should get actively involved in the monitoring process.