



## Participant Manual

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# **TRAINING MODULE** for **Labour Room Nurses on Guidelines for Lifelong ART for all HIV-Positive Pregnant and Breast Feeding Women to Prevent Parent-to-Child Transmission (PPTCT) of HIV and Syphilis**







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## Training Module for Labour Room Nurses on Guidelines for Lifelong ART for all HIV-Positive Pregnant and Breast Feeding Women to Prevent Parent-to-Child Transmission (PPTCT) of HIV and Syphilis

August 2016



National AIDS Control Organisation  
Ministry of Health & Family Welfare  
Government of India





सत्यमेव जयते



भारत सरकार  
स्वास्थ्य एवं परिवार कल्याण विभाग  
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## FOREWORD

Government of India is committed to work towards achievement of the global target of “Elimination of new HIV and Syphilis infections among children”. To achieve this, an estimated 29 million pregnant women need to be screened annually for HIV and Syphilis – a task which can only be accomplished in collaboration with the Reproductive & Child Health Programme.

The National AIDS Control Organisation (NACO) has adapted the recommendations of World Health Organisation (WHO) to initiate lifelong triple drug ART to all pregnant women irrespective of their CD4 count; and to give Nevirapine prophylaxis (NVP) to all HIV exposed infants for at least six weeks, and for 12 weeks in case mother was not on ART long enough before delivery to achieve optimal viral suppression. The Labour room nurses contribute towards this goal by adopting safer delivery techniques, initiating NVP for new-borns, ensuring continuation of ART, linking women with reactive HIV screening test to Integrated Counselling & Testing Centre (ICTC) and motivating syphilis reactive pregnant women and their partners to undergo treatment. Thus it is essential to screen all direct-in-labour cases for HIV and syphilis and initiate triple drug ART before delivery for women with reactive HIV screening test, and treatment for syphilis for women with reactive syphilis screening test, and thereby reduce the risk of vertical transmission during delivery.

NACO has developed the “Training Module for Labour room nurses” based on the updated Guidelines for PPTCT of HIV using multi-drug Anti-retroviral Regimen in India and plans to train all nurses working in the labour rooms, in counselling and screening for HIV and syphilis for a uniform and wider implementation of the revised guidelines. This user friendly manual is intended to help Labour room to nurses update their knowledge and skills in order to effectively discharge their roles and responsibilities related to prevention of vertical transmission of HIV and syphilis. I am sure these guidelines will serve as standard guide and resources for all the nurses in the country and certainly help and facilitate in efficient implementation of revised PPTCT guidelines.

(Navreet Singh Kang)

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अपनी एचआईवी अवस्था जानें, निकटतम सरकारी अस्पताल में मुफ्त सलाह व जांच पाएं  
Know Your HIV status, go to the nearest Government Hospital for free Voluntary Counselling and Testing





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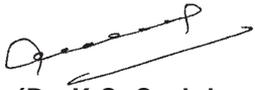
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## Preface

Mother to child transmission of HIV is the primary route of transmission for HIV among children. This is known to occur during pregnancy, delivery and breast-feeding period with equal frequency. Current estimates indicate that about 14,000 & 16,500 infants acquire HIV and syphilis infections respectively each year. Since vertical transmission is the main source of infection among infants, NACO has revised its Prevention of Parent to child Transmission of HIV (PPTCT) guidelines based on WHO recommendations. The revised PPTCT guidelines state that all HIV positive pregnant women including those presenting in labour and breast-feeding women should be initiated on triple drug ART irrespective of CD4 count the then continued for life and give Nevirapine prophylaxis (NVP) to all HIV exposed infants for at least six weeks and for 12 weeks in case mother was not on ART long enough before delivery to achieve optimal viral suppression.

Counselling and screening of HIV and syphilis among direct-in-labour cases is essential for initiating triple ART and treating in pregnant women with reactive screening test/s in order to reduce risk of vertical transmission during labour. Labour room nurses therefore play a very important role in detecting HIV and syphilis infections among direct-in-labour cases by following these PPTCT guidelines, in safe delivery of HIV positive women.

This manual may be used as a regular reference guide on the labour room nurses.

  
(Dr. K.S. Sachdeva)



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# Abbreviations

<b>3TC</b>	Lamivudine
<b>AIDS</b>	Acquired Immunodeficiency Syndrome
<b>ANC</b>	Antenatal care
<b>ANM</b>	Auxiliary Nurse Midwife
<b>ARSH</b>	Adolescent Reproductive and Sexual Health
<b>ART</b>	Antiretroviral Therapy
<b>ARV</b>	Antiretroviral
<b>ASHA</b>	Accredited Social Health Activist
<b>AWW</b>	Anganwadi worker
<b>CPT</b>	Co-trimoxazole prophylactic treatment
<b>DAC</b>	Department of AIDS Control
<b>DBS</b>	Dried Blood Spot
<b>DLN</b>	District Level Network
<b>ECS</b>	Elimination of congenital syphilis
<b>EFV</b>	Efavirenz
<b>EID</b>	Early Infant Diagnosis
<b>FDC</b>	Fixed-Dose Combination
<b>HEI</b>	HIV-exposed infant
<b>HIV</b>	Human Immunodeficiency Virus
<b>ICF</b>	Intensified Case Finding
<b>ICTC</b>	Integrated Counselling and Testing Centre
<b>IDU</b>	Injecting Drug User
<b>IPHS</b>	Indian Public Health Standards
<b>IUD</b>	Intrauterine Device
<b>MCH</b>	Maternal and Child Health
<b>NACO</b>	National AIDS Control Organisation
<b>NRHM</b>	National Rural Health Mission
<b>NVP</b>	Nevirapine

<b>OI</b>	Opportunistic Infection
<b>PEP</b>	Post-exposure prophylaxis
<b>PLHIV</b>	People Living with HIV
<b>POC</b>	Point-of-Care (test)
<b>PPTCT</b>	Prevention of Parent-To-Child Transmission
<b>RCH</b>	Reproductive and Child Health
<b>RNTCP</b>	Revised National Tuberculosis Control Programme
<b>RPR</b>	Rapid Plasma Regain
<b>RTI</b>	Reproductive Tract Infection
<b>SACEP</b>	State AIDS Clinical Expert Panel
<b>SD-NVP</b>	Single-Dose Nevirapine
<b>STI</b>	Sexually Transmitted Infection
<b>TB</b>	Tuberculosis
<b>TDF</b>	Tenofovir Disoproxil Fumarate
<b>TRG</b>	Technical Resource Group
<b>VDRL</b>	Venereal Disease Research Laboratory Test
<b>WBS</b>	Whole blood specimen
<b>WHO</b>	World Health Organization



# Summary

## Roles and responsibilities of nurses in the labour room

The four main responsibilities of labour room nurses for preventing mother-to-child transmission (PPTCT) of HIV and syphilis are:

1. Pre-test counselling for screening of HIV and syphilis infection in direct-in-labour cases
2. Implementing guidelines to prevent mother-to-child transmission of HIV during labour and postnatal period
3. Facilitating treatment of syphilis-positive pregnant women, their partner and the newborns
4. Providing stigma- and discrimination-free services

### 1. Pre-test counselling for screening of HIV infection in the labour room

Pre-test counselling for screening of HIV infection is necessary only for women who have not earlier been tested for HIV infection during the routine antenatal care and only reach a health facility for delivery during labour.

***What is pre-test counselling?*** Pre-test counselling is the process of assisting a person to explore his/her situations and difficulties, identify solutions and act upon them within the limitations of their environment. Pre-test counselling is neither giving advice nor expecting or encouraging the person being counselled (client) to act in a specific way.

***Why pre-test counselling?*** Pre-test counselling is required to prevent any adverse psychological, social and physical consequences of HIV testing on people by educating them on facts about HIV and AIDS, clarifying any myths and misconceptions before the test and advising them about living a healthy life despite HIV infection in case of a positive test result.

***Pre-test counselling aims to*** provide information on HIV and AIDS, the risk of mother-to-child transmission of HIV, and prevention of parent-to-child transmission (PPTCT) services, like HIV screening test and other options, to prevent HIV transmission to the baby.

The ***steps in pre-test counselling for HIV screening*** in the labour room include:

- I. **Creating a conducive environment** for pre-test counselling by ensuring privacy, talking softly, addressing doubts and concerns related to labour and childbirth, sharing information on the progress of labour and providing assurance of quality services to ensure that both mother and baby are safe and healthy

- II. **Assuring confidentiality** about the result of HIV screening test and the dialogue between healthcare provider and client
- III. **Taking history and providing pre-test counselling:** Special emphasis must be laid on noting down history, if any, of previous HIV testing and ART drugs (including single dose-Nevirapine in earlier pregnancies); pre-test counselling should include details about HIV and AIDS, HIV screening and confirmatory tests and the right to take or not take the test
- IV. **Obtaining informed consent** orally after ascertaining that the woman has understood the facts about HIV screening and confirmatory tests and the risk of HIV transmission to the baby
- V. **Performing the screening test** for HIV, using whole blood sample from a finger prick and following the recommended guidelines for conducting the test
- VI. **Providing post-test counselling** post-test counselling is most important if the HIV screening test result is reactive; any anxiety, fear or other similar reaction to the reactive test result should be managed. After disclosing test result, discussion must be done on prophylaxis for woman and the newborn

Pregnant women having reactive HIV screening test result should avail Integrated Counselling and Testing Centre (ICTC) services on the next working day for pre-test counselling and undergoing confirmatory tests for HIV. The ICTC counsellor and the laboratory (lab) technician visit the women in labour room and perform HIV confirmatory tests.

## 2. Implementing guidelines to prevent mother-to-child transmission of HIV during labour and postnatal period

- **Recommended ART regimen:** The guidelines address the specific needs of the women depending on their status, as described below.

**Pregnant women on ART:** If a woman in labour has been taking ART during pregnancy, you must confirm that she has carried her ART drugs with her. If not, you will need to explore options for getting her the drugs that she has been taking. Your responsibility will be to ensure that she continues to take the medicines as per her schedule during delivery and after labour.

**Women with reactive HIV screening test:** For direct-in-labour cases with reactive HIV screening test result, you must start ART immediately after getting a prescription from the Medical Officer and give the first dose of Nevirapine prophylaxis to the newborn after birth.

If the woman in labour **has never taken ART or single-dose drug** to prevent HIV transmission to the child in previous pregnancies (if any), the recommended ART regimen is Tenofovir (TDF) 300 mg + Lamivudine (3TC) 300 mg + Efavirenz (EFV) 600 mg. You can start this regimen only after getting written prescription from the Medical Officer.

In case the pregnant woman **has taken single-dose Nevirapine** in earlier pregnancies, the drug regimen will be Tenofovir (TDF) 300 mg + Lamivudine (3TC) 300 mg once a day as one tablet **AND** Lopinavir (LPV) 200 mg/Ritonavir(r) 50 mg twice a day as two tablets. The baby must receive syrup Zidovudine (ZDV) 2mg/kg/day after birth.

- **Referral to ICTC services:** Any direct-in-labour cases with reactive HIV screening test should avail ICTC services for confirmation of HIV status. The ICTC counsellor and the lab technician will need to visit the woman in the labour room or the postnatal ward (depending on where she is).

The counsellor will assign the woman a patient identification (PID) number and provide pre-test counselling before the lab technician collects blood sample for confirmatory tests. If the **confirmatory tests are negative**, the ART drug for the mother and the ARV for the newborn are stopped. In case the **confirmatory tests are positive**, both ART for mother and ARV for newborn are continued, and they are linked to ART centre for continuation of treatment.

The counsellor must also **link the pregnant woman to the ART centre** for CD4 testing and continuation of ART. The new mother will need to be educated about the importance of compliance to both prevent HIV transmission to the baby and to keep up her own health. She must also be educated about the side effects of ART drugs, the need for continuing the drugs despite side effects, which usually subside soon, and the side effects for which she needs to consult the ART Medical Officer immediately.

- **ARV prophylaxis for newborns and infants:** Antiretroviral (ARV) prophylaxis is required for all babies born to HIV-positive mothers to further reduce the risk of HIV infection before and after birth. This additional protection is especially important if the mother started ART late in her pregnancy or did not adhere to the recommended ART regimen.

ARV prophylaxis for infants whose mothers have received ART is: **Nevirapine (NVP) syrup once a day for six weeks**; it should be given irrespective of whether the baby is exclusively breastfed or has received exclusive replacement feeding. The dose of NVP syrup depends on birth weight: babies weighing less than 2 kg should receive 0.2 ml/kg/day; babies weighing 2 to 2.5 kg should receive 1 ml/day; and babies with birth weight more than 2.5 kg should receive 1.5 ml/day.

In case the mother had not taken ART regularly for at least 24 weeks before delivery and if she is breastfeeding the baby, NVP syrup to the baby should be continued for another six weeks.

- **Labour and delivery of HIV-positive pregnant women:** As a labour room nurse, you will need to: record the woman's HIV status in the maternity register as per PPTCT guidelines; document details of the ART drugs taken during pregnancy (if any); provide during labour and delivery the same ART drugs that a pregnant woman on lifelong ART has been taking, give the drugs as per her usual schedule (dose and time); and facilitate ART for women who were screened for HIV during labour. You must also counsel the woman on the benefits of exclusive breastfeeding in case she had still not decided on exclusive breastfeeding.

If **Caesarean section** (C-section) is required due to obstetric indications, ART should be given before the operation to the HIV-positive women who come to the hospital while in labour. Regular ART regimen should be continued for women on lifelong ART.

**Safer delivery techniques:** The risk of mother-to-child transmission of HIV increases by prolonged rupture of membranes, repeated per vaginal examinations, assisted instrumental delivery (such as vacuum or forceps), invasive foetal monitoring procedures (such as scalp or foetal blood monitoring), episiotomy and prematurity.

The **risk of HIV transmission during delivery can be reduced** by observing the following:

- Practicing standard (universal) precautions recommended for delivery
  - Minimising vaginal examination, and using aseptic techniques during vaginal examination
  - Not rupturing membranes artificially unless there is foetal distress or delay in progress of labour
  - Avoiding invasive procedures, such as foetal blood sampling, foetal scalp electrodes
  - Avoiding instrumental delivery as far as possible unless there is foetal distress or there is a need to shorten the duration of labour; if instrumental delivery is indicated, low-cavity outlet forceps is preferable to ventouse (vacuum extraction)
  - Avoiding routine episiotomy as far as possible
  - Avoiding suctioning the newborn with nasogastric tube unless there is meconium staining in the liquor
- **Care during the postpartum period:** Newborn care for HIV-exposed infants is the same as for all other newborns. In addition, they require NVP syrup immediately after birth. Breastfeeding should be initiated within one hour of birth.

The HIV-positive mother should be trained on administering NVP prophylaxis to the infant using a syringe and to wash the equipment with clean boiled water after every use. During the postpartum period, the mother should receive pre-test counselling and education on ART, early infant diagnosis (EID) and the available care and support services, and guidance for living healthy with HIV infection. The husband/partner should also be tested during this period if he is available and the woman is willing to disclose her status to him. If she is willing, the husband and other family members should also be counselled and educated on HIV-related services for the mother and the baby.

### 3. Providing stigma- and discrimination-free services

Stigma and discrimination of people living with HIV (PLHIV) has grave, adverse impact on the individual, the affected family and the community at large. This, in turn, **has a direct influence on the HIV epidemic** through reduced HIV testing in the community, unwillingness to disclose HIV status and thereby poor adoption of safe behaviours, and unwillingness to accept HIV-related services.

**Healthcare providers can play an important role** in helping HIV-positive people live a healthy and longer life if they provide them the same quality of services and care that they provide to HIV-negative people; demonstrate empathy and respect; and help the PLHIV overcome fear, anxiety and hopelessness about their HIV status. As a labour room nurse, you can help to reduce HIV-related stigma and discrimination by being a role model in quality care, providing information on care and support services, giving example of HIV-positive role models, and encouraging participation of husband/partner and family.

### **Management of occupational exposure**

Exposure is defined as injury to skin (such as needle-stick injury), contact of potentially infectious body fluids with mucous membrane and non-intact skin, or prolonged contact with intact skin. **Potentially infectious body fluids** include, among others, blood, semen, vaginal secretions, cerebrospinal fluid, amniotic fluid and other body fluids contaminated with visible blood.

**First aid** for skin that is broken due to needle-stick or sharp instrument injury includes immediately washing the wound and surrounding skin with soap and water. Do not scrub the area, squeeze the injury area or use antiseptics. First aid for exposure to the eye includes irrigating the eye immediately with water or normal saline. First aid for exposure to the mouth includes spitting out the fluid immediately and rinsing the mouth with water and saline several times and spitting it out.

Immediately after exposure, you must report to the Medical Officer regarding post-exposure prophylaxis (PEP). The **decision about starting PEP** is taken based on an assessment of exposure code and HIV source code and the exposed individual. After counselling, a baseline HIV test is done to rule out pre-existing HIV infection.

Depending on the severity of exposure and the HIV status of the source of exposure, a three-drug ART regimen is recommended for 28 days. It is desirable to start PEP within two hours of exposure but can also be done within 72 hours. Follow-up, including repeat HIV test and counselling, is an important part of management of occupational exposure. A healthcare provider on PEP can avail special leave.

*It is natural to feel that the heavy workload in the labour room gives you little time for any new task. However, by making an extra effort for pre and post-test counselling and HIV screening, you can play one of the most important roles in preventing HIV infection in newborns and infants.*

## **Role of Labour Room Nurses in the PPTCT Programme**

# 1. Introduction

While the HIV epidemic continues to rank among India's major public health problems, the spread of HIV infection has been on a decline in the country. The year 2011 estimates indicated that 27 people out of every 10,000 were living with HIV, which is about one-thirds less than the estimates made ten years earlier. The decrease in the number of people living with HIV (PLHIV) results from the new HIV infections among adults reducing by an estimated 57 percent. Notably, however, new infections among babies came down only by an estimated 35 percent during the same period<sup>1</sup>. According to estimates, about 14,000 new infections occur among infants each year. Mother-to-child transmission is the main route of HIV transmission to children, occurring during pregnancy, delivery or breastfeeding. The risk of HIV transmission from mother-to-child can be as high as 20–45 percent if no preventive measures are taken. Experience from various parts of the world indicates that starting antiretroviral treatment (ART) for pregnant women early in their pregnancy and giving antiretroviral (ARV) prophylaxis to the newborns can reduce the risk of HIV transmission from mother to child to less than 5 percent in breastfeeding babies.

The Government of India is committed to work towards the global target of eliminating new HIV infections among children by 2017. In 2002, the National AIDS Control Programme (NACP) had started a programme called Prevention of Parent-to-Child Transmission of HIV (PPTCT) through which HIV testing services were offered to all pregnant women getting antenatal care (ANC). If a woman was found HIV-positive, she was given a single dose of Nevirapine (SD-NVP) tablet at the time of delivery and the newborn was given a single dose of Nevirapine syrup. These services were scaled up all over the country during 2007–2012. The programme was implemented successfully in states and districts with high prevalence of HIV but its reach in other parts of the country was limited. During this time, the World Health Organization (WHO) guidelines were updated on the basis of evidence on mother-to-child transmission of HIV from around the world. Based on these recommendations, a multi-drug PPTCT regimen was started in Andhra Pradesh, Karnataka and Tamil Nadu.

## **BOX 1 National Technical Resource Group (TRG) recommendations on PPTCT**

- a. All HIV-positive pregnant women, including those presenting in labour and breastfeeding, should be initiated on a triple ART irrespective of CD4 to prevent mother-to-child transmission risk; they should continue lifelong ART.
- b. The duration of NVP to infant must be minimum of six weeks but more if ART to the mother was started in late pregnancy, during or after delivery and if the mother has not been on adequate period of ART so as to be effective in achieving optimal viral suppression (which is at least 24 weeks), then the infant NVP should be increased to 12 weeks. This recommendation on extended NVP duration applies to infants of breastfeeding women only and not to those on exclusive replacement feeding. After reading, confirming and recording the test result, discard the used material, including the used HIV test card, into the discard jar.

<sup>1</sup> National Strategic Plan: Multi Drug ARV for Prevention of Parent to Child Transmission of HIV (PPTCT) under National AIDS Control Programme in India; Updated December 2013

Subsequently, WHO guidelines were further modified in June 2013, based on which the **National Technical Resource Group (TRG) recommended lifelong three-drug ART regimen for all HIV-positive pregnant women and Nevirapine (NVP) prophylaxis from birth to at least six weeks for all HIV-exposed infants (HEI), the term used for babies born to HIV-positive mothers.** The National of AIDS Control (NACO) has accepted the recommendations of the TRG and plans to scale up the newer regimen across the country.

The first step towards HIV prevention in newborns and infants is the identification of HIV infection in pregnant women and then ensuring that HIV-positive women access preventive services. This is why government health services have made HIV pre-test counselling and testing services an integral and essential part of ANC, enabling women to get the services close to their homes or at a nearby facility they can easily reach. The government, working through National Health Mission (NHM), is strengthening ANC services to ensure that pregnant women register for ANC as early as possible and access all ANC services.

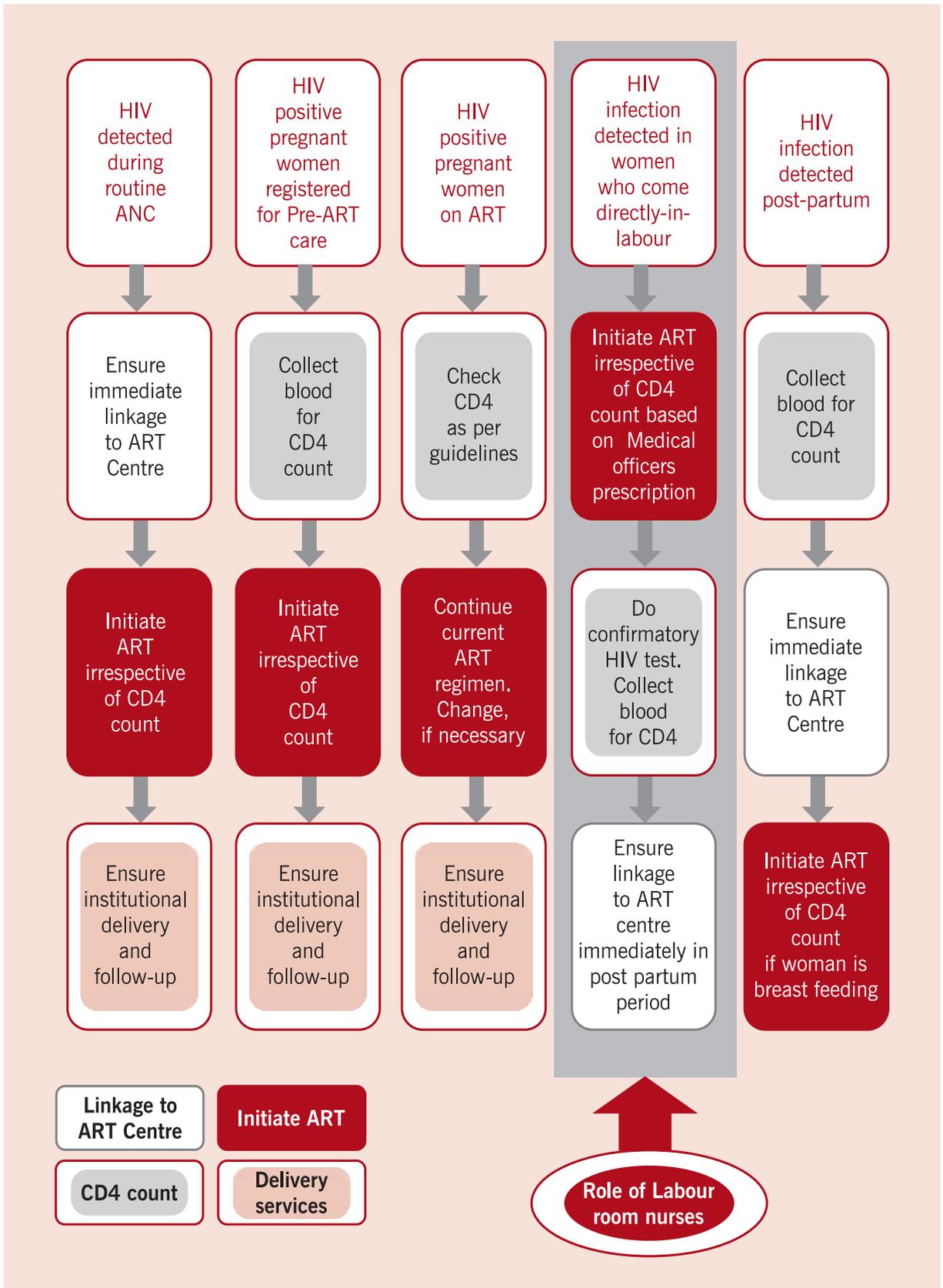
The current PPTCT guidelines describe the steps (see Figure 1) in managing HIV infection in pregnant and lactating women to prevent mother-to-child transmission in five situations: (a) HIV-positive women on ART who become pregnant, (b) HIV-positive women registered for pre-ART who become pregnant, (c) HIV infection detected during pregnancy, (d) HIV infection detected during labour, and (e) HIV infection detected during the postnatal period.

Although efforts are made to register all pregnant women in the early stage of pregnancy and motivate them to access ANC, many women still go to a health facility only at the time of delivery. Labour room nurses can play an important role in HIV screening of these unregistered pregnant women who come to the facility direct-in-labour. This manual aims to serve as learning and reference resource for labour room nurses and equip them with improved understanding of their roles and responsibilities in preventing mother-to-child HIV transmission.

## **1.1 Roles and responsibilities of labour room nurses**

As a labour room/ward nurse, you have four main responsibilities for preventing mother-to-child transmission of HIV and syphilis:

- I. Pre-test counselling for screening of HIV and syphilis infection in direct-in-labour cases. Tasks under this responsibility include:
  - i. Pre-screening counselling, which includes history taking, providing information on HIV/AIDS and syphilis, and taking informed consent for HIV and syphilis screening
  - ii. Conducting HIV and syphilis screening through whole blood finger prick tests
  - iii. Providing post-screening counselling
  - iv. Maintaining confidentiality
- II. Implementing guidelines for preventing mother-to-child transmission of HIV during labour and postnatal period. Tasks here include:
  - i. Facilitating first line of ART regimen for direct-in-labour cases with reactive HIV screening test



**Figure 1:** Management of HIV infection during pregnancy

- ii. Ensuring that HIV-positive pregnant women already on ART continue to take ART as per their schedule during labour
  - iii. Practicing the safer delivery techniques recommended for HIV-positive women
  - iv. Initiating ARV prophylaxis for the newborn
  - v. Making sure that women with reactive HIV screening test results obtain Integrated Counselling and Testing Centre (ICTC) services for confirmation of HIV infection on the next working day, when a counsellor and a lab technician will visit the women in the labour room and perform HIV confirmation tests
  - vi. Motivating the mother to opt for exclusive breastfeeding for six months and initiating early breastfeeding; if despite the motivation, the mother refuses to breastfeed, training her on safe replacement feeding
  - vii. Educating the mother and the family members to access HIV-related treatment and care and support services, with special emphasis on ART, early infant diagnosis (EID) and co-trimoxazole prophylactic treatment (CPT)
- III. Facilitating treatment of syphilis-positive pregnant women, their partner and the newborns by:
- i. Treating the pregnant women for syphilis as per national guidelines
  - ii. Facilitating and motivating the spouse/partner to get tested and treated
  - iii. Linking the mother and the newborn for qualitative and quantitative rapid plasma regain (RPR)/Venereal Disease Research Laboratory (VDRL) to compare the antibody titre levels of the mother and the neonate
- IV. Providing stigma and discrimination free services by:
- i. Providing HIV-positive women the same quality of services and care that is provided to HIV-negative women
  - ii. Demonstrating empathy and respect
  - iii. Helping HIV-positive women overcome their fear, anxiety and hopelessness about living with HIV
  - iv. Committing to the HIV-positive mother that the hospital staff will provide total support during her stay in the health facility and, if necessary, for referral in future

In addition to the above four core responsibilities, you will also need to document details about HIV screening and referrals and practice the recommended guidelines for infection control, which are same as those for HIV-negative women.

The following chapters provide detailed technical information on the four core responsibilities, outcomes, the impact of stigma and discrimination in health facilities and the management of accidental exposure to potentially infectious fluids. Additional information and basic facts about HIV and AIDS and the PPTCT programme are included in Section 2 of this manual.

## 2. Pre-test counselling for Screening of HIV Infection in the Labour Room

The details provided in this chapter is relevant only for pre-test counselling on screening of HIV infection in direct-in-labour cases when the HIV status is unknown.

In this chapter you will learn about:

- a. Steps in pre- and post-test counselling of direct-in-labour women who do not know about their HIV status
- b. Technical information on HIV and AIDS that needs to be included in pre- and post-test counselling
- c. Process of conducting an HIV screening test
- d. Information on management of anxiety, denial and other similar reactions to a reactive HIV screening test

**BOX 2** ahead describes the knowledge, skills and attitudes you require for discharging your responsibility of providing pre-test counselling and conducting HIV screening test for direct-in-labour cases. It is recommended that you refer to Box 2 at periodic intervals for self-assessment of your competency in providing pre-test counselling and conducting screening for HIV infection.

### 2.1 What is counselling?

Counselling is the process of assisting a person to explore his/her situations and difficulties, identify solutions and act upon them within the limitations of their environment. The situations and problems can be personal, social and psychological. Pre-test counselling can be provided to individuals, couples, families and small groups of people with similar issues or circumstances.

Pre-test counselling does not mean giving advice. It does not also involve expecting or encouraging the person being counselled (client) to act in a way a counsellor may have behaved or would like to behave in a similar situation. Importantly, it definitely DOES NOT involve judging the client or his/her situation or attempting to “solve” his/her problems or difficulties.

## **Box 2: Knowledge, skills and attitudes required in labour room nurses for counselling and screening for HIV in direct-in-labour cases**

### **Knowledge:**

- a. Facts about HIV infection, including detailed knowledge about mother-to-child transmission, natural progression of HIV infection in adults and children, guidelines for testing, difference between HIV and AIDS, and current treatment guidelines for HIV-positive pregnant and lactating mothers and children
- b. Details about the PPTCT programme and its services, especially for labour and postpartum stage
- c. Steps in counselling women in labour for the HIV screening test
- d. Social and ethical issues related to HIV screening, especially in pregnant women
- e. DOs and DON'Ts of counselling pregnant women on HIV
- f. Process of conducting the screening test for HIV
- g. Interpretation of screening test result (both reactive and non-reactive)

### **Skills:**

- a. Creating a conducive environment for counselling pregnant women in the labour room
- b. Following guidelines for counselling direct-in-labour cases on HIV
- c. Clarifying the pregnant women's doubts and misconceptions about HIV and AIDS and the HIV screening test
- d. Conducting whole blood finger prick test for HIV screening and interpreting its result
- e. Explaining the result of the HIV screening test
- f. Managing adverse emotional reactions to a positive HIV screening test result, such as anxiety, fear of stigma and discrimination, fear of strained personal relationships, fear of death, and fear about the child's future

### **Attitudes:**

- a. *"I have an important role to play in preventing mother-to-child transmission of HIV infection."*
- b. *"By demonstrating empathetic and non-judgemental behaviour during counselling and screening for HIV, I help positive pregnant women become more competent in taking steps to prevent HIV infection in their babies."*
- c. *"The pregnant woman is the best person to disclose her HIV status to others, and at a time that she feels is best for her and her baby."*



## 2.2 Importance of pre- test counselling in HIV screening

HIV infection is a lifelong illness that adversely affects the quality of life and total lifespan of an individual. It is also associated with stigma and discrimination in the family, community, workplace and health facilities. This is why a positive HIV test result can have several psychological, social and physical impacts on people. Pre-test counselling offers two effective ways to reduce the adverse effects of knowing one's HIV status:

- I. **Before the test** - Educating the individual on facts about HIV and AIDS and clarifying their myths and misconceptions
- II. **After a positive test result** - Educating the individual about living a healthy life despite the HIV infection; the women can be provided guidance on how their life can be almost normal, how life expectancy can be prolonged through a healthier lifestyle, and options for preventing HIV infection in the baby and raising a healthier child

The national policy of the Government of India has made counselling mandatory both before and after the HIV test. The policy also requires that a dialogue between healthcare provider and the client and the test result remain confidential. Pre-test counselling for HIV testing is meant to improve a client's understanding of HIV and help him/her make the decision about taking the test, adopt behaviours to prevent HIV transmission, and seek relevant and timely treatment in case of a positive diagnosis for HIV infection.

## 2.3 Aims of providing pre-test counselling for HIV screening in the labour room

In the context of HIV and AIDS, pre-test information in the labour room involves a dialogue with the pregnant woman about HIV infection, the HIV screening test and its result. Such pre-test information has **six** main aims:

- I. Educating the pregnant woman on HIV and AIDS, including clarifying her doubts and misconceptions
- II. Helping the pregnant woman understand the risk of transmitting HIV to her baby if she has HIV infection
- III. Helping the pregnant woman appreciate the importance of her decision about HIV screening test and its impact on her and her baby's health; supporting her to take the decision
- IV. Informing the pregnant woman about PPTCT services, with special emphasis on prevention of HIV transmission to her baby
- V. Helping the pregnant woman understand the result of HIV screening test and to make concrete plans based on the result, if so required
- VI. Extending emotional support to her, as required



Please remember that a woman in labour is more likely to be preoccupied with labour pains and childbirth. She may, therefore, not be as receptive to pre-test counselling as a pregnant woman who is not in labour. It is, thus, desirable that while providing pre-test counselling you remain sensitive to her discomfort and anxiety about the process and outcome of

childbirth. Pre-test counselling is more likely to be useful if you talk to her in between her contractions, especially if she is in the first stage of labour.

## 2.4 Steps in pre-test counselling and screening for HIV in the labour room

There are six steps in pre-test counselling for HIV screening in the labour room:

- I. Creating a conducive environment for counselling
- II. Assuring confidentiality
- III. History taking and pre-test counselling
- IV. Taking informed consent
- V. Performing the screening test for HIV
- VI. Doing post-test counselling

### 2.4.1 Creating a conducive environment for providing pre-test counselling

Pre-test counselling requires that the client's interests and wellbeing be taken care of, irrespective of where it takes place. Therefore, pre-test counselling in the labour room should also focus on the pregnant woman's comfort in receiving counselling. You can create a comfortable and conducive environment for providing pre-test counselling in the labour room by:

- a. **Ensuring privacy:** If the woman is in early stages of labour, try to counsel her in a separate room/space that has privacy or in any other place in the labour room where others are not likely to overhear your conversation. In case the woman is in active labour, you can create privacy by draping a curtain between her and other women in the labour room.
- b. **Talking softly:** You must talk softly at all times so that others cannot hear your conversation with the woman, including during history taking, clinical examination, discussing the progress of labour, or pre-test counselling for HIV screening. If you talk softly only for counselling, you may arouse suspicion in others' mind.
- c. **Addressing doubts and concerns related to labour and childbirth:** Ask the pregnant woman if she has any questions, doubts or concerns about labour or childbirth. Clarify her doubts and misconceptions, if any. Give her reassurance about the delivery process in case she is anxious, especially if this is her first delivery.
- d. **Sharing information on the progress of labour:** A woman going through labour pains is likely to feel that the most important need of the moment is to have a quick, early and safe delivery. She may not understand why you think it is important to talk about HIV screening, especially if she does not know about it or does not consider herself at risk of HIV infection. By telling her about the progress of labour and the estimated time of delivery, you may be able to help her focus on counselling.
- e. **Assuring her of quality services and care:** People have varied expectations from healthcare providers. This is true even for pregnant women. Assure them that you and other staff in the labour room will provide her quality services to ensure that she and her baby are safe and healthy.



## 2.4.2 Assuring confidentiality

It is your responsibility to maintain confidentiality while offering pre-test counselling for HIV screening. This means that you will consider any information that the pregnant woman shares with you as private and will not disclose it to anyone without her consent. Confidentiality is also required for the test result, irrespective of whether it is reactive or non-reactive.

the pregnant woman of confidentiality will help build and maintain trust and make her more accepting of the messages that you give her. You must convince her of confidentiality by assuring her of the following **four**:

- a. You will not share her personal information with anyone else.
- b. You will not disclose the test result to her family and friends.
- c. If you think that sharing the test result with others in the hospital is necessary in order to ensure appropriate medical care, you will first take her permission before sharing.
- d. Any hospital staff who is not directly involved in providing her medical services will not have access to her medical records.

## 2.4.3 History taking and pre-test counselling

History taking is important in every interaction between the health service provider and the patient/client. **Three** important issues to be discussed during history taking are:

### a. **Previous HIV test and ART drugs**

Ask the woman:

- Have you ever been tested for HIV infection? If yes, when were you tested and what was the result?
- Have you ever taken ART before? If yes, when that was, for how long, and what drugs were taken? What were the reasons for discontinuing ART drugs?

In case this is not her first delivery and she is HIV-positive, ask:

- Did you take single-dose Nevirapine (SD-NVP) to prevent mother-to-child transmission in the earlier pregnancy?

### b. **Symptoms suggestive of sexually transmitted infections (STIs)**

Ask the woman:

- Have you and/or your husband/partner ever been treated for infections of the genital organs? If yes, what was the treatment and when was it taken?

Inquire about the type of infection(s) and the treatment taken. In history taking, special emphasis should be placed on genital ulcers and abnormal genital discharge.

### c. **High-risk behaviours**

Inquire from the woman about the nature of her husband's work. Also ask:

- Does he live away from the family for extended periods of time?
- Have either of them ever used injecting drugs?

The practice of injecting drugs is more common in some groups of people. The woman may get offended if you directly ask her if she had ever used drugs. It is, therefore, desirable that you find out about the drug use history of the woman and her husband/partner sensitively.

History of previous HIV tests and ART should be informed to the Medical Officer so that appropriate ART drugs can be given to reduce the risk of vertical transmission. Previous history of STIs and/or high-risk behaviour indicates the need for testing the woman again after three months (to rule out infection in the window period).

Pre-test counselling is given to ensure that pregnant women know at least the following five aspects of HIV and AIDS and the screening test:

- I. It is important to know what is HIV infection, the risk of its transmission to the baby and the services available to prevent such transmission.
- II. A woman can take steps to protect her baby from HIV infection only if she knows her HIV status.
- III. There is a rapid screening test for HIV that will give the result within 15 minutes. It is a screening test, and not a confirmation of HIV infection. Confirmation of HIV infection is done through additional tests carried out by ICTC in case of a reactive HIV screening test. The decision to take steps to prevent HIV infection in the newborn is made on the basis of screening test result.
- IV. You, the labour room nurse, will clarify all of the woman's doubts about HIV infection.
- V. The woman has the option of refusing to take the test. However, by refusing, she takes the risk of transmitting the infection to her baby in case she has HIV infection.

Detailed below is the ideal information to be shared during pre-test counselling. In case the woman is in advanced labour, you can give her the minimum information related to prevention of mother-to-child transmission of HIV.

## Information to be shared during pre-test counselling

### I. Basic facts about HIV and AIDS:

- HIV is a virus that can affect anyone.
- Babies born to mothers who have HIV infection can acquire the infection from the mother during pregnancy, delivery and breastfeeding.
- HIV gradually destroys a person's immunity, which means the ability to fight diseases.
- The HIV test comes out negative if taken during the window period. "Window period" refers to the duration between HIV infection and its first detection through HIV antibody tests. The normal duration of the window period is about 3 months but can sometimes extend to 6 months. The risk of HIV transmission to the baby or anyone else is very high during the window period, as the number of HIV viruses in the blood stream is very high.
- AIDS is an advanced stage of HIV infection, where a person's immunity is completely destroyed and, therefore, a wide range of diseases (opportunistic infections [OIs]) affect the body.

- ❑ HIV infection does not have any symptoms for up to 8 to 10 years. During this time, it continues to destroy a person's immunity.
- ❑ HIV can be transmitted to other people through four main routes: sexual transmission, needles and syringes, blood transfusion, and from mother to child. Adults can acquire HIV infection by engaging in unprotected sexual intercourse, sharing needles and syringes for intravenous use and receiving blood transfusion without the blood being tested for HIV infection. For babies and children, mother-to-child transmission is the key route of HIV infection.

## II. Prevention of mother-to-child transmission:

- ❑ Medicines are available to reduce the risk of HIV transmission from mother to child.
- ❑ Women who take antiretroviral therapy (ART) every day during their pregnancy and during breastfeeding can help prevent HIV transmission to the baby.
- ❑ The baby can be further protected by giving daily Nevirapine (NVP) syrup for at least six weeks.
- ❑ Even if a pregnant woman did not take ART during her pregnancy, she can reduce the risk of HIV transmission to her baby by taking ART before the delivery and continuing thereafter.
- ❑ A woman who is on ART protects her baby from the risk of HIV infection through breastfeeding. She, thereby, allows the baby to benefit from mother's milk while staying protected from HIV infection. Top feeding is not as beneficial to the baby as mother's milk is.
- ❑ ART needs to be taken for life. It helps a woman control her HIV infection and postpones the progression of HIV infection to AIDS.

## III. Testing for HIV infection:

- ❑ The test that will be performed in the labour room is only for screening purposes.
- ❑ The result of the screening test becomes available within 15 minutes.
- ❑ For HIV screening, blood is taken from a single needle prick on the middle or ring finger. There may be slight pain during the needle prick.
- ❑ Confidentiality of the screening test result will be maintained.
- ❑ Steps will be taken to prevent HIV transmission to the baby if the screening test result is reactive.
- ❑ If the screening test is reactive, the woman is referred to Integrated Counselling and Testing Centre (ICTC) for further confirmatory tests on the first working day after delivery. Pre-test counselling and collection of blood sample for HIV confirmatory tests will be done in the labour room/postnatal ward by the ICTC counsellor and lab technician, respectively.
- ❑ ICTC will also maintain confidentiality of HIV test result.
- ❑ The baby born to an HIV-positive woman will be first tested for HIV at 6 weeks of age. Tests will be repeated at fixed intervals till the age of 18 months, when the HIV status is confirmed.

#### IV. HIV test for the spouse:

- In case a woman tests positive for HIV, she is advised to get her husband/partner for HIV testing.
- The husband/partner is tested for HIV after providing pre-test counselling and taking informed consent.
- It is likely that only one of the couple has HIV infection. This is possible because HIV may not always transmit to the spouse as soon as a person gets infected. Several factors influence HIV transmission between a couple engaging in sexual intercourse.

#### V. Treatment, care and support for HIV-positive pregnant woman, baby, spouse and the family:

- In case a woman tests positive of HIV, she and her husband (if he also has HIV infection) will be referred to the ART centre by the ICTC counsellor.
- The ICTC counsellor will be available to counsel HIV-positive women, their spouses and families as and when required.
- Some NGOs and District Level Networks (DLNs) of positive people also provide emotional, social and psychological support to people who have HIV infection and their families.
- The counsellor at the ICTC will refer the positive people to such care and support services.



If direct-in-labour cases are in advanced stages of labour, you can limit the time for providing pre-test counselling to: (a) making sure that the woman has heard of HIV and AIDS, (b) explaining the risk of HIV transmission to the baby, (c) telling about ways of preventing HIV transmission to the baby, (d) explaining about the HIV screening test, and (e) telling the woman about the right to refuse the test and the likely consequences of refusing the test.

#### 2.4.4 Taking informed consent

Informed consent is the process through which a pregnant woman/client receives clear and accurate information about HIV and its testing process and makes the decision on whether or not to take the test on her own, without any force or compulsion from the service provider. You must take informed consent from the pregnant woman. By doing this you ensure that the woman has understood the purpose of the screening test and its benefits. You can assess if the pregnant woman has understood the messages you have given her on HIV by asking her questions **such as**:

- What is the purpose of screening for HIV infection during labour?
- What does the screening test indicate?
- What steps can be taken to prevent HIV transmission from the mother to the baby?
- How long will the screening test result take?
- How is HIV transmitted from the mother to the baby?
- How does HIV infection affect the body?
- How is HIV infection confirmed?

Once you are convinced that the pregnant woman has understood the information you gave her about HIV infection and the screening test, you can take her **oral** consent by asking her if she is willing to get tested or not. If yes, ask if she is willing to get tested immediately.

### 2.4.5 Performing the screening test for HIV

You will do the HIV screening test by using a rapid HIV detection test kit. It includes all the reagents and does not require any specialised equipment. You will get the test result within 15 minutes, which you can interpret visually. Instructions on the test kit will inform you of the actual time needed for you to interpret the results. The screening test for HIV is done in **four** steps:

- I. Preparing for the screening test
- II. Collecting the whole blood sample from a finger prick
- III. Performing the screening test
- IV. Interpreting the result

Let us look at each step in greater detail.

#### I. Preparing for the screening test

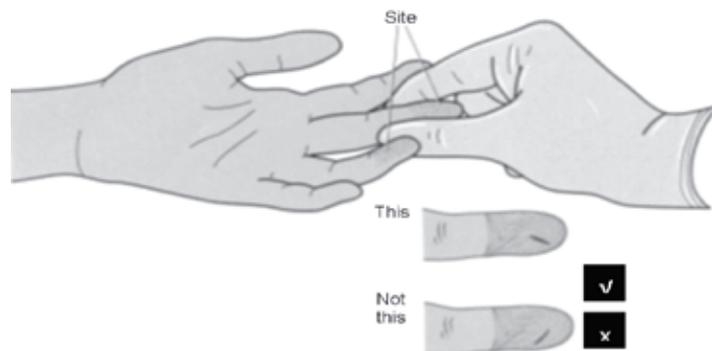
The task of preparing for the screening test has **four** steps:

- i. Bring the test kit to room temperature.
- ii. Lay out the test strips on a white paper towel on a clean surface.
- iii. Take the test device out of the protective wrapper.
- iv. Label the device with the name and other details of the pregnant woman to be tested.

#### II. Collecting the whole blood sample from a finger prick

You need to wear gloves and use only sterilised or disposable lancets or needles for collecting the blood sample. The **nine** steps in collecting the blood sample are as follows:

- i. Make the pregnant woman sit or lie down comfortably and lower the arm from which the sample is to be taken. Ensure that the fingers are lower than the elbow of the same arm.
- ii. Choose the fingertip of the middle or ring finger.

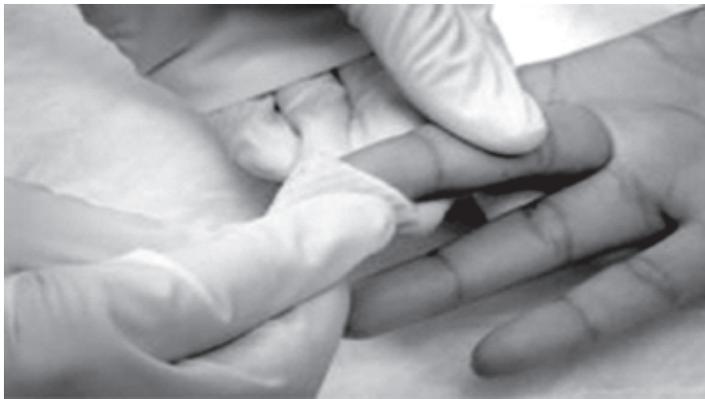


**Figure 2:** Recommended sites for finger puncture



**Figure 3:** Selecting the site to be pricked

- iii. iii. Clean the fingertip with alcohol. Work from the middle out to reduce contamination. Allow the area to air dry. Do not touch the area.



**Figure 4:** Cleaning the fingertip with alcohol

- iv. Gently squeeze and release the area to be pricked until it is red.
- v. Position the hand palm side up. Place the lancet or needle away from the centre of the fingertip. Firmly press the lancet or needle against the skin and puncture the skin. Dispose of the lancet or needle in a safe way into the sharps discard jar recommended in your health facility.



**Figure 5:** Pricking the finger

- vi. Wipe away the first drop of blood with a sterile gauze pad and then discard it as per biomedical waste disposal guidelines.
- vii. Hold the finger lower than the elbow and apply gentle intermittent pressure to the base of the punctured finger a few times.



- viii. Using the disposable pipettes supplied with the test kit, draw up the required amount of whole blood specimen from the fingertip. Do not use any other pipette and do not reuse the pipette.
- ix. Once the required amount of whole blood specimen has been collected, gently apply pressure at the puncture site with gauze to ensure that there is no further bleeding from the site. You can also ask the woman to continue pressing with the gauze until bleeding stops.



It is important to correctly follow the steps for drawing blood because painful or repeated attempts can cause discomfort and result in collection of a poor quality or quantity of sample. Errors in performing the blood collection procedure can also reduce the pregnant woman's confidence in your skills.

➤ **DONT's of finger puncture**

- Do not puncture the side or the tip of the finger.
- Do not puncture parallel to the grooves of the fingerprint.
- Do not puncture the index finger.
- Do not puncture the little finger.
- Do not puncture the fingers of a child less than 12 months of age. (Any blood sample from babies less than 12 months or weighing less than 10 kg is collected through a heel prick.)

**III. Performing the screening test**

Please remember that the whole blood from finger stick must be used immediately after collection. Ensure that you have with you the following **eight** materials before you start performing the HIV screening test.

- i. Test kit in cold chain (Please note the TTI indicator and expiry date of the kit.)
- ii. Alcohol swabs
- iii. Pair of gloves
- iv. Soap to wash hands
- v. Puncture proof discarding bottle or screw capped jar to discard used lancets, used alcohol swabs, gauze pad and pipettes
- vi. Lancet
- vii. Biohazard bags
- viii. First aid kit

There are **six** steps in performing the screening test after you have collected the required amount of whole blood sample from the woman's fingertip. These steps are as below:

- i. Hold the pipette vertically over the sample pad and carefully add the amount of specimen recommended in the test kit. Allow the specimen to be fully absorbed. Take care to ensure that no air bubbles enter the sample port.

- ii. Discard the pipette into a discard jar after dropping the required amount of specimen on the rapid card.
- iii. Complete the next steps of adding any more reagents (if required), as described in the kit insert of the rapid card.
- iv. Set the timer for time, as indicated in the kit insert. Allow the specified time for the reaction to occur.
- v. Read the test results immediately after the time specified in the kit insert.
- vi. If a dot or band appears, record the test result as reactive. If no dot or band is observed, record the result as non-reactive.

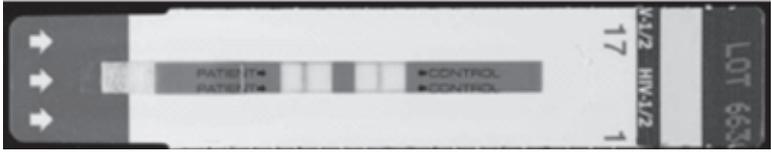
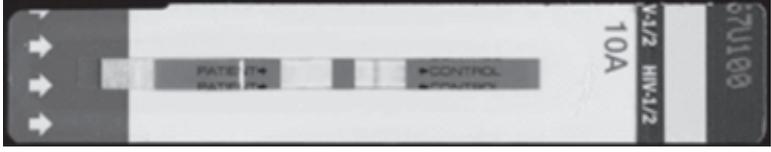
#### IV. Interpreting the test result

There can be only three possible outcomes of HIV screening done through rapid antibody card test, as briefly described below:

- i. **Reactive or positive:** In this case there will be a band in both the test area and the control area.
- ii. **Non-reactive or negative:** In this case there will be no band in the test area but a band will be seen in the control area.
- iii. **Invalid:** In this case there will be no band in the control area. A band may be present in the test area but the test is considered invalid as there is no band in the control area.

In case of an invalid test result, you need to repeat the test with a new card. If the test result is invalid again and again, you can assume that there is a problem with either the procedure or the test kit. Please inform your supervisor and seek help to take corrective measures. Some examples of HIV screening test kits with results are shown below.

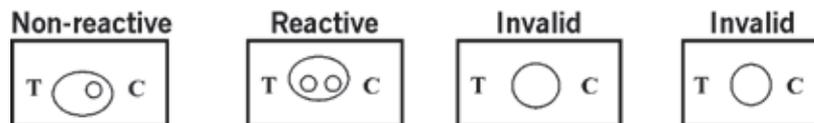
**Figure 6:** Reactive and non-reactive test result (Example 1)

<p><b>Reactive</b></p> <p>Two lines of any intensity appear in both the patient (test) area and the control area.</p>	
<p><b>Non-reactive</b></p> <p>One line appears in the control area, but no line is seen in the patient area.</p>	

**Figure 7:** Reactive and non-reactive test result (Example 2)



**Figure 8:** Reactive and non-reactive test result (Example 3)



In case of HIV 1 and HIV 2 co-infection, three dots will be visible in the test pad.

➤ **DOs and DON'Ts of rapid HIV screening test**

**DOs**

- Do store the test kit in the refrigerator or cool packs at all times, keeping the temperature between 2–8 degrees Centigrade.
- Do follow the package insert instructions.
- Do consider any results as potentially positive until confirmatory tests have been done.
- Do use a new disposable pipette and device for testing each new specimen.
- Do use the supplied pipette to drop the blood specimen from the finger stick onto the device.
- Do use a control specimen at least once before taking the kit from the ICTC.
- Do run the test immediately after removing the test cassette from the foil pouch.
- Do bring all the reagents to room temperature before testing.
- Do perform the test at room temperature.
- Do follow the given instructions while interpreting the test results. The reading may show a positive result if the sample is checked or read after 30 minutes.

After reading, confirming and recording the test result, discard the used material, including the used HIV test card, into the discard jar.

## **DON'Ts**

- ❑ Do not use the kit or any kit components after the expiry date.
- ❑ Do not freeze the kit.
- ❑ Do not use the same disposable pipette and device for multiple samples.
- ❑ Do not pipette by mouth.
- ❑ Do not use any device if the pouches are perforated.
- ❑ Do not mix reagents from different kits.
- ❑ Do not drop blood droplets directly from the woman's fingertip onto the device of the kit insert. A disposable pipette must be used to transfer the specimen from the fingertip to the specimen pad on the rapid card device.

### **2.4.6 Doing post-test counselling**

You need to do post-test counselling for every woman who has taken the HIV screening test, irrespective of the test result. It should be done immediately after you have the test result. Post-test counselling helps the women to understand the test results and to take decisions for next steps, if required. The content of post-test counselling depends on whether the test result is reactive or non-reactive.

#### **Post-test counselling for non-reactive result**

If the screening test is non-reactive, inform the pregnant woman that the test did not indicate that she has HIV infection. Clarify her doubts or provide additional information, if necessary.

#### **Post-test counselling for reactive result**

A reactive or positive HIV screening test result means that the tested pregnant woman is likely to have HIV infection. It is essential that you are empathetic and supportive while counselling such women. You can play a very important role in helping them understand and cope with the result. Different women can have different reactions to the positive result of the screening test, and your support will depend on the nature of their reaction. However, it is important that at least the following is discussed during post-test counselling:

- ❑ **Assess if the woman is ready to receive the test result:** You can do this by asking her questions to assess if she has understood the facts about HIV infection and options for preventing its transmission to the baby. Through your discussions about HIV infection, assess if she will be able to cope with a positive test result. Clarify all her doubts, if any, and give her reassurance of a healthy, long life through treatment.
- ❑ **Disclose the screening test result:** Inform the woman that her screening test is reactive, which means that she is likely to have HIV infection. Remind her that the confirmation of HIV infection will be done by ICTC after delivery, and that you will coordinate the visit by ICTC counsellor and lab technician to her bedside.
- ❑ **Give time before discussing further actions:** Allow enough time for the woman to understand the test result and its consequences. Help her in managing her emotional response. Keep

reminding her that she has options available to both protect her child from HIV infection and to live a long, healthy life herself.

- ❑ **Discuss prophylaxis for the mother and the newborn:** Inform the mother that by taking the three-drug regimen immediately, she can reduce the risk of HIV transmission to the newborn during delivery. If the HIV test is confirmed by additional tests, she will need to continue taking the medicines under the guidance of a doctor at the ART centre. This will prevent the risk of HIV transmission to the baby during breastfeeding and also check the progression of her HIV infection to AIDS. You must also discuss Nevirapine prophylaxis for the baby by explaining that the syrup will be given to the baby immediately after birth and should be continued for at least six weeks. The doctors may take the decision to continue prophylaxis for another six weeks for greater protection of the baby.
- ❑ **Assure continued support:** Give an assurance to the woman that in addition to the ICTC counsellor, there are other organisations, such as NGOs (if there are any in the area) and DLN, who can give her the required support, if necessary, after her discharge. Having made the commitment, make sure that you remind her before shifting her to the postnatal ward to take referral details from the counsellor.
- ❑ **Avoid giving false reassurances:** Do not deviate from facts and give false reassurances in an attempt to help the woman cope with reactive test result. Emphasize that the test you performed is only a screening test and additional tests for confirmation will be done by the ICTC.

## 2.5 Managing anxiety

Many pregnant women may experience anxiety, fear or other similar emotions after you disclose a positive screening test result. Symptoms of anxiety include trembling, feeling uncertain, palpitations, tiredness, shortness of breath, etc.

The women's ability to cope with anxiety will not just depend on **what** you tell them, but also on **how** you tell them. You can help such a woman manage her anxiety by:

- ❑ **Giving time to relax:** Being quiet for some time, while demonstrating empathy and support with your body language, can help the woman relax.
- ❑ **Encouraging her to talk:** Gently ask the woman to explain the thoughts that are crossing her mind. Allow her to express her thoughts and emotions. Do not interrupt. Maintain eye contact and body gestures to show that you are listening to her.
- ❑ **Countering negative thoughts and emotions with facts:** Remind the pregnant woman of facts that can alleviate negative thoughts. For example, if she fears an early death, remind her that there are many people who are living a healthy life for decades after detection of HIV infection. If she fears a poor quality of life, remind her that taking regular medicines and having a healthy lifestyle can help maintain high immunity levels. She can live a long and healthy life by following the guidelines for healthy living with HIV. Similarly, you can also counter her fear of passing the infection to the baby by reminding her of prophylaxis for her and the baby.
- ❑ **Helping the woman overcome fear or denial:** A woman who is afraid of living with HIV infection or is in denial needs to be told that accepting the infection is the first step towards preventing HIV infection in her baby through prophylaxis and planning a healthy life for

herself. Give her examples of people who accepted their HIV infection with courage and were now leading healthy lives and taking care of their HIV-negative children. Assure her that you can link her to organizations where she can meet other women who have faced similar situations.

## **2.6 Essential skills for effective HIV counselling**

You can provide effective HIV pre-test counselling by practicing the following **five** skills:

- I. Active listening
- II. Using supportive non-verbal communication
- III. Asking open-ended questions
- IV. Showing empathy
- V. Avoiding judgemental words

### **2.6.1 Active listening**

Active listening to the pregnant woman's verbal and non-verbal messages is an essential skill for counselling. It will encourage the woman to express her feelings, concerns and emotions openly. Once the pregnant woman feels that you have listened to her, she will be more motivated to listen to the messages you give her.

You can demonstrate active listening by doing the following:

- Listen to the entire message without interrupting.
- Paraphrase what you have understood in your own words. For example, *"I get the feeling that you believe that HIV test is not required because you are healthy."*
- Ask for clarifications, if necessary. For example, *"Can you explain what you feel about taking the HIV test when you are about to give birth to a baby?"*
- Avoid showing lack of concern or interest, such as, by looking elsewhere, checking time, talking on your mobile phone, giving instructions to other staff in the labour room, etc.
- Do not criticise the woman for being at risk of HIV or blame her/anyone else for the risk.
- Do not defend the woman's concerns and questions.
- Do not listen only to disagree with what the woman says.

### **2.6.2 Using non-verbal communication effectively**

Non-verbal communication refers to everything one conveys without using words. It includes gestures, gaze, posture and expressions that can be substitutes for words and convey information. Non-verbal communication can reflect your attitude towards the woman.

You can convey respect and genuine concern for the pregnant woman by practicing the following aspects of non-verbal communication:

- Maintain eye contact.
- Nod your head positively.



- Lean slightly towards the woman.
- Touch the woman's hands.
- Pat on the shoulder when she is in stress.
- Do not attend to phone calls, and do not engage in other activities.
- Do not entertain other staff or let anyone else to interrupt you.

### 2.6.3 Asking open-ended questions

Open-ended questions are questions that do not have a “yes” or “no” answer. Such questions typically begin with words like “how”, “what”, “why”, etc. Open-ended questions encourage responses that can lead to further discussion and dialogue.

For example,

*“How do you think women normally react when they hear they have HIV infection?”*

*“What would you do if you were to learn that you have HIV infection?”*

*“Why do you feel that your life is ruined because of HIV infection?”*

Using open-ended questions has **three** main advantages:

- They allow sharing of personal information.
- They provoke the pregnant women to think about their HIV status and analyse what they feel about the risk of transmitting HIV to their babies.
- They make the discussion interactive and increase the women's interest in the discussion.

### 2.6.4 Showing empathy

Empathy means the ability to understand and share the feelings of another. By displaying empathy, you show that you understand how a woman is feeling. You need to show empathy while responding to an emotional statement or feeling. By showing that you understand, you encourage the pregnant woman to discuss the issue further. You can show empathy through both gestures and words.

### 2.6.5 Avoiding judgemental words

A pregnant woman who feels that you have made judgements about her or her situation is likely to be offended and refuse the screening test result and/or PPTCT services. Examples of judgemental responses to avoid are:

*“It is wrong for you to think like this.”*

*“How can you be so selfish and irresponsible and think only about yourself and not the baby?”*

*“What is the use of crying now after making mistakes in your life?”*

## 3. Pre-test counselling and Screening for Syphilis in the Labour Room

The information provided in this chapter is relevant only to pre-test counselling and screening for syphilis in direct-in-labour cases who have neither been tested for syphilis before nor have a record of syphilis testing during pregnancy irrespective of whether they had received antenatal care or not.

In this chapter you will learn about:

1. Importance of pre-test counselling direct-in-labour pregnant women for syphilis screening
2. Natural progression of syphilis
3. Process of doing a syphilis screening test

### 3.1 Importance of pre-test counselling for syphilis screening

Syphilis is a curable infection caused by a bacterium called *Treponema pallidum*. Many pregnant women with syphilis may not be aware that they have the infection. Untreated syphilis in pregnant women may cause abortions and may transmit to their unborn baby during pregnancy or delivery. Syphilis is curable and early detection and treatment during pregnancy prevents transmission of syphilis to the unborn baby and averts long-term consequences for the mother and her child.

Syphilis is primarily transmitted during genital/anal/oral sexual contact and by direct contact with a syphilitic ulcer, known as chancre. Chancres mainly occur on the external genitalia, vagina, anus or in the rectum. They can also occur on the lips and in the mouth.

Pre-test counselling for syphilis screening in the labour room is important because women may not know why the screening is essential. The aim of such pre-test counselling is to help the pregnant women understand the consequences of untreated or inadequately treated syphilis on their health and the wellbeing of their unborn or newborn baby. It can also help pregnant women understand that adequate treatment can cure syphilis and prevent transmission to the baby.

Pregnant women should ideally be tested for syphilis during the first ANC check-up. The test may be repeated during the third trimester and at delivery for women who are at high risk of syphilis (such as, women with bad obstetric history, past history of ulceration on genitalia in self or spouse, multiple sexual partners) or who have not been tested earlier during pregnancy.

### 3.2 Natural progression of syphilis

Syphilis is often called “the great pretender” because its symptoms can look like those of many other diseases. It typically follows a progression of stages that can last for weeks, months or even years.

**Primary stage:** A single, firm, round and painless ulcer is a common symptom of primary or first stage syphilis. The ulcer(s) may heal even without treatment within three to six weeks. Untreated primary stage of syphilis, however, progresses to the secondary stage.

**Secondary stage:** This stage is marked by skin rashes and/or lesions in mucous membranes of mouth, vagina or anus. These rashes or lesions may not itch. A typical rash of secondary syphilis may appear as rough, red or reddish brown spots on the palms of the hands and bottom of the feet. Secondary syphilis can also have symptoms such as fever, enlarged lymph nodes, sore throat, headaches, muscle aches and fatigue. If left untreated, the infection progresses to the latent stage of syphilis. The secondary stage usually lasts for about three months.

**Latent and late stage:** The latent or hidden stage of syphilis begins when symptoms of primary and secondary stages disappear. The infected person will continue to have the infection even though there are no symptoms. Latent stage can last from a year to several years. In the late stage, syphilis causes damage to internal organs such as brain, nerves, eyes, heart, blood vessels, liver, bones and joints.

At any stage of the infection, syphilis can enter the nervous system and may either not have symptoms or present as a wide range of neurological manifestations.

### ***3.3 Effect of syphilis on the unborn and the new born baby***

The effect of syphilis on pregnancy varies with the duration of infection and ranges from abortion to the risk of having a stillbirth or the baby dying soon after birth or the birth of a baby infected with syphilis (congenital syphilitic). About 50 percent of the pregnant women with untreated syphilis may have these adverse outcomes. An infected baby born alive may or may not have symptoms at birth but can develop severe problems within a few weeks. Untreated babies can have delayed development, seizures or may even die.

### ***3.4 Rapid point-of-care testing for syphilis***

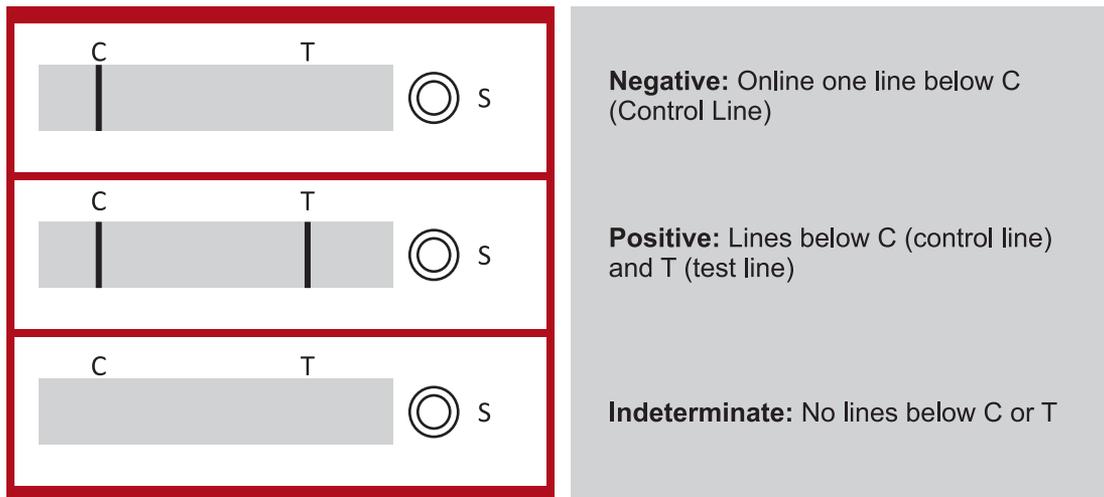
Rapid point-of-care (POC) syphilis testing is recommended where traditional laboratory tests for syphilis screening (VDRL or RPR) are not available. Rapid POC testing helps ensure that there are no missed opportunities for screening and initiating treatment in case the test is reactive.

The Rapid POC kits can be stored at 4–300C for up to a year. It does not require any other equipment or electricity and you can easily perform the test after training.

Steps in Rapid POC testing for syphilis include:

- I. Removing the test strip from the wrapper and placing it on a flat surface
- II. Collecting the whole blood sample through a finger prick (as described earlier in the section on HIV rapid screening test)
- III. Adding a specified amount of blood in the well of the test strip (S)
- IV. Adding a specified amount of diluents buffer to the well of the test strip (S)
- V. Waiting for 8–10 minutes or as recommended by the manufacturer of the kit
- VI. Reading the test results (as shown in Figure 9)

Figure 9: Interpretation of results from the strip test for syphilis screening



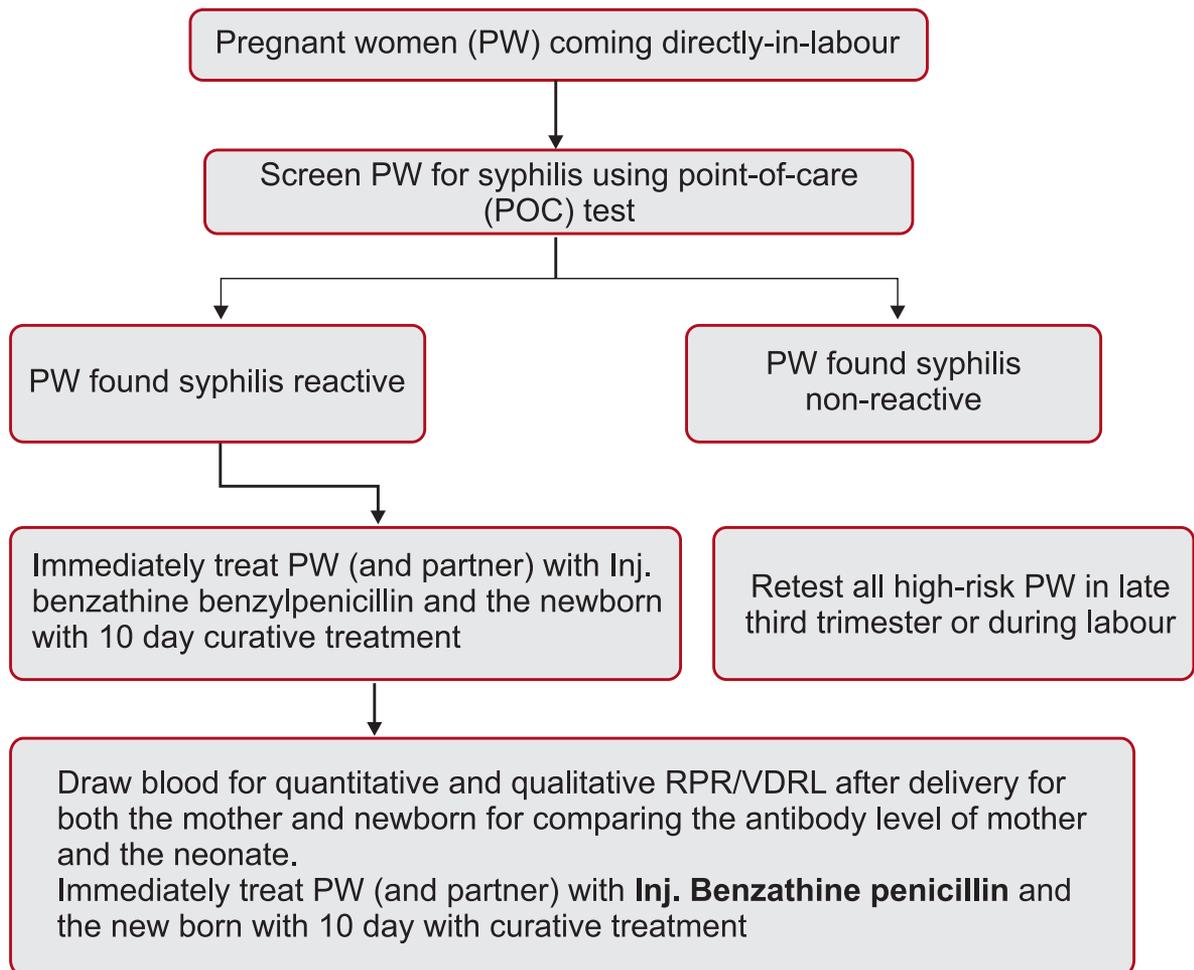
### 3.5 Treatment of pregnant women with positive POC test result

Rapid POC test is a specific test for syphilis and cannot distinguish between a new infection and a previous infection that has been successfully treated. However, to ensure that there are no missed opportunities, all pregnant women testing positive with the POC test should be treated.

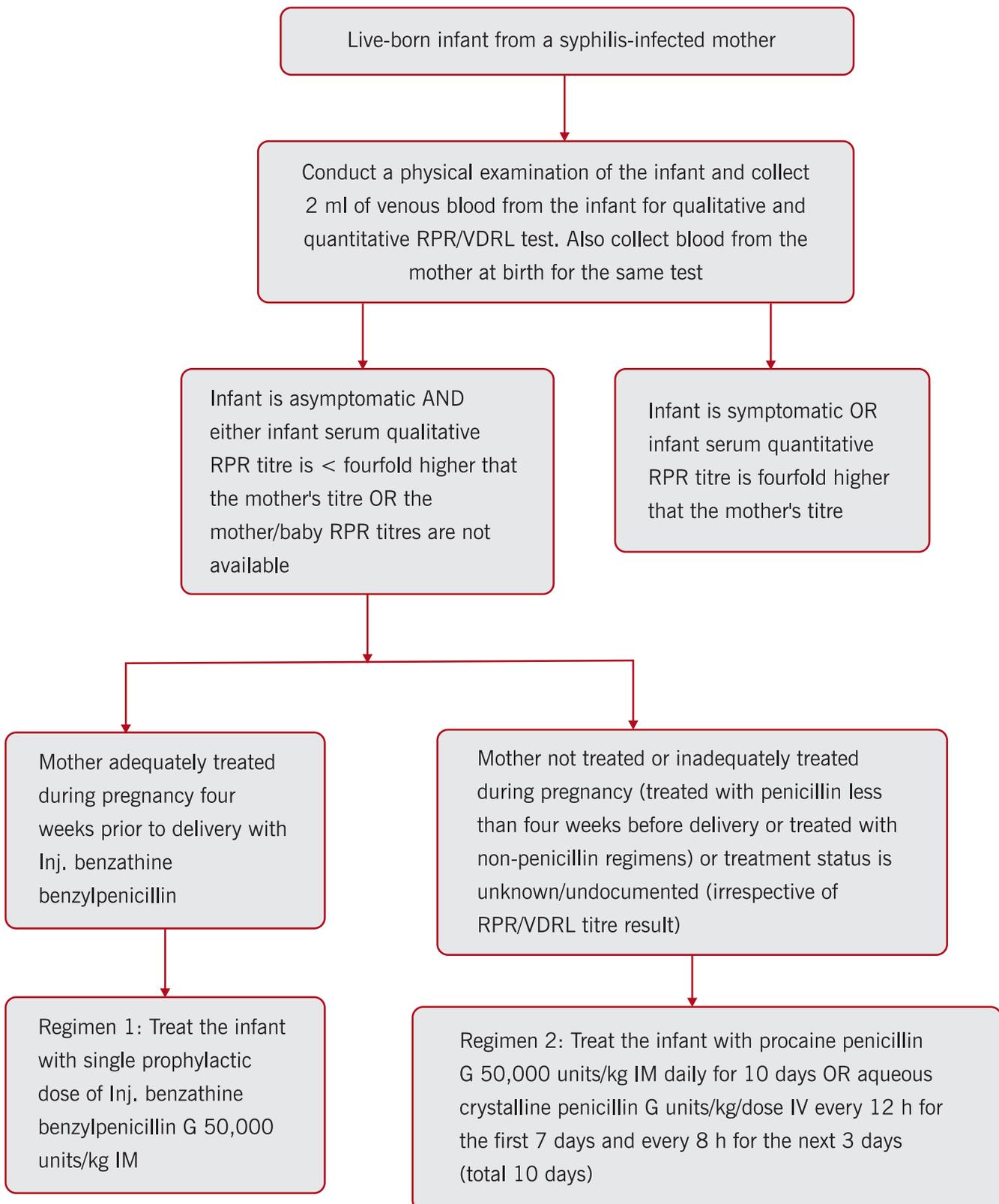
- **In the early stage (< 2 year duration)**, a single intramuscular injection of 2.4 million IU benzathine benzylpenicillin is sufficient.
- **In the late stage (> 2 year duration)**, three weekly intramuscular injections of 2.4 million IU benzathine benzylpenicillin are required.

All pregnant women with a positive POC test result for syphilis should be referred to the nearest health facility (primary health centre [PHC]/community health centre [CHC]/ district hospital [DH]) to undergo RPR testing for diagnostic and prognostic purposes. Pregnant women found positive with POC test should be tested with RPR during subsequent testing for syphilis.

**Figure 10:** Algorithm for syphilis screening in direct-inlabour cases and treatment of maternal syphilis



**Figure 11:** Management of infants born to syphilis-positive mothers



## 4. Implementing Guidelines for Preventing Mother-to-Child Transmission of HIV

This chapter will equip you with information to correctly implement the updated prevention of parent-to-child transmission (PPTCT) guidelines. You will learn about:

- I. ART for the pregnant women presenting in labour
- II. ARV prophylaxis for newborns and infants
- III. Difference between earlier PPTCT guidelines and the current guidelines (issued in December 2013)
- IV. Labour and delivery of HIV-positive pregnant women
- V. Care during the postpartum period

**BOX 3** ahead describes the knowledge, skills and attitudes you require to effectively implement the PPTCT guidelines and prevent mother-to-child transmission of HIV infection. You can refer to this Box periodically to assess your own capacities for implementing PPTCT guidelines and to identify issues for which you need clarifications and/or additional information from your supervisors, if required.

Over the years, greater focus on early registration of pregnant women has led to an increasing trend in the number of pregnant women getting tested for HIV during pregnancy. As a result, most positive women would have been initiated on first-line triple ART drugs during pregnancy itself. They are, therefore, likely to be aware of the benefits of ART for their own health and for preventing HIV infection in their babies. However, early registration of all pregnant women and universal coverage of antenatal services is far from being achieved. A significant number of pregnant women still make their first contact with a health facility only during labour. Some of these women may have HIV infection and can pass it on to the newborn. It is, thus, essential to screen all direct-in-labour cases for HIV and initiate triple ART before delivery for the women identified through reactive HIV screening test to reduce the risk of vertical transmission during delivery.

The PPTCT guidelines address the specific needs of the women depending on their status. When the pregnant women who are already on ART come in for delivery, they are likely to already be aware of why the ART drugs are needed for their own health and for the well-being of their babies. Hence, when an HIV-positive pregnant woman on ART comes for delivery, you need to ensure that she has with her the ART drugs she needs to take during her stay at the hospital. You also need to find out her schedule for taking the drugs and help her adhere to the same schedule during and after delivery. In case the woman has not carried her medicines, you need to find out if anyone from her family will be able to get them (in case they live close by) or inform the Medical Officer who will suggest ways to get the drugs.

This chapter mainly focuses on initiating ART for pregnant women who do not know about their HIV status and present direct-in-labour. It also focuses on initiating NVP prophylaxis for all HIV-exposed babies.

**Box 3: Knowledge, skills and attitudes required in labour room nurses for implementing PPTCT guidelines during labour and postpartum period**

**Knowledge:**

- a. Knowledge about triple-drug ART regimen as the first-line treatment for pregnant and lactating women, including those in special circumstances, such as Caesarean section and false labour; knowledge about the common side effects of ART drugs
- b. Recommended dose of NVP prophylaxis for the newborn, especially when the pregnant mother has not received ART for at least 24 weeks before delivery
- c. Benefits of ART and ARV prophylaxis
- d. Role of ICTC counsellor and lab technician for confirmation of HIV, CD4 testing and linking to ART centre for uninterrupted intake of ART and ARV
- e. Exclusive breastfeeding vs. exclusive replacement feeding for HIV-exposed infants
- f. Guidelines for safer delivery techniques
- g. Issues to be discussed with the HIV-positive woman and her family during the postpartum period

**Skills:**

- a. Overcoming barriers for initiating ART and giving ARV prophylaxis
- b. Administering ARV prophylaxis and training the mother to do the same, including cleaning of syringe or dropper
- c. Educating mothers about ART and ARV prophylaxis for the mother and the infant, respectively, and motivating them for adherence
- d. Coordination with ICTC staff for counselling, confirmation of HIV, CD4 testing and linkage with ART centre
- e. Counselling and advising mothers on exclusive breastfeeding up to 6 months for HIV-exposed infants
- f. Helping mothers overcome fear and anxiety related to her own HIV infection and the risk to her baby during and after delivery
- g. Practicing safer delivery techniques for delivering with HIV-positive women
- h. Postpartum care for the newborn, including initiating ARV prophylaxis, initiating breastfeeding and routine neonatal care
- i. Counselling HIV-positive women and their families on postpartum care, ART and ARV, infant feeding options and postpartum depression

**Attitudes:**

- a. Labour room nurses have the responsibility and opportunity to help eliminate HIV infection in infants and make HIV-positive mothers live healthy lives.



It is desirable that you check that ART drugs are available as soon as you report for your duty. Also take stock of other drugs and material required for the labour room. In case ART drugs are not available, you need to contact the concerned Medical Officer and request for early supply of drugs. This will help ensure that there is no delay in initiating prophylaxis for the direct-in-labour cases that have a reactive screening test result.

#### **4.1 ART for pregnant women presenting in labour**

As soon as you complete post-test counselling for the pregnant woman in labour with reactive HIV screening test result, you need to do the following for starting ART and giving her initial support for taking ART for life:

- 1. History taking:** Inquire if the woman has ever before been tested for HIV infection and if she has ever taken any ART drugs, especially Nevirapine and Efavirenz. You can skip this step if you elicited this information before doing the HIV screening test.
- 2. Starting ART:** If the woman in labour has never taken any ART drugs, and she has either HIV 1 infection or a combination of HIV-1 and HIV-2 infection, you need to start her on a three-drug regimen — Tenofovir (TDF) 300 mg + Lamivudine (3TC) 300 mg + Efavirenz (EFV) 600 mg (TLE)— after getting prescription from the Medical Officer. These drugs are available as a fixed-dose combination (FDC) in a single pill, which makes it easier to administer them. TLE should be given at night two to three hours after dinner; there should be no fatty food at dinnertime. The same regimen should be continued if the HIV confirmatory tests are positive in the postnatal period and until the woman consults with the ART Medical Officer. It is essential to ensure that the woman consults with ART Medical Officer before being discharged from the hospital. In case the HIV confirmatory tests are negative, ART drugs should be stopped.

In India, HIV-2 infection is less common than HIV-1 infection. In pregnant woman having only HIV-2 infection, drugs such as Nevirapine and Efavirenz are not effective against HIV-2. Such cases should therefore receive a regimen that includes protease inhibitors. The recommended regimen is: Tenofovir (TDF) 300 mg + Lamivudine (3TC) 300 mg + Lopinavir (LPV) 200 mg/Ritonavir(r) 50 mg. One fixed-dose combination (FDC) tablet of TDF (300 mg) and 3TC (300 mg) should be given once a day, while two FDC tablets of LPV (200 mg)/r(50 mg) should be given two tablets twice a day.

This regimen should also be continued during labour and delivery and then for life in case the HIV Infection is confirmed by ICTC.

- 3. Educating:** Inform the woman that starting the ART medicines even at this late stage of pregnancy offers greater protection to her baby than not taking the ART drugs. Also inform her that she will need to take the medicines for life if the HIV status is confirmed by ICTC. Explain that before she is discharged from the hospital, she will be explained the details of the treatment regimen and linked to an ART centre from where she can access free, quality services for life.
- 4. Informing ICTC:** Follow the standard procedures and inform ICTC about the reactive screening test. Ensure that the ICTC counsellor and the lab technician come to the postnatal

ward for counselling, performing the confirmatory test and drawing blood for CD4 testing in case the HIV status is confirmed.

The protocol for women presenting direct-in-labour is summarised in Figure 12.

➤ **Role of the ICTC counsellor:**

The day after delivery, the ICTC counsellor will need to focus on the following:

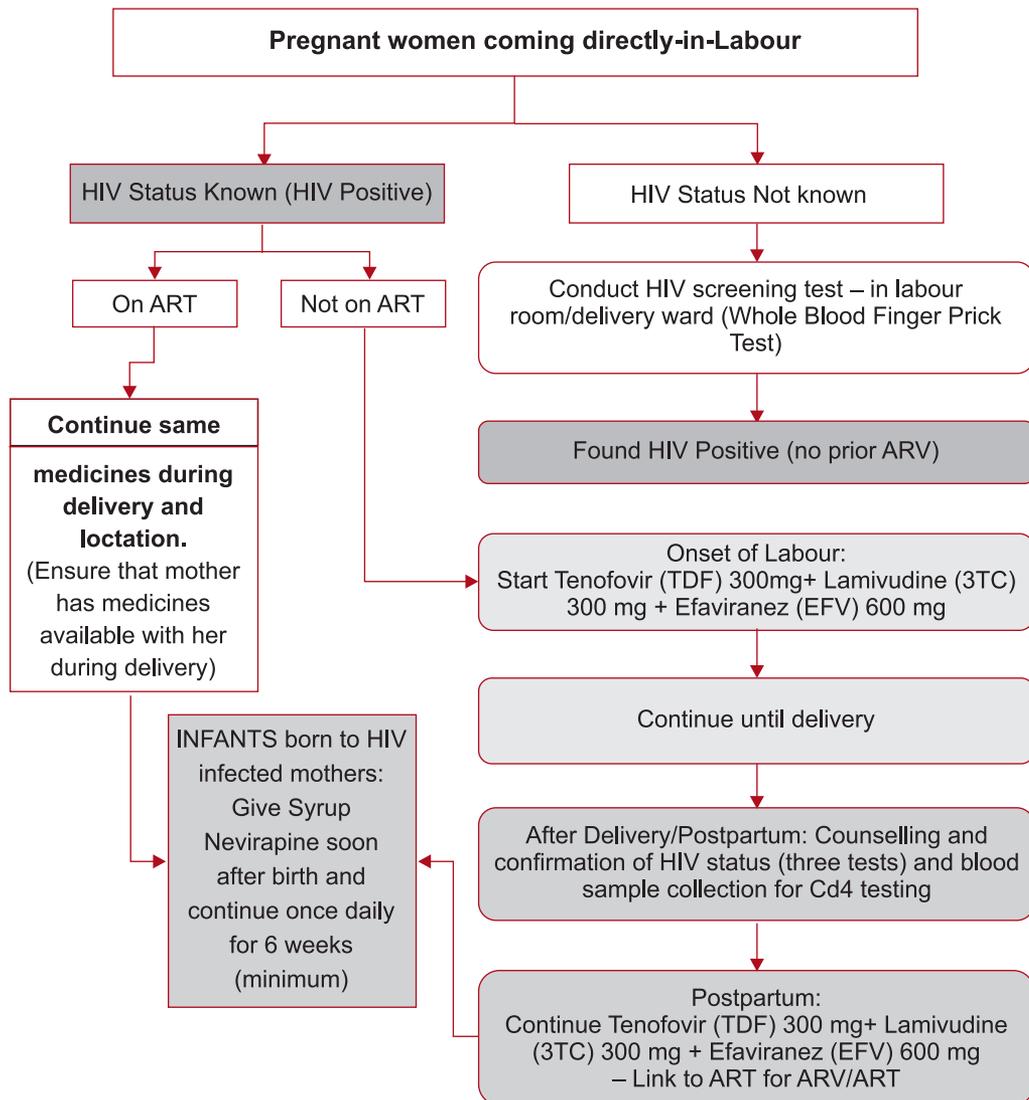
- I. Assigning patient identification (PID) number:** Every morning, ICTC counsellors are expected to check for any direct-in-labour cases with reactive HIV screening test result. If there are any, the counsellor has to assign PID number to the women with reactive screening test results.
- II. Counselling:** The two main purposes of the ICTC counsellor providing pre-test counselling to postnatal woman are:
  - a. Clarify doubts, if any, about the HIV infection; risk of transmission to the newborn; guidelines for managing HIV infection; HIV treatment, care and support services; and living with HIV infection
  - b. Counsel and advice for exclusive breastfeeding for the first six months, if breastfeeding has already been started. In case breastfeeding has not been started, information on infant feeding practices, with special emphasis on breastfeeding vs. replacement feeding, must be provided. Emphasis must be placed on the higher risk of HIV transmission in case of mixed feeding.
- III. Coordinating for confirmatory tests:** The lab technician will confirm the women's HIV status by doing three rapid antibody tests. The counsellor will coordinate with the postnatal ward nurse and facilitate the process of drawing blood sample for the confirmatory tests to be done by the lab technician. It is essential that confidentiality is maintained so that other hospital staff and patients in the ward do not get to know about the women's positive screening test result and/or the reasons for additional blood tests. If HIV infection is confirmed, the lab technician will need to draw blood for CD4 testing (after post-test counselling).
- IV. Pre-test counselling and testing the spouse:** The counsellor must ascertain if the woman would like her husband/partner or any other family member to learn about her HIV-positive status. If not, the counsellor should not disclose it to the spouse. It is, however, desirable that the husband, if present at the time of delivery, should be counselled and tested for HIV infection.
- V. Establish linkage with ART centre:** The counsellor must link the woman with the ART centre. Establishment of linkages is a priority for two main reasons:
  - Doing a CD4 test
  - Continuation of ART

The ICTC counsellor needs to ascertain if the woman will be able to reach the ART centre within the next two days. If yes, the counsellor must give a referral to the ART centre, using the prescribed form, and follow-up to ensure that the visit was made. If not, the counsellor should personally carry the woman's sample for CD4 testing and return with the test report

and one month's supply of ART drugs. It is desirable that the counsellor is accompanied by the spouse or any other family member, in case the woman's HIV status has been shared with them.

The national PPTCT guidelines emphasise that pregnant and lactating positive women be given priority for consultation and laboratory investigations at the ART centre.

**Figure 12:** Protocol for direct-in-labour women with unknown HIV status



**VI. Ensure there is no interruption in ART:** After the first two doses of ART are given in the labour room and postnatal ward, and the confirmation of HIV status is done, it is the ICTC counsellor's responsibility to ensure that there is no interruption in ART. The following steps can help in ensuring ART compliance in HIV-positive women and their newborns:

- ❑ Asking the pregnant woman questions about ART and ARV to ensure that she has understood the regimen correctly
- ❑ Asking her to give NVP syrup to the baby under supervision before discharge and clarifying her doubts about dosage and method of administration

- ❑ Explaining the possible side effects and ways to manage them and emphasising that medicines need to be continued despite initial side effects in order to give maximum protection to the baby
- ❑ Giving phone numbers of service providers, such as the labour room nurse, ICTC counsellor and ART centre counsellor, in case the woman needs to seek clarifications on ART and ARV; it is also desirable that address, timings and other details of ART centre are also given to the postnatal woman before discharge
- ❑ Explaining the type of services and support offered by District Level Networks (DLNs) and giving the women referrals to the same; similar details of NGOs in nearby locations that are working on HIV and AIDS care and support, if any, should also be given to the women



The broad principle is “as far as possible, direct-in-labour women must be seen by ART Medical Officer” at the earliest. This should, however, not delay starting the women on ART. Every effort must be made to ensure that HIV-positive women meet the Medical Officer before discharge

## 4.2 ARV prophylaxis for newborns and infants

Pregnant women who have been taking ART during pregnancy offer protection to their unborn babies against HIV infection. Additional ARV prophylaxis is required for all infants born to HIV-positive mothers to further reduce the risk of HIV infection both before delivery and after birth. The additional protection is especially necessary in three situations:

- a. Mother started ART late in pregnancy
- b. Mother did not adhere to the ART regimen as recommended and the mother’s viral load continues to be high

AARV prophylaxis for infants whose mothers have received ART is: **NVP syrup once a day for six weeks**. This is when the baby receives the first immunisation. This prophylaxis should be given irrespective of whether the baby is exclusively breastfed or receives exclusive replacement feeding. The dosage and duration of NVP prophylaxis for infants is given in Table 1.

**Table 1:** Dose and duration of infant daily NVP prophylaxis

Birth weight (kg)*	Daily NVP dose in mg	NVP dose in ml**	Duration
Less than 2 kg	2 mg/kg Once a day	0.2 ml/kg Once a day	Up to six weeks, irrespective of whether the baby is exclusively breastfed or exclusively replacement fed. The duration may be extended to 12 weeks if the mother had not received ART for at least 24 weeks, including women initiated on ART during labour and if she is breastfeeding the child.
2–2.5 kg	10 mg Once a day	1 ml Once a day	
More than 2.5 kg	15 mg Once a day	1.5 ml Once a day	

\*The dose is relevant from birth till six weeks of age. Consultation with a paediatrician trained in HIV care is essential.

\*\*Considering the content of 10 mg Nevirapine in 1 ml suspension]

In case of mothers who only have HIV-2 infection and have received ART for more than 24 weeks of pregnancy, the HIV-exposed infants should receive daily Zidovudine (AZT) syrup from birth until 6 weeks of age. If the mother did not receive ART for more than 24 weeks of pregnancy and the baby is being breastfed, AZT prophylaxis will need to be continued for an additional six weeks.

The dosage for AZT prophylaxis for HIV-exposed newborns and infants is as follows:

- a. Birth weight 2,500 gm or above – 15 mg per dose twice daily
- b. Birth weight less than 2,500 gm – 10 mg per dose twice daily

#### **4.2.1 ARV prophylaxis for infants born to HIV-positive women presenting in active labour**

You would have given three-drug ART to the woman who came to the health facility in active labour and tested positive in the HIV screening test. The baby's prophylaxis for such cases will remain the same as described above. However, if the mother is breastfeeding, the duration will be 12 weeks instead of six weeks, as the mother had not received ART long enough to reduce the viral load in her blood. You should advise the mother to take the baby for early infant diagnosis (EID) at six weeks as per guidelines.

#### **4.2.2 ARV prophylaxis for infants born to HIV-positive women who did not receive ART during pregnancy or labour**

If an HIV-infected pregnant woman has not received ART during pregnancy OR labour, or the HIV infection is detected after delivery, the infant should be:

- Started on daily syrup of Nevirapine (NVP) as per the dose recommended for baby's weight; this should be done during the first contact with health services
- Started on NVP even if the baby is more than 72 hours old
- Given NVP for 12 weeks if the mother is breastfeeding; during this time, the mother should be linked to the nearby ART centre and the baby should be sent for EID at six weeks



As a labour room nurse, you will be required to give only the first dose of ARV prophylaxis to the newborn as per the recommended dosage by birth weight. You must ensure that the baby is given NVP syrup for the rest of the baby's stay at the health facility. You need to know the details of infant prophylaxis, testing protocol and treatment, and care and support services for HIV-exposed infants (HEI) for educating the mother before and after delivery.

### 4.3 Current PPTCT guideline

Table 2. Summarises the previous and current PPTCT regimen

**Table 2:** Current PPTCT regimen

#### Regimen for the mother

CD4 level	Current regimen
CD4 more than 350	✓ Initiated on lifelong three-drug ART at the first contact with health services during pregnancy, <b>irrespective of CD4 count and WHO staging</b>
CD4 less than 350	

#### Regimen for the infant

Initial PPTCT regimen	Current regimen
Single-dose NVP 2 mg/kg body weight within 72 hours of delivery	✓ Daily NVP syrup from birth till six weeks if the mother had taken ART regularly for more than 24 weeks before delivery  ✓ Daily NVP syrup from birth till 12 weeks if the mother had either not taken ART during pregnancy or taken it irregularly, and only if the mother is breastfeeding the baby

### 4.4 Labour and delivery of HIV-positive pregnant women

There is no difference in the practices related to labour and delivery of HIV-positive pregnant women who know their HIV status during pregnancy and those who learn about it during labour. As a labour room nurse, you need to do the following during labour:

- I. Record the woman's HIV status in the registers/records as per PPTCT guidelines
- II. Document details of ART drugs, if any, taken during pregnancy
- III. Give during labour and delivery the same ART drugs that a pregnant woman on lifelong ART has been taking, give the drugs as per her usual schedule (dose and time)
- IV. Start ART, as described earlier in this chapter, for women who were screened for HIV during labour (direct-in-labour cases)
- V. Discuss breastfeeding with the pregnant woman during labour and find out what her decision is (if not already decided). You can give the following information to help the woman make her decision:
  - Exclusive breastfeeding for six months is best for baby's physical and emotional wellbeing. After six months, it is desirable that the woman continues breastfeeding even when the baby starts supplementary feeds.**
  - Breastfeed is best started within one hour of delivery. (You must help her initiate breastfeeding. The postnatal ward staff will give additional support after she is shifted there.)
  - By taking ART herself and giving NVP syrup to the baby every day, as recommended, the woman will protect her baby against the risk of HIV transmission during breastfeeding.

- ❑ **If replacement feeding is preferred, it is important to practice exclusive replacement feeding for six months. Mixed feeding carries a higher risk of HIV transmission even with ART and NVP prophylaxis.**

#### **4.4.1 ART and Caesarean Section**

Caesarean section (C-section) is not recommended for preventing mother-to-child transmission of HIV. It should be performed only if there are obstetric indications for its use. Guidelines for use of ARV drugs during C-section are as follows:

- ❑ For elective (planned) C-section, ART should be given prior to the operation.
- ❑ Women on lifelong ART should continue their standard ART regimen.
- ❑ In case of emergency C-section in pregnant women who are not on ART, the three-drug regimen should be started before the surgery and continued thereafter.

#### **4.4.2 ART regimen for pregnant women who have prior exposure to SD-NVP**

In case an HIV-infected pregnant woman has taken SD-NVP for prevention of mother-to-child transmission in an earlier pregnancy, she may have resistance to both Nevirapine and Efavirenz. In such cases, the recommended regimen is: Tenofovir (TDF) + Lamivudine (3TC) + Lopinavir (LPV) /ritonavir(r) (TLL).

One fixed dose combination (FDC) tablet of TDF (300 mg) and 3TC (300 mg) should be given once a day, while two FDC tablets of LPV (200 mg)/r (50 mg) should be given twice a day.

#### **4.4.3 ART and false labour**

In case of false labour or mistaken ruptured membranes, the women on lifelong ART should continue their normal schedule for taking the drugs. In case of women who were initiated on ART during false labour, ART should be continued as initiated. It is important to link these women to the ART centre at the earliest, preferably within two days.

#### **4.4.4 Safer delivery techniques**

The risk of mother-to-child transmission of HIV increases in six main situations:

- I. Prolonged rupture of membranes
- II. Repeated per vaginal examinations
- III. Assisted instrumental delivery, such as using vacuum or forceps
- IV. Invasive foetal monitoring procedures, such as scalp or foetal blood monitoring
- V. Episiotomy
- VI. Prematurity

The risk of HIV transmission during delivery can be reduced by observing the following **seven practices**:

1. Practice standard (universal) precautions recommended for deliveries; these are summarised ahead.

2. Minimise vaginal examination; use aseptic techniques during vaginal examination.
3. Do not rupture membranes artificially. You should keep membranes intact as long as possible. Artificial rupture of membranes should be done only if there is foetal distress or delay in progress of labour.
4. Avoid invasive procedures such as foetal blood sampling and use of foetal scalp electrodes.
5. Avoid instrumental delivery as far as possible. You may still need to choose instrumental delivery if there is foetal distress or if the mother is very tired and you need to shorten the duration of labour. If instrumental delivery is indicated, low-cavity outlet forceps is preferable to ventouse, as the former is generally associated with lower rates of foetal trauma than ventouse.
6. Avoid routine episiotomy as far as possible.
7. Avoid suctioning the newborn with nasogastric tube unless there is meconium staining in the liquor.

#### **4.4.5 Infection control measures during delivery**

Infection control measures during delivery involve:

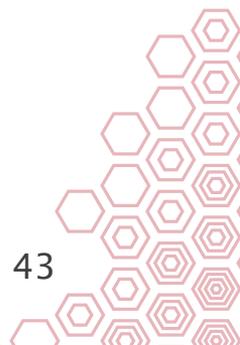
- I. Using personal protection for:
  - a. Drawing the blood sample
  - b. Giving injections
  - c. Conducting delivery
  - d. Wiping the newly born baby
  - e. Cleaning the umbilical cord
  - f. Assisting the mother to express breast milk
- II. Reducing splash of blood and other body fluids by:
  - a. Using clamps and gauze
  - b. Avoiding milking of the umbilical cord
  - c. Cutting the umbilical cord as soon as possible
- III. Disposing the biomedical waste as per standard protocols

#### **4.4.6 Disposal of waste material from delivering HIV-positive women**

Standard Waste Disposal Management Guidelines should be followed for disposal of tissues, placental material and other medical/infectious waste material from delivering HIV-positive pregnant women.

### **4.5 Care during the postpartum period**

Along with the routine postpartum care that is provided to HIV-negative mothers and their newborns, the following services are additionally required for postpartum care of HIV-positive mothers and their HIV-exposed newborns.



- I. Care for the newborn** should start immediately after birth. Within one hour of delivery, ensure:
- i. HIV-exposed infants should receive NVP prophylaxis immediately after birth and no later than six hours. Refer to Table 1 for the dosage.
  - ii. Place the newborn baby on the mother's abdomen to establish skin contact. This helps in (a) maintaining baby's body temperature, (b) creating a bond between the mother and the newborn, and (c) initiating breastfeeding within one hour of birth.
  - iii. **Encourage exclusive breastfeeding.** If the mother has not yet taken a decision on exclusive breastfeeding vs. exclusive replacement feeding for the first six months, advise her once again on the benefits of breastfeeding and the baby's protection if she takes ART as per recommended schedule and gives NVP syrup to the baby everyday.
  - iv. **Initiate breastfeeding within one hour of birth.** This has several advantages: (a) ensures that the newborn receives colostrum, the mother's "first milk", which is rich in vitamin A, antibodies and other protective factors, (b) helps establish breastfeeding by taking advantage of the newborn's intense suckling reflex and alert state, and (c) reduces the risk of postpartum haemorrhage in the mother.
  - v. Give replacement feeding to the baby only if the mother has died, has a terminal illness, or has decided not to breastfeed her baby despite adequate counselling.
  - vi. Train the mother on administering NVP prophylaxis to the infant using a syringe or the dropper provided with the NVP syrup. Teach her how to wash the equipment with clean boiled water after every use.
- II. Care for the HIV-positive woman** in the postpartum period focuses mainly on continued support to help her take steps to improve her quality of life and prevent HIV infection in her newborn. You need to remember that postnatal period is more stressful for positive women than for those who are HIV negative. In addition to shouldering her responsibilities as a mother, spouse, daughter-in-law, etc., she also has the responsibility to manage her HIV infection effectively.

If the spouse and/or family members of the positive woman are aware of her HIV status, it is desirable that you involve them in family pre-test information so that they are able to support the new mother and baby more effectively. The following **seven** issues should be discussed during pre-test counselling of postnatal woman and her family (if relevant):

- i. **Emphasise adherence to ART regimen for the mother.** The HIV positive mother should take ART drugs as per the recommended schedule. This will keep her healthy and stop HIV infection from progressing. Side effects such as vivid dreams, nightmares, hallucinations, sleeplessness, dizziness, headache and depression usually subside within two to six weeks. Medicines should be continued as per schedule despite side effects.
- ii. **Ensure proper understanding of ARV for the baby.** Remind the mother to give the baby NVP prophylaxis in the dose recommended every day at the same time for at least six weeks, irrespective of whether the baby is exclusively breastfed or receives exclusive replacement feeding. At the end of six weeks, the doctor will take a decision on whether to continue NVP for another six weeks or not.

- iii. Emphasise on **follow-up of the baby**. Care and follow-up of the infant for immunisation, clinic visits, EID and starting co-trimoxazole prophylactic treatment (CPT) at six weeks and continuing till at least 18 months of age is important.
- iv. iv. Inform about the need for **regular ART centre visits**. Monthly ART centre visits and importance of family's support for the same must be part of the postpartum counselling.
- v. **Encourage family support**. Stress on the importance of family support for ensuring exclusive breastfeeding for 6 months and continuation of breastfeeding for up to 1 year in babies testing negative during EID and up to 2 years if EID results are positive and for initiation of paediatric ART. You should also discuss weaning foods to be introduced at six months of age, irrespective of the type of feed given to the baby in the first six months.
- vi. **Encourage IUD insertion**. The HIV positive mother should be encouraged to get postpartum intrauterine contraceptive device (PPIUCD) inserted within 48 hours of delivery. In case she is not prepared for it, she should be encouraged to get Cu-T inserted at six weeks. The couple should also be motivated to use condoms for every sexual act despite Cu-T insertion so as to ensure double protection.
- vii. **Discuss vasectomy**. Fathers should be encouraged to go in for no scalpel vasectomy (NSV) when the baby is 18 months to 2 years of age, by when the baby's survival has been assured.

#### 4.5.1 Education on postpartum depression

Almost 80 percent of the women experience “low” feelings after childbirth, especially during the first week after birth. Some studies have indicated that the occurrence of postpartum depression is likely to be higher among HIV positive women. You can educate postpartum women and their families about postpartum depression by discussing:

- I. **Early symptoms:** Between three to 10 days after delivery, a woman is likely to feel tearful, irritable, have mood changes and experience fatigue, anxiety and feelings of sadness and loneliness.
- II. **Causes of early symptoms:** The early symptoms of postpartum depression are due to several factors, including sudden changes in hormone levels after childbirth, unexpected discomfort from breast engorgement and birth pain, adjustment to parenthood and sleep deprivation.
- III. **“Normal” duration of early symptoms:** The early symptoms usually disappear after a few days and require no treatment. The spouse and the family members can help alleviate the symptoms by showing the new mother empathy, support, care and concern.
- IV. **When to consult a doctor:** The following symptoms are indicative of postpartum depression and require treatment and counselling:
  - i. Crying
  - ii. Irritability
  - iii. Sleep disturbances (either lack of sleep or sleeping throughout the day)

- iv. Eating problems (either no appetite or excessive hunger and eating all day)
- v. Persistent feeling of sadness
- vi. Lack of desire or inability to take care of herself and/or the baby
- vii. Exaggerated concerns about the baby
- viii. Memory loss
- ix. High degree of anxiety or fear
- x. Experiencing panic attacks, including palpitations
- xi. Chest pain
- xii. Dizziness
- xiii. Clod flushes
- xiv. Shaking

The above symptoms may start at delivery or a month or so later. In some women, the symptom(s) may begin when they first have their menstruation after childbirth or at the time of weaning.

- V. ***Adverse consequences of postpartum depression:*** Undetected and untreated postpartum depression can lead to:
- i. Decreased adherence to ART
  - ii. Interference with mother-baby bonding
  - iii. Strained relationships with spouse, family members and friends
  - iv. The woman continuing to feel unwell and unhappy

Early detection timely treatment and support can help prevent the adverse impacts of postpartum depression.

## 5. Providing Stigma and Discrimination Free Services

The information covered in this chapter will help you provide stigma- and discrimination-free services to the HIV-positive women visiting your health facility. You will learn about:

- I. Acts, causes and outcomes of stigma and discrimination related to HIV and AIDS
- II. Elements of stigma and discrimination-free services
- III. Helping positive women overcome stigma and discrimination

Error! Reference source not found.<sup>3</sup> given above describes the knowledge, skills and attitudes you require for providing stigma- and discrimination-free services. It will be helpful if you refer to this Box to assess your confidence in providing quality services to HIV-positive women.

In recent years few health conditions have elicited as much stigma and discrimination as HIV and AIDS. Intense multiple efforts have been made during the last 15 years to reduce stigma and discrimination that people living with HIV (PLHIV) and AIDS face in various aspects of life. However, much more needs to be done if positive people are to live with dignity and exercise their basic human rights to education, healthcare, and employment, among others.

In India, many HIV positive people across the country have reported facing stigma and discrimination in healthcare settings. Negative perception and experience on this count make it difficult for them to access timely health services. Labour room nurses can play a big role in improving the quality of services and experience of HIV-positive women. Being aware of your feelings, thoughts and attitudes about HIV and AIDS will help you address issues that adversely affect the quality of care you provide to the HIV positive.

### 5.1 Acts of stigma and discrimination in healthcare settings

Stigma and discrimination against positive men and women in health facilities often manifests as one or more of the following:

- Labelling PLHIV as immoral or passing comments on their morality
- Delay in providing services
- Denial of health services, especially obstetric and surgical care
- Poor quality of service delivery, compared to what is provided to other patients, seen in refusal to touch them, to change linen or to dress wounds, expression of anger or disgust
- Blaming positive people for their situation
- Breach of confidentiality of HIV status
- Discarding in a separate bin the instruments, universal precaution equipment, etc., used while providing services to PLHIV
- Using additional universal precaution equipment than that used while providing services to other patients



## 5.2 Causes of stigma and discrimination

**Fear of acquiring HIV infection** is reported to be the most common cause of stigma and discrimination against positive people in health facilities. Many healthcare providers believe that since HIV is transmitted through contact with body fluids, and they routinely come in contact with body fluids, they are at “great” risk of acquiring HIV infection. This fear mainly comes from inadequate knowledge about HIV and AIDS, especially of factors that influence HIV transmission in healthcare settings.

In addition to the fear of contracting HIV infection, some other common causes of stigma and discrimination against positive people in health care facilities are:

- Lack of accurate knowledge about HIV transmission in hospital settings
- Myths and misconceptions related to HIV transmission in hospital settings
- Cultural beliefs linking HIV with sexual behaviours that are not accepted as common social norms
- Inadequate supply of universal precaution equipment
- Lack of confidence in the efficiency of universal precaution equipment for preventing HIV transmission
- Lack of or inadequate knowledge about post-exposure prophylaxis (PEP)
- Fear of deterring other, HIV-negative patients from accessing health services

## 5.3 Outcomes of stigma and discrimination in health facilities

Stigma and discrimination against HIV-positive people in health facilities has several adverse outcomes at individual, family and community levels. The outcomes described below are relevant for both positive men and women.

- I. **Individual level:** Stigma and discrimination in health facilities affect an individual in **five** main ways:
  - i. **Increased morbidity and mortality:** People who face stigma and discrimination in health settings are less likely to have confidence in the health system and health service providers. As a result, they either do not access services or delay accessing them. Not seeking timely health services sets in a vicious cycle where prolonged or frequent illnesses further reduce immunity, which in turn increases the illness episodes. Rapid progression of HIV to AIDS can also reduce the individual’s lifespan.
  - ii. **Increased unemployment:** A person who falls sick frequently is less likely to work regularly and may find it difficult to find regular work or employment. Illness may also necessitate giving up the work that the person was engaged in earlier. If the positive person does not have skills for any other vocation, he/she may remain unemployed.
  - iii. **Increased expenditure on health:** If the positive person chooses to seek health services from a private health facility because of the perception of better quality of care, his/her economic burden increases. Even if the person were to seek treatment from a different government health facility, there are several hidden costs, such as

cost of transportation, cost of medicines not available in the health facility, cost of laboratory tests and other investigations, etc.

- iv. Adverse impacts on emotional and mental health:* Positive people, especially those who experience stigma and discrimination, are more likely to experience intense sadness, depression, anger, resentment, withdrawal and a feeling of hopelessness. They are also more likely to abuse drugs and/or alcohol as a means of coping, which further deteriorates their emotional and mental health.
- v. Tendency to avoid disclosure of HIV status:* Stigma and discrimination make it difficult for positive people to disclose their HIV status even in health facilities. When service providers later learn about their HIV status, their mistrust of positive people increases, which in turn increases stigma and discrimination.

**II. Family level:** The **four** main adverse impacts of stigma and discrimination on the HIV-positive individual's family are:

- i. Lower socio-economic status:* When a positive person is unable to engage in economically gainful activities, the family's economic status naturally deteriorates. Increased expenditure on health further adds to the fall in economic status. There are several instances of families losing all their savings and assets due to HIV infection in one or more family members.
- ii. Increased debt:* Families without any assets and savings are likely to go into huge debts due to loss of wages and increased expenditure on health. Debt also increases the risk of exploitation of children and women.
- iii. Increased stigma and discrimination at home:* People's fear of HIV and AIDS increases when healthcare providers discriminate against positive people. This in turn increases stigma and discrimination at home.
- iv. Increase in the number of child-headed families:* Reluctance to seek treatment is linked to increased morbidity and mortality from HIV-related illnesses, leading to an increase in child-headed families, school dropouts, child labour, sexual and other forms of exploitation of children and emotional and mental health problems among children. Absence of adult caregivers aggravates the problems of child-headed families.

**III. Community level:** Detailed below are **six** common impacts of HIV-related stigma and discrimination at the community level:

- i. Increased transmission of HIV infection:* Fear of stigma and discrimination discourages people from accessing HIV preventive and testing services. Not practicing safer behaviours and delay in detection of HIV infection increases HIV transmission in the community.
- ii. Poor utilisation of HIV treatment, care and support services:* Disclosure of HIV status is important for accessing HIV treatment, care and support services. Stigma and discrimination make it difficult for people to disclose their HIV status and, therefore, adversely impact utilisation of HIV-related services.
- iii. Increased burden of communicable diseases:* Rise in HIV prevalence increases the prevalence of most communicable diseases, resulting in increased government and



community health expenditure. This increase can often be at the cost of investment on other developmental programmes.

- iv. Adverse impact on the community's economy:** Even at the village level, HIV infection can adversely impact the community's economy. Families affected by HIV are less likely to work or find work. This leads to reduction in manpower resources within the community. Further, affected families are likely to spend less on food and other commodities, which also affects the economy.
- v. Social disruption:** Isolation of HIV-affected people and their families disrupts the sense of connectedness that communities feel. It also adversely impacts the community's support for the affected family.
- vi. Increased violation of human rights:** Stigma and discrimination have a direct link with human rights violation. There have been several instances of HIV-exposed children being turned away from schools and adults finding their employment terminated due to HIV infection. Delay or denial of health services to HIV-positive people is also a violation of their rights.

#### **5.4 Elements of stigma- and discrimination-free health services<sup>2</sup>**

The key elements of stigma- and discrimination-free health services can be broadly divided into **five** categories:

- I. Access to services
- II. HIV pre-test counselling and testing
- III. Confidentiality
- IV. Infection control
- V. Quality of care

Let us closely look at what must be done under each category to ensure that HIV-positive people receive services that are free from stigma and discrimination.

##### **I. Access to services**

- You must not deny services to positive people or provide them delayed services. They should not be referred to other health facilities for services that are available within your facility.
- The quality of care you provide to positive people should be the same as for other patients.
- Positive people are not to be isolated within wards or other areas of the health facility.
- Your health facility should have close links with HIV-related services such as ICTC, ART centre, District Level Networks (DLNs) of positive people, etc.

<sup>2</sup> Based on "The PLHA Friendly Achievement Checklist", a self-assessment tool for hospitals and other medical institutions caring for people living with HIV and AIDS (PLHA); jointly developed for the study "Improving the hospital environment for HIV-positive clients in India" by Horizons/Population Council and Sharan: Society for Service to Urban Poverty.

## II. HIV pre-test counselling and testing

- HIV test should always be done only after counselling.
- Informed consent must be taken before the HIV test.
- Every person tested should be given post-test counselling, irrespective of the test result.
- In case of provider-initiated testing, the results must be given to the provider. In all other instances, the results must be given only to the person tested.

## III. Confidentiality

- A person's HIV status should be disclosed only to that person and the healthcare provider treating him/her (in case of provider initiated testing).
- Do not disclose the person's HIV status to his/her family and friends unless the person has given consent for it.
- No label or signage should be put on the patient's bed, ward or medical files to convey the patient's HIV status to other hospital staff and patients.

## IV. Infection control

- Every staff member should consistently practice universal precautions for all patients, irrespective of their HIV status.
- All the staff and departments/units of the health facility should practice guidelines for waste management.
- All the facility staff must have information about and timely access to post-exposure prophylaxis (PEP).

## V. Quality of care

- Clinical management and care given to HIV positive people should be of the highest available standard and the same as for other patients.
- HIV positive pregnant women should be offered additional support on adhering to lifelong ART once it is started, taking decisions on exclusive breastfeeding for six months, and linking to care and support services in the area.
- Pregnant women must be educated about their nutrition and healthy lifestyle during pregnancy and breastfeeding and subsequently as well.
- HIV positive postnatal women should be educated about and motivated to use treatment services, such as NVP prophylaxis, EID and CPT, for their HIV-exposed infant.



It will be useful for you to reflect on which of the above elements of stigma- and discrimination-free services are not followed in your health facility. You can discuss any such issues with your colleagues and supervisor(s) and together work towards making your health facility more sensitive to HIV-positive people in general and HIV-positive women and their children in particular.

## 5.5 Helping HIV positive women overcome stigma and discrimination

Women are biologically and socially more vulnerable to HIV than men. **Biological vulnerability** is higher during sexual intercourse as the vagina is inside the body and has a large area of mucous membrane that keeps any HIV virus present in the semen alive for a longer time and offers it more area to enter the body.

**Sexually transmitted infections** (STIs) increase the risk of HIV transmission, due to which great emphasis is placed on early detection and treatment of STIs. About half the women with STIs do not have any symptoms, and such infections are, therefore, likely to go untreated. This further increases the women's vulnerability.

**Social vulnerability** to HIV infection is higher among women because they often do not have adequate access to and education about health services, including HIV-related information and services. The unfavourable gender dynamics prevalent in many communities also make it difficult for them to practice and be assertive about their sexual rights. As a result, women are often unable to negotiate safer sex practices with their partners.

The lower status accorded to women in patriarchal societies also means that they often face more stigma than men in their families and communities. If a woman is detected as HIV-positive during pregnancy, before her spouse/partner is tested, she is likely to be blamed by the spouse/partner and the family for the infection. The probability of violence, loss of shelter and economic insecurity is likely to increase. As a result, the positive woman and her infant may not be able to access PPTCT services.

In case the woman who tests HIV-positive during pregnancy or labour chooses to keep her HIV status confidential, there will be a delay in testing her spouse/partner and starting his treatment and care in case he is positive.

You can help reduce the stigma and discrimination faced by pregnant and lactating women by:

- a. **Being a role model in quality care:** By demonstrating empathy and concern for the HIV-positive pregnant woman and providing services without discrimination, you will not only help the woman feel more confident but also inspire confidence in the other staff directly involved in providing services to the positive woman (and thus aware of her HIV status) that they are not at risk of acquiring HIV infection from the pregnant woman in labour. To serve as a role model, you will also need to practice universal precautions consistently and follow the recommended waste disposal guidelines.
- b. **Sharing examples:** A pregnant woman, especially one who has learned of her HIV status during pregnancy or labour, is likely to be apprehensive about her and her baby's health. In addition to clarifying her doubts and misconceptions about HIV and AIDS and providing her information on PPTCT services, you can also give her examples of other positive mothers who are leading healthy lives and raising HIV-negative children after availing PPTCT services.
- c. **Providing information on care and support services:** It will be useful if you can explain the woman about the services offered by DLNs and NGOs working in the HIV sector and offer to link her and her baby to such services after delivery.

- d. Encouraging participation of spouse and family:** If the HIV-positive woman agrees, you can disclose her HIV status to her spouse/partner and/or family members accompanying her to the health facility. Pre-test counselling the spouse/partner and family and motivating them to support the woman and her baby to access ART and PPTCT services will help overcome the stigma and discrimination that she may have faced at home. You also need to link her spouse/partner to ICTC for pre-test counselling and testing.



It is important that you do not allow your personal beliefs, values, thoughts, feelings and attitudes to affect the services you provide to HIV-positive women. To be able to do this, you need to become aware of your own feelings, thoughts and attitude towards HIV and AIDS and address those that are likely to affect the quality of care you provide to HIV-positive women and their babies.

## 6. Management of Occupational Exposure

In this chapter you will learn about first aid for occupational exposure as well as comprehensive management of occupational exposure to protect yourself from the risk of acquiring HIV infection after any exposure.

As discussed in the previous chapter, fear of acquiring HIV infection is one of the main factors leading to stigma and discrimination against positive people in health facilities. As a labour room nurse, you need to be aware that practicing universal precautions consistently offers you adequate protection against HIV and other blood borne diseases such as Hepatitis B and Hepatitis C. However, in case there is any exposure to body fluids, prophylaxis with ART drugs can protect you against the risk of HIV transmission.

**Post-exposure prophylaxis (PEP)** is the term used to indicate the comprehensive preventive treatment started immediately after exposure to potential HIV infection in order to minimize the risk of HIV transmission. PEP includes:

- I. First aid
- II. Counselling
- III. Risk assessment
- IV. Relevant laboratory investigations, based on informed consent of the source and the exposed persons
- V. Provision of antiretroviral drugs for four weeks, depending on risk assessment
- VI. Follow-up and support

An **exposure** is defined as:

- i. Injury to the skin, such as needle-stick injury or cut with a sharp instrument
- ii. Contact with mucous membrane of the eye or the mouth
- iii. Contact with non-intact skin, especially when the exposed skin is chapped, abraded or afflicted with dermatitis
- iv. Prolonged contact with intact skin, for example, several minutes or more handling blood or other potentially infectious body fluids

**Potentially infectious body fluids** include:

- Blood
- Semen
- Vaginal secretions
- Cerebrospinal fluid
- Synovial, pleural, peritoneal or pericardial fluid
- Amniotic fluid
- Other body fluids contaminated with visible blood

Tears, sweat, urine and faeces and saliva are considered “not at risk” unless they contain visible blood.

PEP should be started as soon as possible after exposure and within 72 hours. The earlier it is started, the greater is its effectiveness. It is important to do a baseline rapid HIV test before starting PEP. There are **six** steps in managing occupational exposure, as described in greater detail below.

## **6.1 Managing exposure site – First Aid**

- I. First aid for skin that is broken after an injury with needle-stick or sharp instrument requires that you:
  - Immediately wash the wound and surrounding skin with water and soap and rinse
  - Do not scrub the area
  - Do not squeeze the injured area
  - Do not use antiseptic solutions or skin washes such as bleach, chlorine, alcohol or betadine
- II. In case of exposure to the **eye**, you need to:
  - Irrigate the exposed eye immediately with water or normal saline
  - Sit on a chair, tilt the head back and ask a colleague to gently pour water or normal saline over the eye
  - Keep wearing your contact lenses (in case you are wearing them) while irrigating your eye, as the lenses will form a barrier over the eye and help protect it
  - Remove the contact lens once the eye is cleaned and clean them in the normal manner; this will make the contact lens safe to wear again
  - Avoid use of soap or disinfectant to clean the eye
- III. In case of exposure to the **mouth**, you need to:
  - Spit the fluid out immediately
  - Rinse your mouth thoroughly using water or saline and then spit again; you can repeat this process several times
  - Avoid using soap or disinfectant to clean the mouth

Immediately after first aid, you need to report to a Medical Officer who is responsible for PEP in your health facility. Table 3 summarises the DOs and DON'Ts for managing the exposure site.



**Table 3:** DOs and DON'Ts of first aid for the exposure site

Do	Do not
Remove gloves, if appropriate	Do not panic
Wash the exposed site thoroughly with running water	Do not put the pricked finger in the mouth
Irrigate with water or saline if your eyes or mouth have been exposed	Do not squeeze the wound to bleed it
Wash the skin with soap and water	Do not use bleach, chlorine, alcohol, betadine, iodine or other antiseptics or detergents on the wound

## 6.2 Establishing eligibility for PEP

PEP should ideally be started within two hours of exposure, but can also be given within 72 hours. Risk and eligibility should be evaluated as soon as possible. If the risk is insignificant, PEP can be discontinued if it was already started. The risk of infection is mainly determined by the nature of exposure and the status of the source patient.

Eligibility is established by:

- I. Assessing the nature of exposure and the risk of transmission
- II. Assessing HIV status of the source of exposure
- III. Assessing the exposed individual

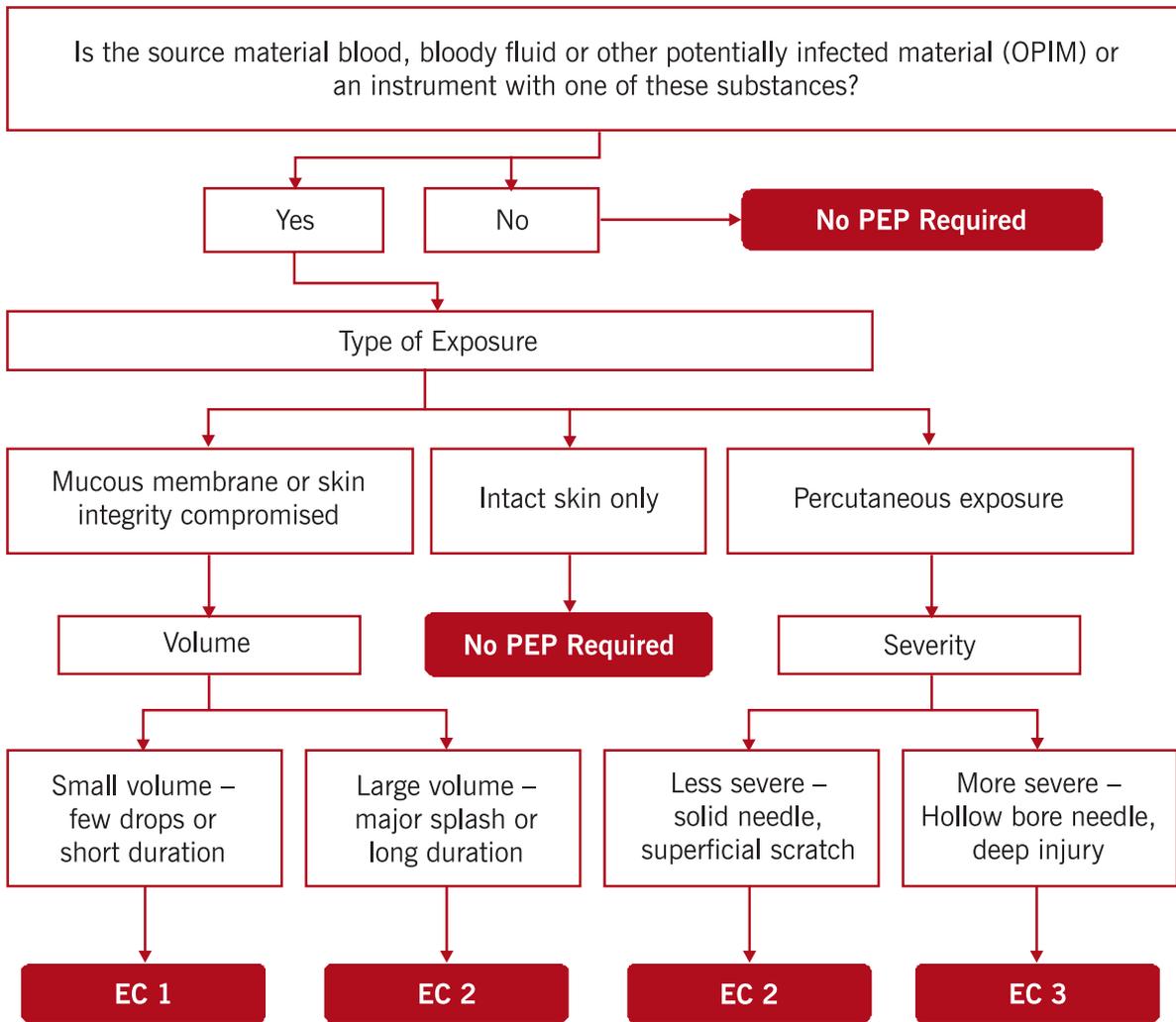
### I. Assessing HIV exposure code (EC)

There are three categories of exposure based on the amount of blood or fluid involved and the entry port. These categories, which are described in Figure 13, help in assessing the severity of exposure, but may not cover all possibilities.

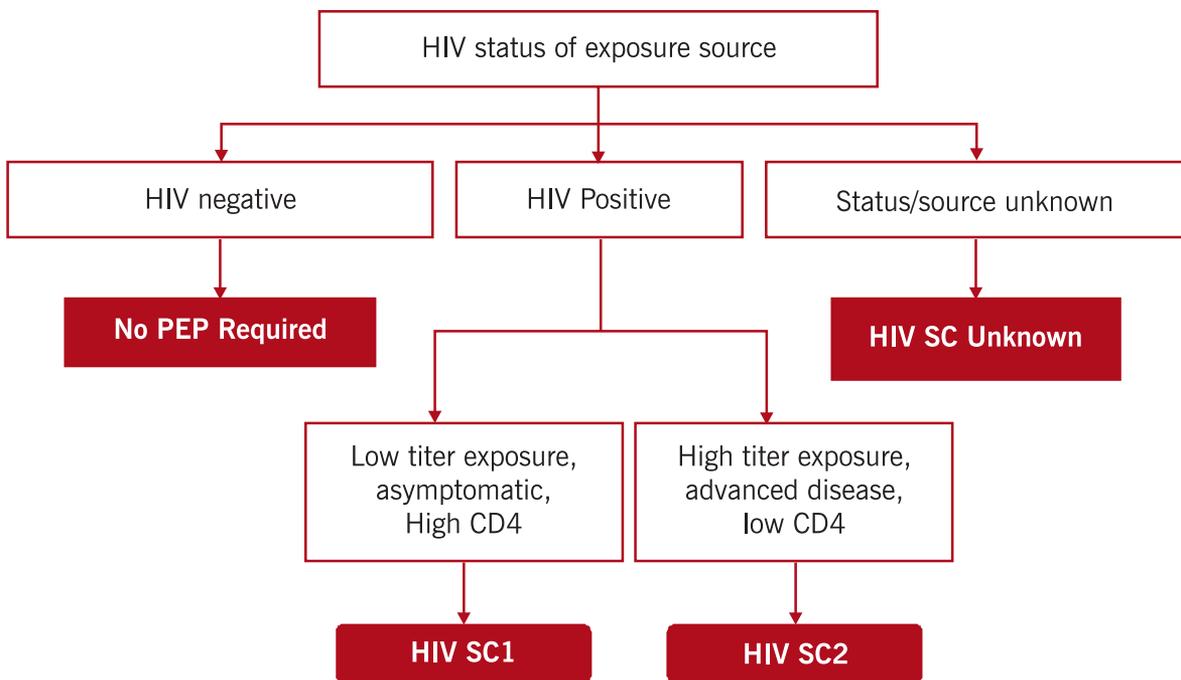
Wearing gloves during any type of exposure is a key protective factor. In case the exposure is with materials such as a discarded sharp or needle that was contaminated for more than 48 hours, the risk of HIV infection is negligible but remains high for Hepatitis B, as that virus survives for a long time outside the body.

### II. Assessing the HIV status of the source of exposure

Rapid HIV test should be done on the person who is the source of exposure. In case it cannot be done, or the results are not available immediately, PEP should be started before the HIV test result of the source is available. Informed consent should be taken before testing the source of HIV infection as per national guidelines. Figure 14 lists the types of HIV source code (SC).



**Figure 13: Determining HIV Exposure Code (EC)**



**Figure 14: Determining HIV source code (SC)**

### III. Assessing the exposed individual

- ❑ The person who has been exposed should first receive confidential pre-test counselling and assessment by a Medical Officer trained in PEP.
- ❑ A baseline HIV test should be done on the individual who had the exposure to rule out pre-existing HIV infection.
- ❑ If the exposed individual already has HIV infection, PEP should not be given. Such an individual should be counselled for preventing HIV transmission at the workplace and then referred to an ART centre for CD4 testing and further management.
- ❑ The exposed person should also be assessed for his/her emotional and psychological state related to the exposure and the PEP, which can be addressed through counselling, if necessary.

### 6.3 Pre-test counselling for PEP

Pre-test counselling for PEP involves:

- ❑ Providing information on PEP, such as what is PEP and its risks and benefits
- ❑ Emphasising that PEP is not mandatory
- ❑ Taking informed consent
- ❑ Providing psychological support to help overcome fear and anxiety about the exposure and the risk of blood borne infections
- ❑ Documenting details of the exposure, the HIV status of the source, the pre-test counselling provided and the prescribed PEP
- ❑ Discussing options for special leave from work, such as for two weeks initially and longer if necessary, based on the follow-up assessment of side effects, emotional state and other requirements

There is risk of secondary transmission in case the exposed person has acquired the HIV infection. This is why the pre-test counselling should also focus on avoiding unsafe practices such as unprotected sex. Pre-test counselling should focus on consistent condom use; any barriers to condom use should be addressed. The exposed person should also be counselled on not donating blood till his/her negative HIV status is established during follow-up.

### 6.4 Prescribing PEP

The first step in prescribing PEP is to decide on either the basic or 2-drug regimen or the expanded 3-drug regimen. Table 4 lists the PEP recommendations based on the type of exposure and the HIV status of the source.

**Table 4:** Guidelines for starting PEP

HIV exposure code	HIV source code	PEP recommendation	Duration
1	1	Not warranted	
1	2	Recommended	28 days
2	1		
2	2		
3	1 or 2		
2 or 3	Unknown		

As mentioned earlier, PEP is best started within two hours of exposure; HIV testing of the source patient should not delay the decision on whether to start PEP or not. Subsequent doses should be given at bedtime, with clear instructions to take it two to three hours after dinner and to avoid fatty food at dinner. PEP needs to be taken for four weeks.

The recommended drug regimen is: Tenofovir 300 mg + Lamivudine 300 mg + Efavirenz 600 mg once daily for 28 days. Whenever possible, these three drugs should be administered as a single pill. The two-drug regimen that was recommended earlier is not used for PEP.

In case of intolerance to Efavirenz, the regimen of Tenofovir + Lamivudine + Protease Inhibitor (PI) - Atazanavir/ritonavir (ATV/r) or Lopinavir/ritonavir (LPV/r) is recommended after consultation with an experienced physician.

In case of exposure where the source person is on ART, Tenofovir 300 mg + Lamivudine 300 mg + Efavirenz 600 mg should be started immediately. Expert opinion should be sought urgently by phone or email from the Centre of Excellence or ART Plus Centre.

## 6.5 Laboratory investigations

An HIV test is required soon after exposure to establish baseline, against which future test results can be compared. However, PEP should not be delayed in case it is not possible to do the HIV test immediately. HIV testing can be done after pre-test counselling and obtaining informed consent several days after the exposure.

Tests for Hepatitis B (based on the person's immunisation status for Hepatitis B) and Hepatitis C are also recommended to rule out exposure to these two blood borne pathogens. It is also desirable to do CBC and liver function tests to establish baseline.

## 6.6 Follow-up

Irrespective of whether PEP was started or not, it is desirable to do clinical and laboratory follow-up. **Clinical follow-up** is done to monitor for signs of HIV seroconversion<sup>3</sup>, such as acute fever, generalised lymphadenopathy, pharyngitis, non-specific flue like symptoms and ulcers in the mouth or genital area. Such symptoms are observed within three to six weeks after exposure in about 50–70 percent of people with primary HIV infection. If primary infection is suspected, the ART Medical Officer should be consulted as soon as possible for further management.

<sup>3</sup>Seroconversion is the period of time during which HIV antibodies develop and become detectable.

The exposed person taking PEP can experience side effects such as nausea, diarrhoea, muscular pain and headache during the early days of starting prophylaxis. The treatment should continue despite these side effects, most of which are mild and short-lived. It is important to provide follow-up support to ensure continuation of PEP despite side effects. In case the person feels very uncomfortable, medicines can be given to counter the discomfort.

During clinical follow-up, the exposed person must once again be advised to practice safe behaviours, such as avoiding blood donation and avoiding unprotected sex to prevent secondary transmission. Barriers for condom use, if any, should be addressed.

**Laboratory follow-up** of HIV testing is done at six weeks, three months and six months, irrespective of whether PEP was taken or not. Testing at six weeks may not be enough, as PEP drugs may delay detection of antibodies in case there is HIV infection. This is why HIV test should be repeated at three months and six months.

It is desirable to test for Hepatitis B two to four weeks after exposure in case the exposed person has not received Hepatitis B vaccination earlier. Further tests for Hepatitis B and Hepatitis C are also recommended three months and six months after exposure.

In case a healthcare provider has repeated exposures, it is desirable that he/she undergoes additional training to prevent future exposures.

## 7. Frequently Asked Questions

This chapter provides answers to commonly asked questions about implementing PPTCT guidelines in real-life situations. Kindly remember that all the information related to the questions is included in previous chapters. The questions and answers below are presented to facilitate clarification of doubts.

### 7.1 *Natal care for women whose HIV status is not known*

#### 1. **What should be done if a woman with history of high-risk behaviour refuses to undergo HIV testing despite pre-test counselling?**

Pre-test counselling should be repeated in women reporting high-risk behaviour(s) and/or similar behaviours in their spouse/regular partners. During the repeat counselling, it is important to explore the reasons for refusal to undergo HIV testing and address these reasons. In most cases, it may be because the woman is afraid of stigma and discrimination, including denial of health services. You can reduce some of her fears by assuring her that:

- The HIV screening test result will be kept confidential.
- She will get quality healthcare services irrespective of the result of the screening test. In case the test result is positive (reactive), she will be given medicines to protect her health and to prevent HIV infection in her baby.
- Taking regular treatment and adopting a healthy lifestyle will allow her to live a longer and healthier life even if she has HIV infection.

In case the woman continues to refuse HIV testing while in labour, the ICTC counsellor should be requested to counsel her in the postnatal ward. Efforts to motivate the woman should continue until an HIV test is conducted.

#### 2. **Sometimes women come in advanced stages of labour, and there may not be enough time to counsel them and then do the HIV screening test. What should be done in such situations?**

Unless there is crowning of head, efforts should be made to briefly provide pre-test counselling to the woman and take her informed consent for the HIV screening test.

If the test cannot be done due to advanced stage of labour, it should be done as early as possible after delivery, preferably before the woman is shifted to the postnatal ward. In case the screening test is reactive, the mother should be immediately initiated on ART and the baby should be started on Nevirapine prophylaxis.

#### 3. **If a woman comes to the health facility in the second stage of labour and the HIV screening test result is reactive, can she still be initiated on ART?**

Yes. Every effort should be made to start ART. In case the woman is unable to swallow the drugs during labour, ART should be started at the earliest after delivery. The baby should receive Nevirapine syrup, which must be continued for 12 weeks.



**4. Can ART drugs be initiated without the Medical Officer’s prescription to a woman in active labour?**

Medical Officer’s prescription for ART is necessary. You need to inform the Medical Officer and start ART as soon as the screening test result is known to be reactive so that treatment can be initiated without any delay.

**5. What should be done if a woman has reactive HIV screening test result but still refuses to take ART due to the fear of disclosure of her HIV status to the spouse and the subsequent stigma and discrimination?**

You must try your best to explain to the woman that the ART drugs will protect her baby from HIV infection. In addition, emphasise to her that:

- The HIV screening test does not confirm HIV infection. If the confirmatory tests done later come out negative, she will be asked to stop the medicines.
- If confirmatory tests are positive, her HIV status will be disclosed to her family members only after she agrees.
- No one in her family will be informed about the nature of her medicines unless she agrees to disclose her HIV status to the family.
- The ICTC counsellor will sensitise and counsel her husband/partner and the family, if necessary, and make every effort to ensure that they recognize the need to provide her and her baby HIV-related treatment and care.
- Some NGOs and networks of positive people also offer home-based support, if necessary.

It is also important to explain that family support is crucial so that the woman can learn to live positively with HIV and provide the best care and nurturing to her baby. There are ample services — both institutional and outreach — that sensitise families and helps positive women live without stigma and discrimination.

**6. How should pre-test counselling be done for a woman who is in labour and screaming in pain?**

During the first stage of labour there is gap of several minutes between two contractions. You need to first reassure the woman that her labour is progressing well and clarify her doubts and concerns. Speak to her in between two contractions. The distraction of making conversation itself may stop her from “screaming”.

**7. When should the reactive result of HIV screening test done on a woman in labour be disclosed to the woman?**

You should inform the woman who tested reactive in the HIV screening test as soon as possible. Before disclosing the status, it is important to ascertain that she will be able to accept the test result and participate in decision-making for ART and prophylaxis for the baby.

**8. What information should be given to the family of a woman with reactive HIV screening test result while she is in labour?**

The result of the HIV screening test should not be disclosed to the family unless the woman agrees to let them to know. Every effort should be made to help overcome the woman's reluctance to share her test result with the family. As ART must be continued for life, it is desirable that the family is also counselled about the need to adhere to the treatment before the woman is discharged from the hospital.

**9. If the HIV screening test of a pregnant woman is reactive and she is unable to participate in any dialogue due to pain, can ART prophylaxis be initiated without informing her?**

If a woman in labour is able to swallow medicines, she can also give consent for starting ART. ART should be initiated without any delay.

**10. Women who have normal deliveries usually like to go home within 24 hours. If the ICTC is closed due to it being a weekend or a holiday at the time of a woman's labour and/or discharge, how should the HIV test be confirmed?**

Confirmatory tests for HIV can be done at ICTC only on the first working day after delivery. It is, therefore, desirable that the woman is not discharged until pre-test counselling and confirmatory tests have been done by ICTC and linkages established with the ART centre.

**11. In case a woman has been taking ART during pregnancy, how should her compliance be assessed in the labour room?**

Ask the woman about her schedule for taking ART. You can also verify it from her ART book, in case she is carrying it. **Do not ask** questions like: *"Did you take your medicines every day?"* Instead, **ask:** *"Have you had any difficulty in taking your medicines?"* If yes, find out what the difficulties were and if they led to irregular intake of drugs.

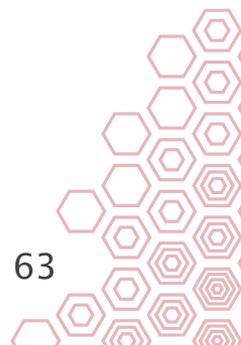
As labour room nurse, your responsibility is to give the woman her ART drugs as per her schedule. You need to ascertain her compliance so that you can document it on her case sheet. This documentation will inform ART counsellors that she needs adherence counselling. It will also help take a decision on the duration of NVP prophylaxis for the baby.

**12. What prophylaxis should be given to the mother and her baby in case the woman had not taken ART regularly during her pregnancy?**

The woman should be given the ART drugs she has been taking as per her schedule. You should reiterate the importance of taking ART drugs regularly, as recommended by the doctor, to ensure that she lives a longer and healthier life. The baby should be given Nevirapine in a dose recommended for the baby's birth weight. The duration of NVP for the baby will be 12 weeks if the mother did not take ART regularly.

**13. What should be done in case there is shortage of test kits in the labour room?**

Shortage of test kits indicates poor supply chain management. Immediate steps should be taken to prevent such shortage in future.



In case there is shortage of HIV screening test kits in the facility, HIV test should be done by ICTC on the next working day after the delivery.

**14. What should be done in case there is shortage of ART drugs in the labour room?**

Shortage of ART drugs in the labour room indicates poor supply chain management, and corrective measures should be taken at the earliest to avoid a similar situation in future.

If there are no drugs in the labour room, you should try to procure them from the person in-charge at your health facility. If the drugs are not available in the health facility, then the Medical Officer should contact ART centre to procure them at the earliest and initiate ART and ARV prophylaxis for the mother and the baby, respectively.

**15. What is the best time to initiate ART: before labour, during labour, or after labour?**

The best time to start ART is during the first three months of pregnancy, in case the pregnant woman is not already on ART. For women who come direct-in-labour, ART should be initiated immediately after getting a reactive HIV screening test result. It is important to do post-test counselling before giving the ART drugs.

## **7.2 Treatment and care for positive women and their babies**

**1. If a baby vomits out the NVP syrup dose given, should another dose be given?**

If the baby spits out a little syrup, you do not need to give another dose. However, if the baby throws up most of the medicine, you need to check when the medicine was last given. If it was given less than one hour before, you need to give another dose immediately. If the medicine was given more than two hours before, do not give an extra dose; give the next dose only as per the schedule.

To prevent vomiting of NVP syrup by the baby, hold the baby at 45 degrees with his/her hands down and head supported at the back. Use the medicine dropper to drip the medicine to the back of the baby's tongue near the sides. This will prevent the baby from gagging. Avoid putting the medicine in the cheek pouches, as the baby will be able to spit the medicine out.

**2. I have heard that ART has several side effects. If so, why is ART recommended even for pregnant women with high CD4 count?**

Most side effects of ART subside within a few weeks. In rare cases when they don't, the ART Medical Officer will review the ART schedule and make changes, if necessary.

ART drugs are needed as they reduce the viral load in the mother. This greatly reduces the risk of HIV transmission during pregnancy to the unborn child.

**3. Will the side effects of ART affect the unborn baby?**

A woman can experience some side effects for a few weeks after initiation of ART. However, the unborn baby does not get affected by the side effects the mother experiences.

Most of the side effects subside within a few weeks. In case some side effects persist, alternate drugs are prescribed at the ART centre.

**4. Babies are very fragile. Will a daily dose of Nevirapine not lead to severe side effects?**

Nevirapine protects the baby from HIV infection. Despite the mother taking triple ART drugs, some HIV virus can enter the baby's body during delivery or breastfeeding. Nevirapine prevents such virus from replicating in the baby's body. The side effects of the medicine are usually minor and subside within a few days

**5. Will an HIV-exposed baby develop Nevirapine resistance in case the baby acquires HIV infection?**

Infants, children and adults who have taken Nevirapine earlier may have developed resistance. They are, therefore, prescribed alternate drugs due to the possibility of resistance. However, fear of resistance should not stop anyone from giving Nevirapine prophylaxis to the HIV-exposed infant.

**6. Why should all HIV-exposed infants be given CPT?**

Co-trimoxazole prophylactic treatment (CPT) protects infants from a wide range of bacterial infections and malaria. Other than skin rashes in a few people, it does not have side effects. In case an HIV-exposed infant has acquired the HIV infection, he/she has a low immunity and is at risk of acquiring serious infections like pneumonia and diarrhoea. CPT helps prevent such infections.

**7. Why should positive women be encouraged to breastfeed when we know that breast milk can transmit HIV infection?**

It is true that HIV can transmit through breast milk. However, the advantages of breast milk far outweigh the risk of HIV transmission from mother to baby. A baby who is not breastfed is more likely to die, be severely malnourished during the first year, and have a greater risk of diseases like diarrhoea and pneumonia.

ART greatly reduces the risk of HIV transmission through breast milk, as it reduces the total number of viruses in the mother's blood. Daily NVP prophylaxis to the baby offers additional protection against HIV transmission through breast milk.

**8. Why is breastfeeding recommended till 1 year if the child is negative? Will it not expose the child to HIV for a longer duration?**

Once the mother starts ART, the viral load in her body fluids, including breast milk, will become very low. Optimum viral load suppression takes about 24 weeks. Therefore, even if a woman was initiated on ART during labour, her viral load would have reached maximum suppression by the time the infant is six months old. The risk of HIV transmission is, therefore, very low or negligible compared to the benefits of breastfeeding.

**9. Why is mixed feeding considered a greater risk for mother-to-child transmission of HIV?**

The lining of the newborn's digestive system, especially stomach, is very fragile. When top milk, which contains animal protein, is given to the baby, the delicate lining of the stomach gets damaged. HIV can easily enter the system through damaged stomach lining. This is why top milk is considered a higher risk for mother-to-child transmission of HIV through



breast milk. The stomach lining can also get damaged with exclusive top feeding, but since there is no HIV in the top milk, the baby is safe. Hence, mixed feeding is considered a greater risk for mother-to-child transmission of HIV than exclusive breastfeed or exclusive top feed. As the baby grows and his/her digestive system gets stronger, the baby will be able to digest a variety of foods.

**10. Are the ART drugs secreted in breast milk? Will they affect a breastfed baby?**

Studies have shown that the drugs included in the three-drug ART regimen are safe for a woman to take during breastfeeding. They do not harm the breastfed babies.

**11. Should NVP syrup be given to the baby till 6 weeks of age or till 6 weeks after it was started?**

NVP syrup should be given for 6 weeks after it was initiated. For example, if a baby is born at home and the visit to a health facility takes place 12 days after delivery, NVP syrup should be given from the 12th day till 6 weeks after that.

**12. Can NVP be given to premature babies?**

The decision about whether to give NVP to premature babies will depend on the baby's weight and the baby's ability to swallow the syrup. A Medical Officer trained in paediatric HIV will need to take this decision.

**13. Why is ARV prophylaxis for infants extended to 12 weeks if the mother was on ART for less than 24 weeks before delivery?**

As explained earlier in question 8, it takes about 24 weeks for optimum suppression of HIV viral load in the mother. In case ART was taken for less than 24 weeks, it is likely that the mother's viral load is still high and, therefore, the risk to the infant is also high.

**14. What is the preferred drug regimen in case a woman has both HIV-1 and HIV-2 infections?**

The drug regimen recommended for HIV-1 is relevant even if a woman has mixed infection with both HIV-1 and HIV-2. In India, HIV-1 is more common.

In case a woman has only HIV-2 infection, she should not be given Nevirapine or Efavirenz, as these drugs are not effective against HIV-2. Such women should be given a regimen consisting of TDF + 3TC + LPV/r. This regimen should be continued even after delivery.

Infants born to mothers who have only HIV-2 infection should not be given NVP. Daily prophylaxis with AZT is recommended for such infants.

**15. If an HIV-positive pregnant woman comes direct-in-labour and reports that she was on ART earlier but had discontinued for more than two to three months, and if she is not able to give information about the drugs she was taking, can TDF + 3TC + EFV be given to her?**

If there is a possibility that the HIV-positive woman has taken Efavirenz or Nevirapine earlier, then these drugs should not be given again. Lopinavir/ritonavir (LPV/r) must be given instead of Efavirenz.

**16. Why is LPV/r given to the women exposed to Nevirapine or Efavirenz earlier but Atazanavir is not recommended?**

The risk of developing toxicity is higher with Atazanavir than with LPV/r.

**17. Why are two protease inhibitors LPV/r recommended? Why is 'r' written in small letters?**

Lopinavir alone has low bioavailability and is therefore not very effective. When it is combined with sub-therapeutic doses of another protease inhibitor, Ritonavir, its blood levels increase greatly. Ritonavir is written as 'r' as it is in low doses.

**18. Efavirenz was earlier reported to have some teratogenic effects. What is the current evidence and what does it indicate?**

Data on the use of Efavirenz and Tenofovir was limited earlier, and more data has become available since 2010. There is persuasive indication that Efavirenz is safe for use throughout pregnancy, including in the first trimester.

### **7.3 Referral for the HIV-positive mother and the HIV-exposed infant**

**1. What are the advantages of early infant diagnosis (EID)?**

Like for other illnesses, early diagnosis and treatment of HIV infection can slow down its natural progression. Early detection of HIV infection in infants helps ensure timely treatment and care so that they can remain symptom-free for a longer time.

**2. What should I do if my health facility does not have testing facilities for HIV-exposed infants?**

HIV-exposed infants are not tested at birth. They are first tested for HIV at the age of six weeks. Dried blood sample is collected at ICTC and sent to a testing laboratory assigned to ICTC.

Your role will mainly be to educate the woman in labour about the services available. The ICTC counsellor will provide follow-up support.

**3. How can I ensure that a woman who tests positive for HIV during labour goes to ICTC for confirmation of her HIV status?**

The decision on whether to send the postnatal woman to ICTC for counselling and testing or to instead ask the ICTC counsellor to visit her in the postnatal ward will depend on factors such as the physical condition of the woman after delivery, privacy for pre-test and post-test counselling, etc.

Your responsibility will be to inform the ICTC counsellor and ensure that he/she meets the postnatal woman for pre-test counselling. If necessary, you too can counsel her for confirmatory tests.

**4. How do I ensure that the husband/partner of the woman who has tested positive for HIV also goes for HIV testing?**

Your responsibility is to do the HIV screening test on women in labour and to refer out women with reactive screening test result. You have the responsibility to refer the women



to ICTC and ensure that confirmatory tests are done on the next working day. It is the ICTC counsellor's responsibility to counsel the husband/partner for HIV testing.

**5. How do I ensure that a woman in labour with reactive HIV screening test result goes to the ART centre?**

HIV screening test is not a confirmation of HIV status. HIV status is confirmed by three antibody tests done by ICTC. Your role is to make sure the woman receives ICTC services and follow-up till the confirmatory tests are done. The ICTC counsellor has the responsibility of linking her to the ART centre.

**6. What special care should I take for establishing breastfeeding for an HIV-exposed infant (HEI)?**

Guidelines for initiating breastfeeding for infants are the same for all mothers, irrespective of their HIV status. If a woman is HIV positive, you need to keep reiterating the benefits of exclusive breastfeeding and the high risk of HIV transmission through mixed feeding.

**7. What are the consequences for women who have renal failure and are put on TDF without doing baseline and other investigations?**

Ample emphasis must be given to ensure that a postnatal woman who was detected with HIV infection during labour should reach the ART centre within two days or as early as possible. This is important because baseline investigations are done at the ART centre. In case of women who are detected to have renal failure, alternate drugs are prescribed and renal failure managed as per standard protocols.

**8. How can a positive mother be motivated for lifelong ART?**

There is no magic tool for motivating a woman to take lifelong ART. Even if she is motivated at the time of delivery, motivation levels may come down over a period of time when she finds herself and her child healthy. This is why regular follow-up support should be provided after initial pre-test counselling and support in the first few months after delivery. Follow-up needs to be done mainly by the ART centre and the ICTC counsellor. If necessary, networks of positive people and other NGOs involved in HIV and AIDS programme implementation can also be involved in the follow-up.

## **7.4 Ethical issues**

**1. Why is it important to keep the HIV status of a pregnant woman confidential?**

HIV infection is associated with high levels of stigma and discrimination – at home, in the community and in health facilities. Family and/or healthcare providers who do not have the required level of sensitivity and knowledge about HIV can become perpetrators of stigma and discrimination. In such a scenario, a pregnant woman who needs supportive family and healthcare providers for her emotional and physical well-being can be deprived of the much-needed support if her HIV status is disclosed.

**2. To whom and when should I disclose the HIV status of a woman in labour who has reactive HIV screening test result?**

The only person who should know about the reactive HIV screening test result is the woman who underwent the test. With her permission, you need to inform other healthcare providers who are directly involved in providing her clinical services.

**3. Everyone will know the HIV status of a woman when I use the safe delivery kit. How can I still keep her status confidential?**

An ideal situation is where the protective equipment used on HIV-positive women is the same as that used for HIV-negative women.

In the labour room, the only people who will know about your using the safe delivery kit are the other staff members present in the labour room. If all the staff members in the labour room have the required sensitivity towards HIV-positive people, the woman's HIV status will not be discussed, neither in the labour room nor outside.

**4. What should I do if the husband/partner of a positive woman refuses to go in for HIV testing?**

As a labour room nurse, you are not required to test the husband or partner of the HIV-positive women or those with reactive HIV screening test result. The ICTC counsellor will take the required steps to counsel and test the husband/partner. The counsellor may also take help from NGOs involved in HIV programme implementation or networks of positive people, if necessary.

**5. What should I do if the husband/partner and/or the family of the positive woman refuse to take her back home after delivery?**

The ICTC counsellor usually takes the lead in providing pre-test counselling the husband/partner and family of positive postnatal women. In case of non-cooperation from the husband or family and/or their refusal to accept the woman, other staff members such as nurses and Medical Officer can also counsel the family. The postnatal woman should be kept in the health facility till the husband/partner and family have committed to take responsibility for her and the baby.

As a labour room nurse, your responsibility is to refer the woman to the ICTC counsellor and talk to the family, if required.

**6. What should I tell other patients in the labour room or ward if they come to know that one of the patients is HIV positive?**

In case other patients come to know of the HIV status of a positive mother, you need to discourage any gossip about the positive mother and sensitise and educate other patients on HIV and AIDS. You should also try to find out the source of disclosure and take steps to avoid a similar situation in future.



## **7.5 Preventing HIV transmission in the workplace**

### **1. How safe are the safe delivery kits?**

The safe delivery kits are SAFE! They contain all the protective equipment you need for protection against bloodborne pathogens during labour.

### **2. What should be done if there are no safe delivery kits in the labour room?**

Lack of safe delivery kits indicates poor supply chain management. Systems should, therefore, be strengthened to avoid shortage.

You need gloves, waterproof gown or apron, goggles, mask and shoes to protect yourself from bloodborne pathogens during delivery. All these will be available in your health facility. You can use either fresh disposable protective gear or sterile reusable material.

Some health facilities report shortage of boots and goggles. If so is the case with your facility, you can cover your feet with thick plastic bags and tie the ends on your legs to prevent skin from coming in contact with any body fluid. As alternative to goggles, visors or helmets can be used, if necessary.

### **3. Is the risk of transmission greater from women who know their HIV status?**

Whether a woman knows her HIV status or not, the risk of HIV transmission exists if a woman is infected. The risk is significantly higher during the window period, when the woman would test negative for HIV infection. This is why universal precautions are recommended for all clinical procedures where there is a risk of contact with body fluids.

### **4. What should I do in case there is a splash of blood or amniotic fluid on my skin?**

If blood or any other body fluid such as amniotic fluid splashes on unbroken skin, you need to wash the area immediately with running water. You can use soap and water. Do not use antiseptics. In case the contact is with eyes or mouth, you need to irrigate them with water. You must also immediately report to the Medical Officer responsible for PEP.

### **5. What should I do if there is a needle-stick injury while repairing tears in an HIV-positive woman?**

If your skin is broken after injury from a needle-stick or any other sharp instrument, you need to remove the gloves and other protective equipment and wash the wound and the surrounding skin with water and soap and rinse. You should not scrub. You should also not use antiseptics or skin washes such as bleach, chlorine or alcohol.

### **6. How can I be sure that the gloves I use to check the progress of labour give me the necessary protection?**

Disposable gloves are safe to use as long as the packet in which they are packed is intact. Reusable gloves need to be checked for leaks before they are sent for sterilisation. To ensure greater protection from gloves, you must change them between patients and procedures in the labour room even if they are not soiled.

**7. We don't have elbow length gloves. How can I protect myself during labour and/or vaginal examination?**

Elbow length gloves cover the gown sleeves and prevent the gown sleeve from getting soaked during delivery. They are also useful during manual removal of placenta and repair or surgery of cervix and vagina. While it is true that elbow length gloves offer additional protection, regular gloves are also effective for receiving and cleaning the baby, for receiving the placenta and for suturing. In any case, it is desirable that you minimise vaginal examinations, rupture of membranes and manual removal of placenta.

**8. I have myopia and wear glasses. It is very uncomfortable to wear goggles along with my glasses. How should I protect my eyes?**

You need to keep a gap between your goggles and glasses. An effective way to do this is to buy goggles that have a thick frame on the sides.

**9. How should I dispose the safe delivery kit?**

You need to first disinfect the gloves, plastic apron, etc., by soaking them in 0.5 percent chlorine solution for ten minutes and then dispose them in the red bin/bag.

**10. What should I do with the linen on which the HIV positive woman was resting before or after delivery?**

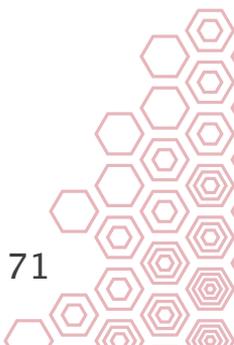
Irrespective of a patient's HIV status, any soiled linen must be put in a plastic bag. The bag should be tied and sent to laundry. The person sorting the linen in the laundry should wear gloves.

**11. What should I do with the instruments used on a HIV positive woman?**

You should disinfect the instruments, just as you would for the instruments used on other women in the labour room, and then send them for sterilisation.

**12. Can the labour table used for conducting delivery of an HIV-positive woman be used for conducting another delivery?**

The cleaning process for labour room tables is the same for all women, irrespective of their HIV status. You need to mop the table and the instruments that have come in contact with a patient as per the infection control guidelines in your health facility.





## Reference Reading

## 8. Basic Facts on HIV and AIDS

In this chapter, you will learn about:

- I. Modes of transmission of HIV
- II. Prevention of HIV infection
- III. Testing guidelines for HIV infection
- IV. Natural progression of HIV infection
- V. Guidelines for treatment of HIV infection

**HIV** is the abbreviation for human immunodeficiency virus. As the name suggests, it destroys the immunity of a person infected with the virus. As of today, HIV has no cure. However, medicines are available to control replication of HIV and, thereby, prolong life.

**AIDS** is the short form for acquired immunodeficiency syndrome. It is an advanced state of HIV infection where the body's immune system is destroyed and, therefore, a wide range of opportunistic infections affect the body. **Opportunistic infection** (OI) is an infection caused by an organism that may not cause illness in a person with healthy immunity but results in signs and symptoms of illness in a person with weakened immune system.

**Types of HIV:** There are two types of HIV virus: Type 1 (HIV-1) and Type 2 (HIV-2). Both types are prevalent in India but HIV-1 is more frequently reported. HIV-1 is a more virulent virus than HIV-2, meaning that HIV-1 transmits easily and is faster to progress. HIV-2 is generally milder and slower to progress and poorly transmitted. Presence of both HIV-1 and HIV-2 in the same person results in rapid progression of the infection.

### 8.1 HIV transmission

A person can get infected with HIV only if two conditions are fulfilled:

- a. **Viral load:** A sufficient concentration of HIV in the body fluid is necessary to cause infection. Low concentration of HIV cannot lead to infection.
- b. **Point of entry:** HIV must find a way to enter the body.

#### 8.1.1 HIV transmission in health facilities

In a hospital environment, exposure to the following body fluids can transmit bloodborne infections including HIV:

- Blood
- Cerebrospinal fluid
- Synovial fluid
- Peritoneal fluid
- Pleural fluid
- Pericardial fluid

- Amniotic fluid
- Semen
- Vaginal fluid

In addition to the above, any other body fluid that is visibly contaminated with blood can also transmit infection. This means that stools, urine, saliva, nasal secretions, vomit and breast milk can transmit infections only if there is visible blood.

The body fluids can be grouped in three categories – A, B and C – as shown in Table 5.

**Table 5:** Categories of body fluids

<i>Category A</i>	<i>Category B</i>	<i>Category C</i>
Blood	Sweat	Cerebrospinal fluid
Semen	Tears	Amniotic fluid
Menstrual blood	Saliva	
Vaginal fluid	Skin oils	
Breast milk	Urine without visible blood	
	Stools without visible blood	

The fluids in category A have a high enough concentration of HIV for transmission. Contact between body fluids in this category can transmit HIV infection. The fluids in category B contain a very small concentration of the virus and cannot, therefore, transmit HIV. The fluids in column C have a high concentration of HIV. However, they are unlikely to be exchanged between people normally. Hospital staffs, who are likely to come in contact with the body fluids in category C, must take precautions to prevent exposure to category C fluids.

Activities and services normally performed by various categories of hospital staff that put them at risk of HIV transmission are listed in Table 6.

**Table 6:** Healthcare services that carry risk of HIV transmission

<i>Category of hospital staff</i>	<i>Probable activities and services that have a risk of HIV transmission</i>
Surgeons	<ul style="list-style-type: none"> <li><input type="checkbox"/> Performing surgeries</li> <li><input type="checkbox"/> Passing sharps</li> <li><input type="checkbox"/> Giving intravenous injections or drawing blood</li> <li><input type="checkbox"/> Wound dressing</li> <li><input type="checkbox"/> Disposal of sharps and needles</li> </ul>
Obstetricians	<ul style="list-style-type: none"> <li><input type="checkbox"/> Conducting deliveries</li> <li><input type="checkbox"/> Suturing perineal tears</li> <li><input type="checkbox"/> Doing vaginal procedures</li> <li><input type="checkbox"/> Giving intravenous injections or drawing blood</li> <li><input type="checkbox"/> Disposal of sharps and needles</li> </ul>
Physicians	<ul style="list-style-type: none"> <li><input type="checkbox"/> Pleural tap</li> <li><input type="checkbox"/> Abdominal tap</li> <li><input type="checkbox"/> Giving intravenous injections or drawing blood</li> <li><input type="checkbox"/> Disposal of needles</li> </ul>

<i>Category of hospital staff</i>	<i>Probable activities and services that have a risk of HIV transmission</i>
Nursing staff in the operation theatre (OT)	<input type="checkbox"/> Assisting in surgeries <input type="checkbox"/> Giving intravenous injections or drawing blood <input type="checkbox"/> Passing sharps <input type="checkbox"/> Dressing surgical wounds <input type="checkbox"/> Disposal of sharps and needles <input type="checkbox"/> Sterilization
Nursing staff in labour rooms	<input type="checkbox"/> Conducting deliveries <input type="checkbox"/> Assisting in deliveries <input type="checkbox"/> Suturing perineal tears <input type="checkbox"/> Giving intravenous injections or drawing blood <input type="checkbox"/> Disposal of sharps and needles
Nursing staff in wards	<input type="checkbox"/> Giving intravenous injections and drawing blood <input type="checkbox"/> Handling urine and faecal matter (with visible blood) in the bed pan <input type="checkbox"/> Handling soiled linen <input type="checkbox"/> Disposal of used needles used for intravenous injections <input type="checkbox"/> Dressing wounds
Laboratory technicians	<input type="checkbox"/> Drawing blood samples <input type="checkbox"/> Handling tissues <input type="checkbox"/> Handling body fluids, such as urine and faecal matter, with visible blood <input type="checkbox"/> Disposal of needles and other infected materials
Ward boys/ Ayah/Sweeper	<input type="checkbox"/> Cleaning spills of blood and other body fluids <input type="checkbox"/> Handling soiled linen <input type="checkbox"/> Handling urine and faecal matter in bed pans, when there is visible blood <input type="checkbox"/> Wastes disposal

### 8.1.2 Common modes of HIV transmission

Outside of health settings, HIV is normally transmitted through contact between four body fluids: blood, vaginal fluids, semen and breast milk. Behaviours that can result in contact with these body fluids include:

- Unprotected sexual intercourse
- Blood transfusion
- Sharing needles and syringes
- Parent-to-child transmission during pregnancy, delivery or breastfeeding

Factors that influence the risk of acquiring HIV infection include:

- i. Number of sexual partners and the rate of partner change
- ii. Frequency of unprotected sex between partners who are not in a mutually faithful relationship

- iii. Local HIV prevalence rates in high-risk behaviour groups
- iv. Types of sexual acts
- v. Inconsistent condom use or using condoms incorrectly
- vi. Presence of sexually transmitted diseases in either of the partners
- vii. Viral load in the person infected with HIV
- viii. Type of HIV virus
- ix. Practicing more than one risk behaviours, such as engaging in unprotected sexual intercourse and sharing needles and syringes

Let us look at some key routes of transmission more closely.

### I. Unprotected sexual intercourse

The most common route for spread of HIV infection in India is through unprotected sex between partners where one of the two is infected. Unprotected sex means having penetrative sex (anal, vaginal and oral) without condom. However, every unprotected sexual intercourse does not lead to HIV infection. Factors that influence sexual transmission of HIV include:

- a. **Biological factors:** Women are at greater risk of being infected with HIV through unprotected sex because:
  - Semen from the infected male sexual partner remains in the woman's vagina for a longer time.
  - Larger surface area of vagina provides greater opportunity for the virus to enter the body.
  - A large number of women with sexually transmitted infections (STIs) may not have any symptoms at all. In the absence of any symptoms, STIs are less likely to be treated, thereby increasing the risk of HIV transmission.
- b. **Sexually transmitted infections (STIs):** Untreated STIs increase the risk of HIV transmission. Any ulcer or damage to the skin of the penis or the mucous lining of the vagina and cervix increases the risk of HIV transmission. STIs that cause ulcers or sores on genital organs make it easier for the HIV virus to enter the body. Also, abnormal genital discharge due to some STIs increases the risk of HIV transmission because of the large number of white blood cells.
- c. **Type of sex:** Anal sex has a higher risk of transmitting HIV infection as compared to vaginal sex. Although anal sex is more common among men who have sex with men (MSM), a large number of heterosexual partners also practice it. The receptive partner is at greater risk of getting HIV infection as compared to the penetrating partner during anal sex.

Anal sex carries a higher risk of HIV transmission because:

- Anus does not have the ability to secrete lubricating fluid like the vagina. It also does not easily expand like the vagina during sexual intercourse. These two factors increase the risk of damage to the inner lining of the anus and rectum. HIV can easily enter the body through the damaged lining.

- ❑ HIV stays longer in the rectum of the recipient partner in anal sex. The longer the HIV virus remains in the body, the greater its opportunity to enter the body.

Notably, although vaginal sex carries a lower risk of HIV transmission than anal sex, it is still the commonest mode of HIV transmission in the country. This is mainly because of the large number of people who engage in unprotected vaginal sex.

Oral sex can transmit HIV infection if there is contact with genital fluids and blood through cuts or wounds in the mouth, bleeding gums, etc.

## II. Blood transfusion

The risk of HIV transmission through blood transfusion is very high if the blood is infected. Mandatory HIV testing before transfusion of blood has greatly reduced this mode of HIV transmission. There is, however, a small risk in case the infection is in its window period. Window period is the duration between the entry of HIV in the body and detection of antibodies against it through blood testing. Antibodies reach detectable levels only within three months. The government's strategy of placing greater emphasis on voluntary blood donation after a self-assessment of risks by donors has further increased the safety of blood transfusion.

## III. Parent-to-child transmission

HIV transmission from mother to child can occur during pregnancy, delivery and breastfeeding. The greatest risk is during delivery. The risk of transmission is higher if the mother has either acquired the infection recently or is in advanced stages of the disease.

## IV. Intravenous injections

Sharing needles and syringes increases the risk of HIV transmission. Such behaviour is commonly observed among injecting drug users (IDUs). Sharing needles for intravenous use increases the risk of HIV infection because the blood covering the needle carries HIV, which gets direct access to the blood of the person who uses the needle next.

### 8.1.3 Levels of risk for getting HIV infection

The following situations carry no risk for acquiring HIV infection:

- ❑ Drinking water or eating food from the same utensil that an infected person used
- ❑ Using wells or bathing/washing places used by people with HIV
- ❑ Getting bitten by a person with HIV
- ❑ Socialising or casually living with people having HIV
- ❑ Hugging, kissing or shaking hands with a person having HIV
- ❑ Caring and looking after people with HIV
- ❑ Casual contact, such as by sitting next to an infected person, by coughing or sneezing, or from water, food, clothing, utensils, etc.
- ❑ Donating blood
- ❑ Working with people who are infected with HIV
- ❑ Sex between partners who have always been mutually faithful

The following situations carry **low risk** for acquiring HIV infection. They are the safer sex practices.

- Deep kissing where no blood is exchanged
- Mutual masturbation
- Massaging each other's bodies
- Oral sex by a woman on a man wearing a condom
- Having vaginal or anal sex with a condom

The following situations carry **high risk** for getting HIV infection:

- Having vaginal or anal sex with a person without using condoms
- Having sex with a person who has sexually transmitted disease(s)
- Deep kissing where blood is exchanged
- Wearing condom after contact with the partner's sexual organs
- Oral sex by either a man or a woman with a man who is not wearing condom
- Oral sex by either a man or a woman with a woman
- Transmission of HIV infection from the mother to her unborn or newborn child
- Sharing injection needles for injecting drugs
- Getting a transfusion with HIV-infected blood or its products

The following situations **increase the risk** of engaging in high-risk behaviour:

- Having alcohol before having sex
- Having drugs before having sex
- Having sex when one is emotionally disturbed with feelings of insecurity, anger, frustration, etc.
- Spending time with a partner in privacy without buying condoms beforehand

#### **8.1.4 Link between STIs and HIV infection**

- Genital ulcers increase the risk of HIV transmission because the virus can easily enter the body through broken skin or mucous membrane.
- During abnormal genital discharge, greater number of HIV is shed and HIV survives longer. This also increases the risk of HIV transmission.
- Herpes virus and HIV have a symbiotic relationship. If they occur simultaneously, HIV rapidly progresses to AIDS.
- Since both STIs and HIV infection transmit through unprotected sex, anyone who has STIs is at a greater risk of HIV infection because of his/her sexual behaviour. On the other hand, if STIs are treated early and completely, the risk of HIV infection greatly reduces.

## 8.2 Prevention of HIV infection

Preventive measures for prevention of HIV infection depend on the mode of transmission. Detailed below are the preventive measures for healthcare providers and the four common modes of transmission.

### 8.2.1 Prevention of HIV transmission in healthcare settings

Practicing universal precautions consistently and following the recommended guidelines for wastes disposal can prevent HIV transmission in healthcare settings. Universal precautions are a set of guidelines to protect you (and other healthcare staff) and patients from accidental exposure to disease-causing agents (pathogens) present in blood and other body fluids of patients. Examples of these disease-causing agents are HIV, Hepatitis B virus and Hepatitis C virus.

#### Importance of universal precautions

People infected with viruses such as HIV, Hepatitis B and Hepatitis C remain asymptomatic for a very long time. They do, however, have the ability to transmit the infection to others through sexual contact and/or contact with various body fluids. This is why universal precautions need to be practiced for all patients because you will not know if they are infected with HIV, Hepatitis B or Hepatitis C virus.

There are **four** main rules for following universal precautions:

- i. Considering all patients as potentially infectious and carrying blood borne pathogens in their blood and body fluids
- ii. Considering that all blood, body fluids and tissues that need universal precautions are contaminated with blood borne pathogens
- iii. Considering non-sterilised needles and sharps as carriers of blood borne pathogens
- iv. Assessing and identifying risks before starting any procedure, because the type of protection used should be appropriate for the type of procedures to be performed and the type of exposure you expect

There are **four** main features of universal precautions:

- i. Wearing personal protective equipment
- ii. Preventing injuries with any sharp instruments, needles, etc.
- iii. Hand washing
- iv. Safe decontamination of instruments and other contaminated equipment

Let us look at key aspects of universal precautions in greater detail.

#### i. Using personal protective equipment/barriers

Protective barriers are equipment that reduce the risk of exposure of skin and mucous membrane to infected body fluids. They include gloves, gowns, masks, protective eyewear and shoes. Guidelines for choosing protective barriers for different types of exposure are listed in Table 7.

**Table 7:** Guidelines for using protective barriers

<b>Level of risk</b>	<b>Procedures that carry risk of exposure</b>	<b>Recommended protective barriers</b>
<b>Low risk</b> – contact with skin but without any visible blood	<ul style="list-style-type: none"> <li>• Injections</li> <li>• Minor wound dressing</li> </ul>	Gloves are helpful but are not essential
<b>Medium risk</b> – Possibility of contact with blood or other body fluids, but without the risk of a splash	<ul style="list-style-type: none"> <li>• Vaginal examination</li> </ul>	<ul style="list-style-type: none"> <li>• Gloves</li> </ul>
	<ul style="list-style-type: none"> <li>• Insertion or removal of intravenous cannula</li> <li>• Handling of laboratory specimens</li> <li>• Dressing large open wounds</li> <li>• Cleaning spills of blood</li> <li>• Venepuncture (puncturing veins to draw blood)</li> </ul>	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Aprons may be necessary</li> </ul>
<b>Medium risk</b> – probable contact with a splash of blood or other body fluids	<ul style="list-style-type: none"> <li>• Intubation</li> </ul>	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Apron</li> <li>• Goggles</li> <li>• Mask</li> </ul>
<b>High risk</b> – possibility of contact with blood, splashing or uncontrolled bleeding	<ul style="list-style-type: none"> <li>• Major surgeries</li> <li>• Vaginal delivery</li> </ul>	<ul style="list-style-type: none"> <li>• Gloves</li> <li>• Water proof gown or apron</li> <li>• Goggles</li> <li>• Mask</li> <li>• Shoes</li> </ul>

Heavy-duty rubber gloves should be used for cleaning instruments, handling soiled linen and dealing with spills.

**ii. Preventing injuries from sharp instruments, needles, etc.**

Injuries with sharps can occur either during use or after use. During use, healthcare providers doing the procedure and their assistants are at risk of injuries from sharps. Solid needles normally cause injury when the needle pricks the tip of the index finger during suturing. Hollow-bore needles normally cause injury while drawing blood. The risk of injury is higher when a hand is used instead of tying a tourniquet while giving injections and during a needle biopsy. Other sharps like surgical instruments normally cause injury while they are being passed from one person to another.

**After use**, sharps normally cause injury when:

- Sharps are left on the surface and not discarded properly
- Recapping needles
- Passing sharps and sharp instruments
- Attempting to mutilate or bend a needle
- Adopting inappropriate methods for discarding and sorting sharps

### iii. Disposal of needles and sharps

Accidents with needles and sharps are the most common mode of transmission of blood borne viruses and bacteria in hospital staff. Having two different sizes of specially designed, puncture-resistant metal containers for sharps' disposal can prevent such accidents. The small container needs to be placed on treatment trays and near operating tables, while the larger container needs to be placed in treatment rooms and nursing stations.

The following **six** steps can prevent injuries caused by sharps:

1. Do not recap needles and do not bend them or break them by hand.
2. Discard disposable needles and other sharps immediately after use into puncture-resistant containers, which should be located at the site of the procedure.
3. If a needle has to be removed from a syringe, use needle forceps and exercise utmost care.
4. Do not pass sharps from one person to another. The person who uses the sharps should pick up the instrument and drop it into the sharps container after use.
5. During surgery, if sharps need to be passed, use an instrument transit tray and not pass directly by hand.
6. Never overfill a sharps container; all sharps containers should be emptied when they are 75% full.

Take care to prevent injuries by sharp instruments, especially from hollow bore needles that have been used for drawing blood from veins and other procedures that require the needle to enter veins.

### iv. Reducing the risk of injuries during surgery

There are **five** ways to reduce the risk of injuries during surgery:

1. Not retracting the tissues with hands
2. Ensuring good co-ordination among members of the team
3. Concentrating on the procedure
4. Taking care with the cautery tip at all times
5. Not grabbing instruments from the tray; use an intermediate transit tray to reduce accidents while reaching for instruments

Risk of injuries due to needles and sharps can be reduced by:

1. Avoiding needle and sharp tip contact
2. Using instruments to grasp needles and sharps and not picking them up with fingers
3. Never retrieving needles and sharps with fingers
4. Moving unused and used sharps out of the surgical field
5. Shielding the scalpel to prevent the surgeon from inadvertently injuring assistants
6. Exercising care with wires and long pins

Risk of injuries while tying sutures can be prevented by tying the knot away from the needle and clamping the needle with the tip in the clamp and then cutting off the suture.

### 8.2.2 Prevention of sexual transmission of HIV infection

Sexual transmission of HIV can be avoided through adoption of 'ABCD' guidelines and prevention and early treatment of STIs.

The ABCD guidelines include:

A.	<b>A</b> bstaining from sexual intercourse. This is, however, difficult for many people.
B.	<b>B</b> eing in a mutually faithful relationship
C.	<b>C</b> onsistent use of condoms
D.	<b>D</b> oing non-penetrative sexual intercourse; this means avoiding anal, vaginal or oral intercourse and adopting safer options such as mutual masturbation

In addition to the above, it is also important to reduce the number of sexual partners and the frequency of sexual intercourse.

**Syndromic management of STIs:** The government has expanded and strengthened the programme for early diagnosis and treatment of STIs using an approach called 'syndromic management of STIs'. In this approach, along with risk reduction counselling, simultaneous treatment is given to all infections that cause similar symptoms. This approach helps start the treatment early, without waiting for laboratory investigations, and allows treatment of mixed infections.

### 8.2.3 Prevention of HIV transmission through needles and syringes

Practice of universal precautions in healthcare settings prevents transmission of HIV in health facilities. Among injecting drug users (IDUs), targeted interventions are implemented in areas with high prevalence of injecting drug use so as to promote safer behaviours, including use of safe needles and syringes. The government has a needle exchange programme, wherein IDUs are provided safe needles and syringes and motivated to wean away from a culture of needle sharing.

### 8.2.4 Prevention of HIV transmission through blood transfusion

It is mandatory for all blood banks to test all the blood for HIV before transfusion. In India, enhanced programmatic focus on blood safety has considerably brought down the risk of HIV transmission through blood transfusion. However, as mentioned earlier, there exists a small risk of HIV transmission in case the blood is collected in the window period.

National AIDS Control Programme's (NACP) emphasis on blood safety also lays emphasis on voluntary donation, where prospective donors from a low-risk population do a self-assessment of their risks and then donate blood. A large number of blood banks have also started doing component separation, which means separating various components of blood and transfusing only those that are essential. This ensures more effective use of blood and blood products.

In the case of planned surgeries, some people may opt for autologous blood transfusion, which means that the patient receives his/her own blood that was collected and stored a couple of weeks before surgery.

### **8.2.5 Prevention of mother-to-child transmission of HIV transmission**

The government has accepted recommendations of the Technical Resource Group on PPTCT, which are based on WHO guidelines, to reduce mother-to-child transmission of HIV infection. The decision has been taken to give lifelong ART to all positive pregnant women irrespective of their CD4 count and to give ARV prophylaxis to all HIV-exposed infants for at least six weeks.

### **8.3 Natural progression of HIV infection**

The natural history of any disease describes the stages through which it passes if no treatment or any other intervention is initiated. Knowledge of the natural history of a disease helps in identifying the stages at which appropriate intervention for prevention or control of the disease can be made.

#### ***How HIV affects the body***

HIV begins to affect the body as soon as it enters it, irrespective of its route. It mainly affects a type of white blood cells called the T helper (CD4) lymphocyte. These cells are responsible for the body's immunity. As HIV begins to multiply, the numbers and functions of CD4 cells decline. As a result, the body's immunity declines. With decrease in body's immunity, the infected person develops several diseases, such as infections and some types of cancer, etc. The timeframe between HIV's entry into the body and development of AIDS varies from person to person.

#### **I. Window period**

As soon as HIV enters the body, antibodies start developing to fight it. The antibody level is, however, not high enough to be detected through routine blood tests. The period between HIV's entry into the body and the detection of its antibodies is called the 'window period'. It lasts up to three months. During the window period, the infected person has high viral load and a higher risk of HIV transmission to others.

Window period is not the same as 'incubation period', which is the term used to describe the duration between entry of pathogen into the body and the first signs and symptoms of illness.

#### **II. Asymptomatic period**

This period ranges from three months after infection to up to two to ten years. During this time, HIV continues to multiply in the body and the immunity keeps declining. Blood tests can detect HIV infection during this period. The infected person does not, however, have any symptoms. He/she can transmit the infection to others.

The duration of the asymptomatic period depends on various factors, such as frequency of engaging in high-risk behaviours, immunity of the person at the time of infection, lifestyle, nutrition, stress and frequency of illness episodes.

#### **III. Symptomatic period**

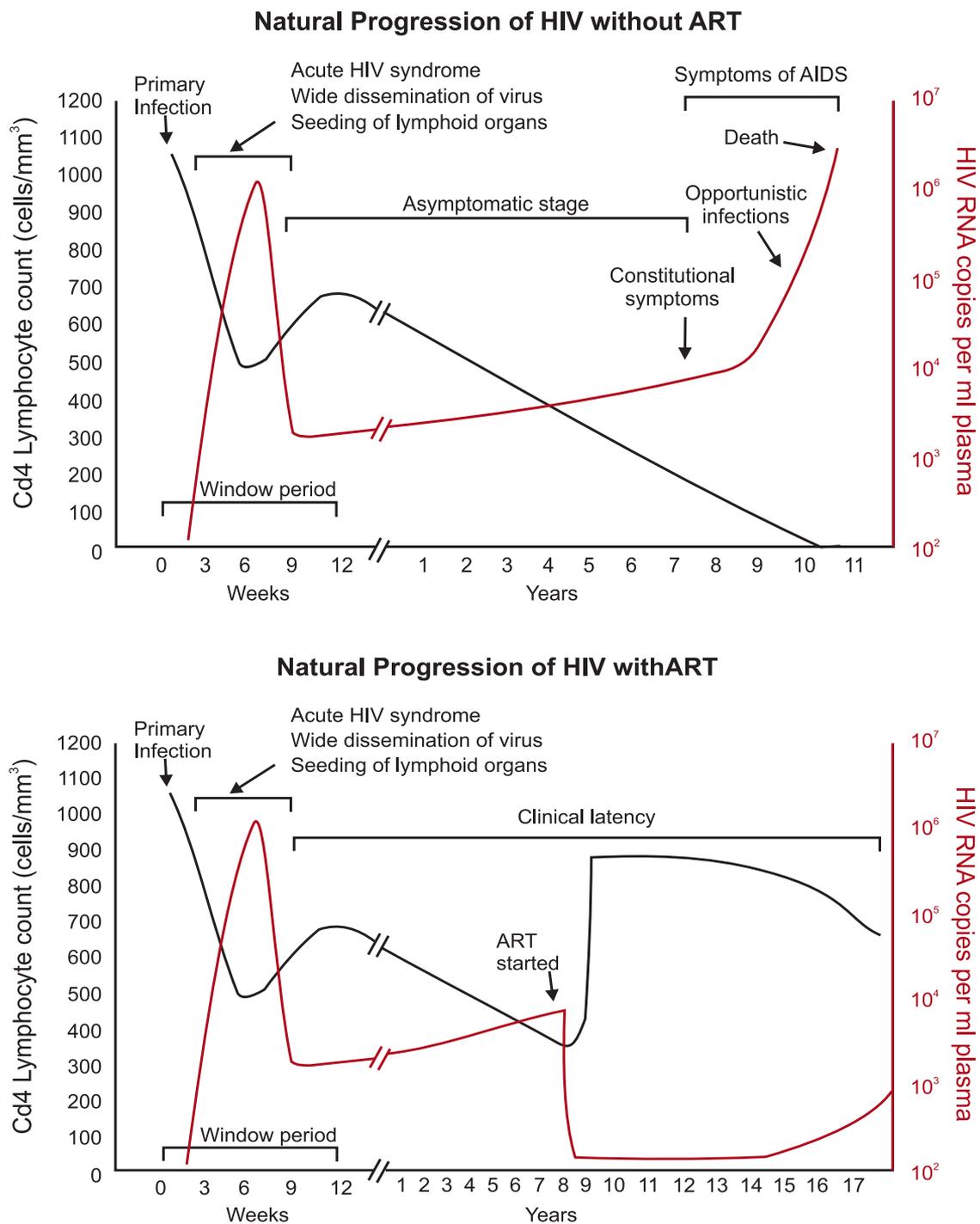
After the asymptomatic period, which ranges between two to ten years, the infected person begins to get frequent episodes of minor and major ailments. Opportunistic infections (OIs) begin to affect at this stage. The duration of illness also increases. With ART, a symptomatic person can become asymptomatic for varying periods of time. Some people may also keep

shifting between being asymptomatic and symptomatic for many years. Death occurs due to OIs, which might occur either singly or in groups.

Tuberculosis (TB) is the most common OI in India. All patients with TB are referred for HIV counselling and testing. Similarly, all HIV-positive people are routinely screened for TB.

The progression of HIV infection can be measured through CD4 count. Normal CD4 count in healthy adults ranges from 800–1,200 cells/mm<sup>3</sup>. The risk of OIs increases as the CD4 count drops.

**Figure 15: Natural progression of HIV infection with and without ART**



## **8.4 Diagnosis of HIV infection**

There are two types of blood tests for detecting HIV infection – screening test and confirmatory test.

**Screening test** is done using whole blood finger prick test. The test helps to detect the presence of HIV in a person's blood. The results are available in less than half an hour. A person with reactive screening test result needs to go for confirmatory tests in order to confirm his/her HIV status. A person with non-reactive screening test result does not require repeat HIV test unless appearance of symptoms.

**Confirmatory testing** is done, after pre-test counselling and taking informed consent, through three rapid antibody tests at the ICTC. Post-test counselling is done while disclosing the test result to the person tested. A person with negative HIV result is tested again after three months to rule out the effect of the window period. Confidentiality is maintained by ICTC.

## **8.5 Treatment for HIV infection**

As mentioned earlier, HIV infection does not have a cure but can be managed with treatment. A combination of three antiretroviral therapy (ART) drugs is recommended for all pregnant women, others with CD4 count less than or equal to 500, and HIV-positive people with TB (irrespective of CD4 count). Benefits of ART include increase in the number of CD4 cells and, therefore, increase in immunity. There is a decrease in the viral load because of control over multiplication of HIV virus in the body. Thus, although ART does not stop HIV transmission, it does reduce its probability because of reduced viral load.

Once started, ART has to be taken for life. Adherence is very important to prevent drug resistance and to maximise the benefits of viral suppression. Many people find the side effects of ART very troublesome. However, most side effects subside within two to three weeks. Treatment education and pre-test counselling with emotional support during this period make it easier for positive people to adhere to the ART regimen.

## 9. The PPTCT Programme

The **vision** of the national prevention of parent-to-child transmission of HIV (PPTCT) programme is to ensure that women and children are alive and free from HIV.

The **goal** of the programme is to work towards elimination of HIV in children and to improve maternal, newborn and child health and survival in the context of HIV infection.

The programme has **five objectives** to achieve this goal:

- I. *Detect HIV infection* in pregnant and breast feeding women
- II. Provide access to *comprehensive PPTCT services* to HIV-positive pregnant women
- III. Provide access to *early infant diagnosis (EID)* to HIV-exposed infants (this refers to infants born to HIV-positive mothers)
- IV. Ensure access to *antiretroviral drugs (ARV) prophylaxis* or antiretroviral therapy to HIV-exposed infants
- V. Ensure *compliance to ART* in HIV-positive pregnant women and to ARV/ART in HIV-exposed children

It has **four approaches** for preventing HIV transmission in women and children. These are:

- I. Primary prevention of HIV in the general population
- II. Prevention of unintended pregnancies in HIV-positive women
- III. Prevention of mother-to-child transmission of HIV
- IV. Care, support and treatment of HIV-positive mother and HIV-exposed child

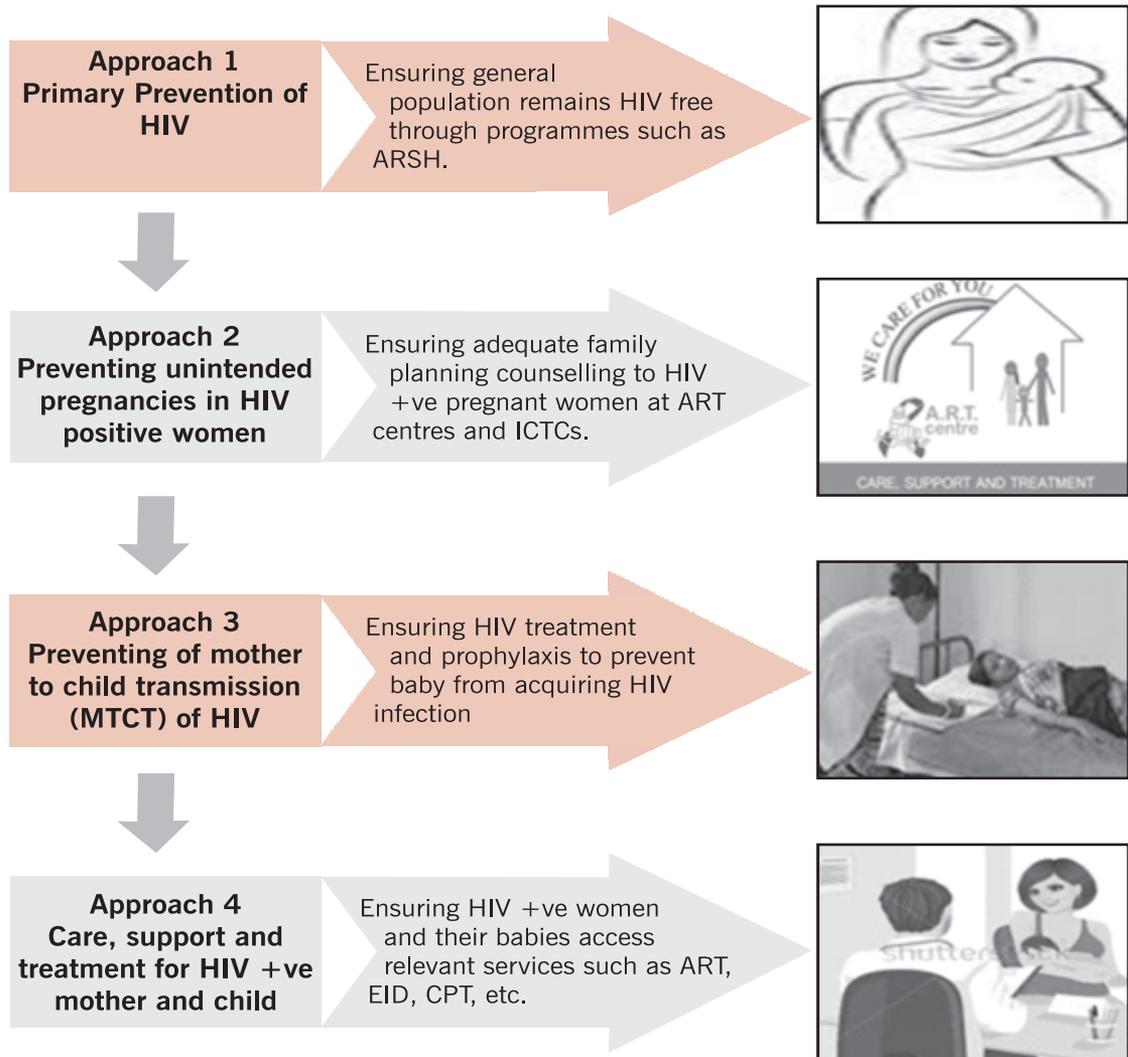
### **Approach 1: Primary prevention of HIV**

This approach works towards preventing HIV infection in women, especially those of child-bearing age. Programmes such as Adolescent Reproductive and Sexual Health (ARSH) can help prevent HIV infection in adolescent girls and women through HIV education, increasing access to condoms and increasing their ability to insist on safer sex. Such activities are carried out by, among others, auxiliary nurse midwife (ANM), Anganwadi worker (AWW) and NGOs working for HIV prevention and through mass media.

### **Approach 2: Preventing unintended pregnancies in HIV-positive women**

It is every woman's right to choose to have or not have a child, irrespective of her HIV status. However, prevention of unplanned and unintended pregnancies among HIV-positive women is important for reducing the number of babies exposed to HIV infection. Family planning counselling is ideally provided to every HIV-positive woman of child-bearing age at ART centres. It would also be helpful if such counselling pre-test counselling is given during all contacts with other service providers, such as at ICTCs and other health facilities.

**Figure 16:** Four approaches of the PPTCT programme



### **Approach 3: Preventing HIV transmission from HIV-positive pregnant women to their babies**

Steps should be taken to start three-drug ART for HIV positive pregnant woman when they first come in contact with the health service provider. This can be during antenatal care (ANC), during delivery or even during breastfeeding. Every HIV-exposed baby is also started on Nevirapine (NVP) prophylaxis at birth and is continued on it till 6 weeks of age. The duration of NVP can be increased to 12 weeks in three situations:

- i. ART was started during delivery
- ii. ART was started after delivery
- iii. Mother had taken ART for less than 24 weeks before delivery (This is important because it takes at least 24 weeks after starting ART for the viral load to decrease to a level that has the least risk of HIV transmission to the baby.)

In case the baby is not breastfed at all, NVP is stopped at six weeks irrespective of when ART was started on the mother.

## **Approach 4: Providing care, support and treatment to HIV-positive women, their children and families**

It is important to prevent HIV transmission from mothers to babies. It is equally important to ensure that HIV-positive parent(s) live a long and healthy life. It is also essential that their families provide them with the necessary support. Efforts are, therefore, necessary to ensure that HIV-exposed babies and their parents access ART and other treatment services regularly and avail all other care and support services accessible to them. Family counselling is also provided as necessary at ART centres, ICTCs and all other agencies involved in HIV prevention, care and support.

PPTCT services are integrated with general health services such as basic antenatal care (ANC), natal and postnatal care (PNC), sexual reproductive health and family planning, early infant diagnosis (EID), paediatric ART, ARSH, TB and services related to sexually transmitted infections (STIs) and reproductive tract infections (RTIs). Special efforts are made to strengthen PNC for HIV-infected mothers and their infants.

### **9.1 Essential package of PPTCT services**

The PPTCT programme provides all pregnant women access to services related to diagnosis, prevention, care and treatment of HIV infection. Integration of PPTCT services delivery within the existing reproductive and child health (RCH) programme is essential.

A total of **eleven** services are included in the essential package of PPTCT services. Of these, two are for greater involvement of families, five are for HIV-positive women and four for HIV-exposed infants. The 11 services under the three heads are listed below.

#### **Services for greater involvement of families**

1. Moving from “ANC-centric” approach to a “family centric” approach and ensuring involvement of spouse and other family members
2. Strengthening follow-up and outreach through ANMs, accredited social health activists (ASHAs), District Level Networks (DLNs) and other outreach workers to support HIV-infected pregnant women and their family

#### **Services for the mother**

3. Offering group or individual counselling routinely to all pregnant women attending antenatal clinics and then testing all pregnant women with ‘opt out’ option
4. Providing three-drug ART to all HIV-infected pregnant and breastfeeding women for life
5. Providing nutrition pre-test counselling and psychosocial support to HIV-positive pregnant and breast feeding women; nutrition support is given by establishing linkages with ANMs, ASHAs, community outreach workers and DLNs to advise the women on the right foods to take; DLNs also offer peer pre-test counselling and psychosocial support
6. Providing care for associated conditions such as STI, RTI, TB and other OIs
7. Promoting institutional delivery for all HIV-positive pregnant women; ANMs, ASHAs or other community workers need to accompany the positive pregnant woman for institutional

delivery; sensitisation and capacity building of healthcare providers at all levels is done to reduce stigma and discrimination of positive pregnant women

### **Services for the HIV-exposed infant**

8. Providing pre-test counselling and support for initiation of exclusive breastfeeding within an hour of delivery and to continue exclusive breastfeeding for six months; after six months, complementary feeding should be given along with breastfeed (A small number of babies born to HIV-infected mothers who have serious illness or have died and a few reluctant mothers [who at their own risk despite counselling] may decide not to breastfeed but adopt exclusive replacement feeding [ERF]).
9. Providing ARV prophylaxis to HIV-exposed infants from birth up to a minimum period of six weeks
10. Integrating follow-up of HIV-exposed infants into routine healthcare services, including immunization
11. Ensuring initiation of co-trimoxazole prophylactic treatment (CPT) and EID at 6 weeks of age and following the EID guidelines subsequently

The PPTCT programme requires that all pregnant and breast feeding women be offered HIV pre-test counselling and testing services. The National AIDS Control Organization (NACO) and National Health Mission (NHM) have placed greatest emphasis on all pregnant women learning about their HIV status as a routine part of antenatal screening blood tests. Other services for pregnant women based on their HIV status and services for HIV-exposed infants are listed below.

#### ➤ **Services for HIV-negative pregnant women**

- Safe sex counselling
- Couple counselling
- Linkages to family planning services
- Distribution of free condoms
- Behaviour change communication (BCC) for high-risk women and their sexual partners
- Repeat HIV testing, considering window period if the spouse/partner is positive or if the pregnant woman or her partner has high-risk behaviour
- Infant feeding and nutrition counselling

#### ➤ **Services for HIV-positive pregnant women**

- Antenatal care (at least four visits should be ensured)
- Counselling on choices for continuation or medical termination of pregnancy (MTP) within the first three months of pregnancy
- Screening for TB and other OIs
- Screening and treatment for STIs
- WHO clinical staging and CD4 testing

- Information on positive living, safe delivery, birth planning and infant feeding options
- Couple and safe sex counselling and HIV testing of spouse/partner and other living children
- Linkage to ART services
- Providing ART regardless of the clinical stage and CD4 count
- Nutrition counselling and linkage to government/other nutrition programmes
- Family planning services
- Exclusive breastfeeding reinforcement and infant feeding support through home visits
- Psychosocial support through follow-up counselling, home visits and support groups

➤ **Services for HIV-exposed infants**

- Exclusive breastfeeding for up to six months and continued breastfeeding in addition to complementary feeds from 6 months up to 1 year for early infant diagnosis (EID) negative babies and up to 2 years for EID positive babies who receive paediatric ART
- Postpartum NVP prophylaxis for infant for minimum six weeks
- EID at 6 weeks of age; repeat testing at 6 months, 12 months and 6 weeks after 18 months of breastfeeding
- Co-trimoxazole prophylaxis from 6 weeks of age
- HIV care and paediatric ART for infants and children diagnosed as HIV positive through EID
- Growth and nutrition monitoring
- Immunizations and routine infant care
- Gradual weaning after six months and introduction of complementary feeds from six months onwards along with continuation of breastfeeding for at least 1 year to ensure adequate growth and development of the child
- Confirmation of the HIV status of all babies at 18 months, using all three rapid antibody tests

## **9.2 General principles**

The general principles related to PPTCT services are as follows:

- Informed consent should be taken from all antenatal cases as per guidelines.
- Individual and group pre-test counselling should be done to inform all pregnant women about the comprehensive package of antenatal screening, including HIV testing and its benefits. The screening package also includes routine antenatal screening tests such as haemoglobin (Hb %), urine albumin/sugar, VDRL/RPR, and blood grouping and typing.

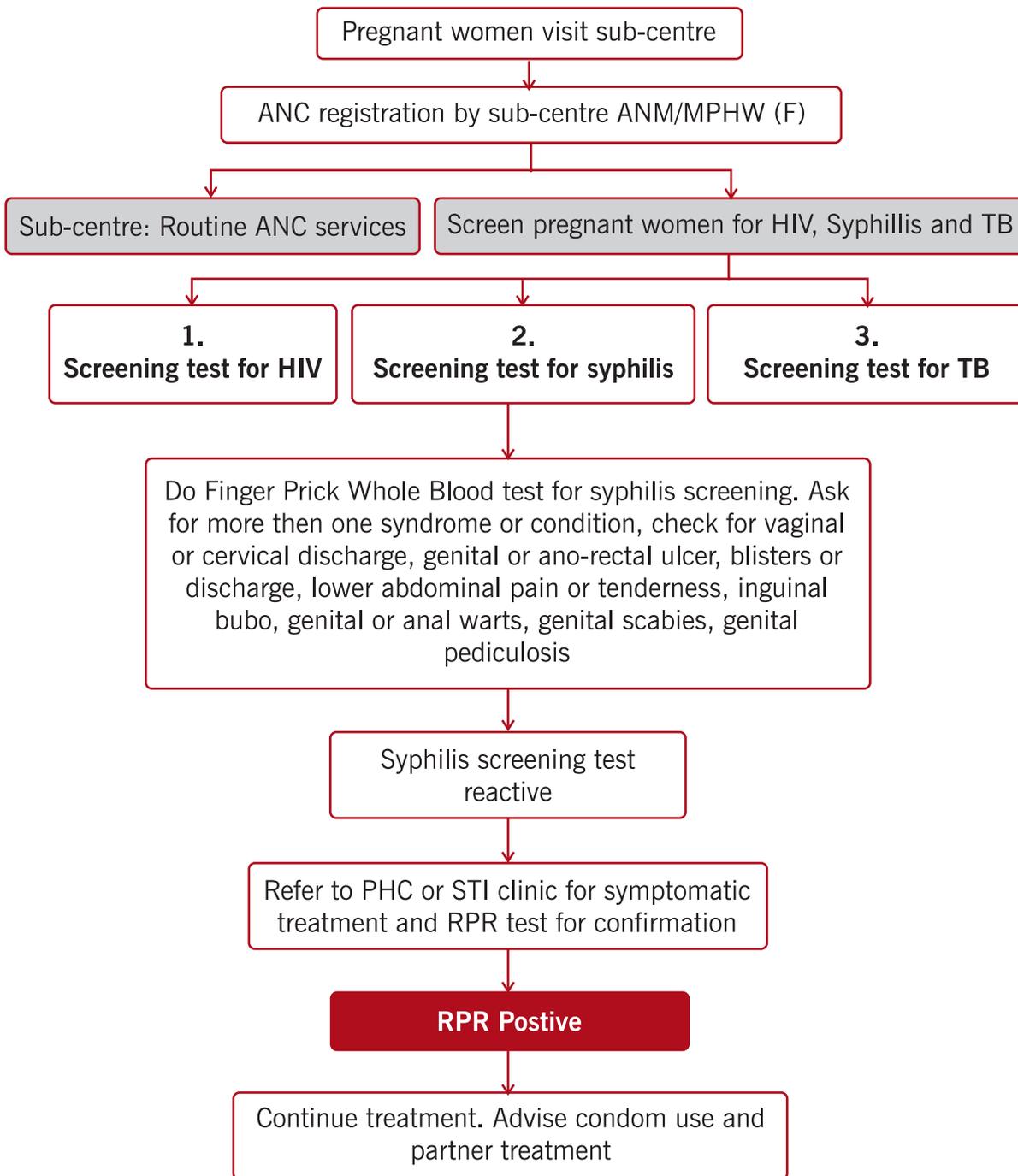
- ❑ Pregnant women who opt out of HIV testing should be offered repeat pre-test counselling to explore the reasons for opting out, address any misunderstandings and encourage them to reconsider their decision. These women should be offered routine HIV testing at each subsequent clinic visit.
- ❑ Post-test counselling should be done for all pregnant women based on the result of the HIV test. Those with negative HIV test result should be educated on how to remain negative for life. Those with positive HIV test result should receive counselling, support and referrals to care and treatment services.
- ❑ Pregnant women referred by ANMs after reactive whole blood finger prick screening test result should reach stand-alone ICTC for confirmatory test. As per the ICTC protocol the women should again receive pre-test and post-test counselling. .
- ❑ Disclosure of HIV status is to be done only at standalone ICTCs after appropriate confirmatory testing as per laboratory guidelines (post-test counselling) and only by trained health staff (Medical Officer, Nurse or Counsellor).
- ❑ All pregnant women referred to other HIV services, including ART centre, should be tracked to ensure that they actually reach the service delivery points and are registered at the respective centres.
- ❑ Husband/partner and other children, if any, should be tested for HIV as per ICTC guidelines.
- ❑ Involvement of husband/partner during pregnancy and thereafter is important. Couple counselling should be done to encourage mutual psychosocial support, link the mother to the ART centre, and ensure regular ARV prophylaxis for the baby and for family planning.

### **9.3 Antenatal screening for HIV, syphilis and TB**

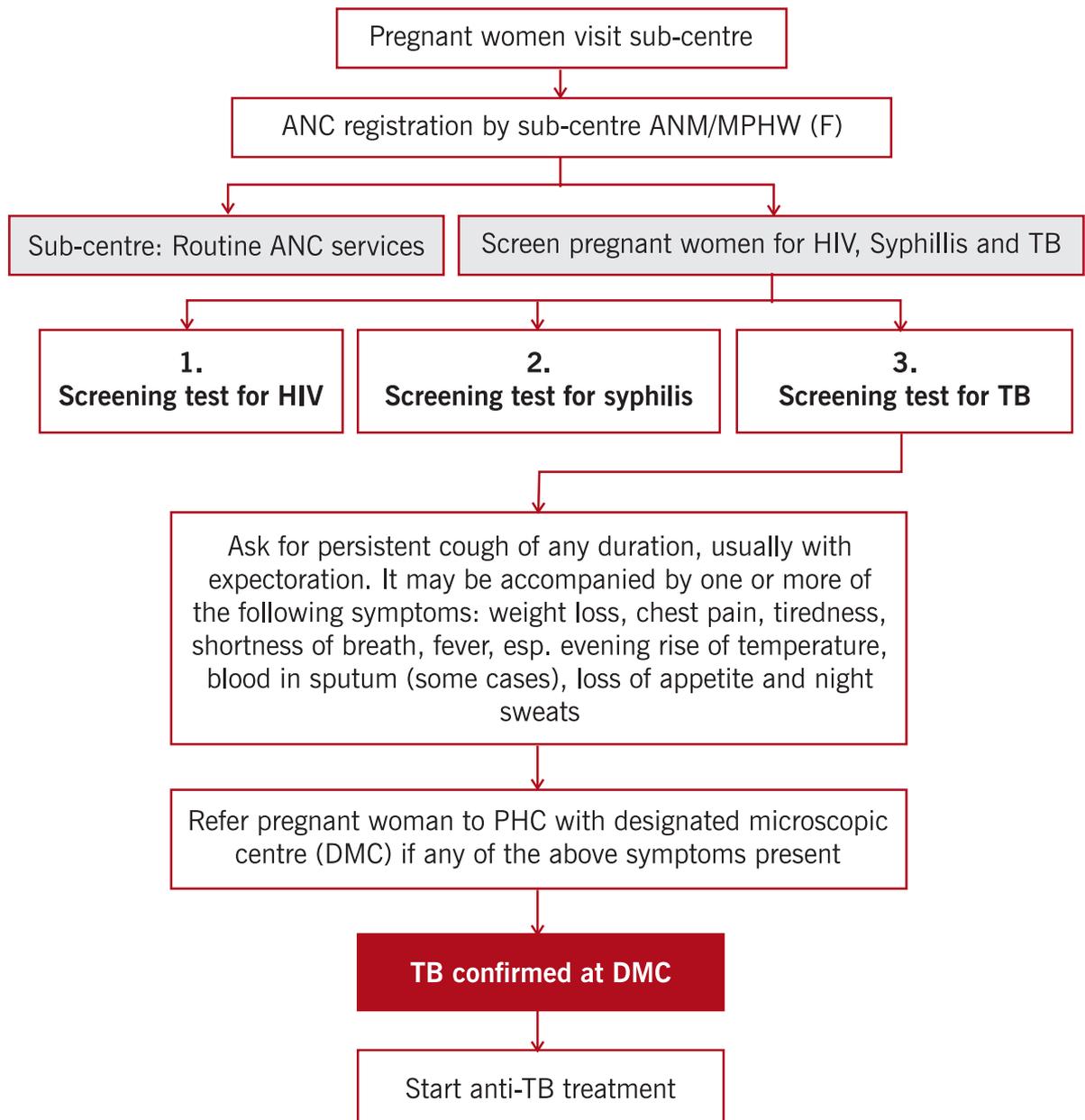
The ANM at the village/sub-centre level does the screening test for HIV and syphilis using the whole blood finger prick test. If the syphilis test is reactive, the pregnant woman is referred to the designated STI/RTI clinics or PHC with RPR testing facility for confirmation of syphilis. If the HIV test is reactive, the pregnant woman is referred to standalone ICTC for confirmation of HIV by three rapid tests. The patient then receives pre-test counselling at the ICTC by the ICTC counsellor. ICTC collects 5 ml blood for HIV rapid tests and RPR test. After HIV and RPR testing, the patient returns to the ICTC counsellor for post-test counselling. During post-test counselling, the ICTC counsellor provides the HIV and syphilis test report and counsels the patient to go to the STI/RTI clinic for further follow-up and advice from the STI/RTI counsellor and Medical Officer for treatment, if required.

The ANM also checks for TB symptoms and refers pregnant women to designated microscopic centre (DMC) at PHC if there is persistent cough for any duration. The cough may be accompanied by one or more symptoms, including weight loss, chest pain, tiredness, shortness of breath, and fever, particularly rise of temperature in the evening. Some women may also have blood in their sputum, loss of appetite and night sweats. All HIV-positive pregnant women are referred to the Revised National Tuberculosis Control Programme (RNTCP) for TB diagnosis and treatment at the earliest. Figure 17, Figure 18 and Figure 19 describe ANC services that are to be offered to pregnant women for screening HIV infection, syphilis and TB, respectively.

**Figure 18:** Antenatal services related to syphilis (for pregnant women)



**Figure 19:** Antenatal services related to TB (for pregnant women)



### 9.3.1 Sexually transmitted infections and reproductive tract infections

Sexually transmitted infections (STIs) and reproductive tract infections (RTIs) are known to cause infertility and increase the risk of acquiring HIV infection. Controlling STIs helps prevent HIV infection and provides opportunities for providing pre-test counselling about HIV prevention and reproductive health.

As mentioned earlier, the WHO-endorsed syndromic case management (SCM) approach is the cornerstone of STI and RTI management. This approach classifies STIs and RTIs into syndromes, which are easily identifiable groups of symptoms and signs, and provides treatment for the most common organisms causing the syndrome. It achieves high cure rates as it provides immediate treatment without waiting for laboratory investigations and is accompanied by risk reduction pre-test counselling and support, including partner treatment, condom promotion, counselling for preventing similar infections in future and referral for HIV testing. Table 8 lists the treatment regimens recommended for various syndromes.

**Table 8:** Syndromic management of STIs and RTIs

Syndrome	Treatment	Colour coded kits for treatment
Urethral discharge Cervicitis Ano-rectal discharge Painful scrotal swelling Presumptive treatment	Tab. Azithromycin 1 g (1) and Tab. Cefizine 400 mg (1)	Grey
Vaginitis	Tab. Secnodazole 2 g (1) and Tab. Fluconazole 150 mg (1)	Green
Genital ulcer disease – non-herpetic	Inj. Benzathine penicillin 2.4 MU (1) and Tab. Azithromycin 1 g (1)	White
Genital ulcer disease – non-herpetic: for patients allergic to penicillin	Tab. Doxycycline 100 mg (30) and Tab. Azithromycin 1 g (1)	Blue
Genital ulcer disease – herpetic	Tab. Acyclovir 400 mg (21)	Red
Lower abdominal pain	Tab. Cefixime 400 mg (1) and Tab. Metronidazole 400 mg (28) and Cap. Doxycycline 100 mg (28)	Yellow
Inguinal bubo	Tab Doxycycline 100 mg (42) and Tab. Azithromycin 1 g (1)	Black

### 9.3.2 HIV-TB collaborative activities

The risk of active tuberculosis (TB) is about ten times higher in HIV-infected pregnant women compared to HIV-negative women. Active TB in HIV-infected pregnant women can contribute to increased risk of maternal mortality and is also associated with prematurity, low birth weight and perinatal tuberculosis among infants. A recent study in India found that maternal TB increases the risk of HIV transmission from mother-to-child by two-and-a-half times. The key TB prevention interventions recommended by WHO at HIV care settings include airborne infection control and isoniazid preventive therapy (IPT). NACP is currently implementing airborne infection control measures like fast tracking of cough symptomatic patients, promotion of cough hygiene, etc., at ART centres. Further, the National Technical Working Group (NTWG) on TB-HIV collaboration at NACO endorsed IPT as a strategy and recommended its implementation at all ART centres in the country.

Along with TB prevention, early detection and treatment of HIV-TB are also important for reducing mortality. NACP and RNTCP jointly implement various activities, as listed below, to ensure early detection and treatment.

#### Activities for early detection of HIV associated TB

- HIV testing of presumptive TB cases
- HIV testing of diagnosed TB patients
- Intensified case finding (ICF) for TB at ICTC
- ICF at ART centres

## Activities to ensure early treatment of HIV

- ❑ Linkage of HIV-TB cases to ART
- ❑ Initiation of HIV-TB cases on ART

**HIV testing of presumptive TB cases:** Detection of HIV by offering HIV tests to diagnosed TB patients is being jointly implemented by NACP and RNTCP since 2007–2008. The two programmes together offer HIV testing during evaluation of patients with TB symptoms. This activity is expected to expedite detection of HIV by two to four weeks, leading to early linkage to treatment and, hence, reduction in mortality.

**Intensified TB case finding at ART centres:** ICF at ART centres has been in implementation since 2010. It is now being implemented at all ART centres, Link ART centres and Link ART plus centres.

## 9.4 Care and assessment of HIV-infected pregnant women

HIV-infected pregnant women may present to ICTCs and ART centres at various stages of pregnancy, as indicated in Table 9. Pregnant women who are detected as being HIV-infected during ANC are initiated on ART (TDF + 3TC + EFV) regardless of their clinical stage or CD4 count. It is, however, important to obtain samples of blood for CD4 count and for baseline tests before initiating ART. Nonetheless, the initiation of ART should not be delayed for want of CD4 test results. Pregnant women who are detected as being HIV-infected by the screening test (by one test kit) during active labour should be initiated on ART but should be referred to ICTC for confirmation of HIV status at the earliest and linked to ART centre, if confirmed positive. Table 9 provides a summary of maternal lifelong ART and infant ARV for different clinical scenarios.

**Table 9:** Summary of maternal lifelong ART and infant ARV prophylaxis in different clinical scenarios

Scenarios	Different clinical scenarios	Maternal ART	Infant ARV prophylaxis	Duration of infant ARV prophylaxis
1	Mother diagnosed with HIV during pregnancy	Initiate maternal ART	NVP	6 weeks
2	Mother diagnosed with HIV during labour or immediately postpartum and plans to breastfeed	Initiate maternal ART	NVP	Extend NVP to 12 weeks
3	Mother diagnosed with HIV during labour or immediately postpartum and plans to exclusively breastfeed	Refer mother for HIV care and evaluation for treatment	NVP	6 weeks

Scenarios	Different clinical scenarios	Maternal ART	Infant ARV prophylaxis	Duration of infant ARV prophylaxis
4	Infant identified as HIV-exposed after birth (at 6 weeks or after, through infant or maternal HIV antibody testing) and is breastfeeding	Initiate maternal ART	NVP	Perform infant DNA/PCR if the child is 6 weeks old or older  Immediately initiate 6 weeks or longer NVP; Strongly consider extending this to 12 weeks
5	Infant identified as HIV-exposed after birth (through infant or maternal HIV antibody testing) and is not breastfeeding	Refer mother to ART centre after CD4 tests and baseline test and initiate treatment	No NVP (no drugs)	Do HIV DNA/PCR test as per national guidelines on EID  No ARV prophylaxis Initiate treatment if infant is infected
6	Mother receiving ART but interrupts ART regimen while breastfeeding	Continue the same ART regimen, counsel her for continuing ART without interruption	NVP	Until 6 weeks after maternal ART is restarted or until 1 week after breastfeeding has ended

### 9.4.1 Criteria for ART initiation

Initiation of ART in pregnant women needs to be done at the earliest and after adequate treatment preparedness for adherence so that she maintains her own health and also prevents HIV virus transmission to the unborn baby. In HIV-infected pregnant women, the dictum should be: “Do not delay ART initiation.” ART is to be initiated lifelong in all pregnant women with confirmed HIV infection regardless of WHO clinical staging or CD4 cell count. TDF + 3TC + EFV is recommended as first-line ART in pregnant and breastfeeding women, including pregnant women in the first trimester of pregnancy and women of childbearing age. ART has to be initiated only at the ART centre.

### 9.4.2 Indications for co-trimoxazole prophylactic treatment (CPT) in pregnancy

The indications for co-trimoxazole initiation in pregnant women are same as those for other adults, which is CD4  $\leq$  250 cells/mm<sup>3</sup>. Co-trimoxazole prophylaxis helps reduce morbidity and mortality as it prevents opportunistic infections (OIs) such as pneumocystis jiroveci pneumonia (PCP), toxoplasmosis, diarrhoea and other bacterial infections.

Co-trimoxazole should be continued through pregnancy, delivery and breastfeeding as per national guidelines. The dose is one double strength tablet every day. It is also important to ensure that the pregnant women take their folate supplements regularly.

## 9.5 ART for pregnant women

All HIV-infected pregnant and breast feeding women are seen as priority in ART centres. These women should receive lifelong ART irrespective of their CD4 count and WHO clinical staging. This line of treatment has two main purposes: improving health and prolonging the survival of the mother and reducing the risk of HIV transmission from mother to child during pregnancy, delivery and breastfeeding.

The HIV-infected pregnant women initiated on ART are referred for routine baseline clinical and laboratory evaluations as per national guidelines for adults and adolescents. Absence or delay of laboratory investigations should not prevent initiation of ART.

Pregnant women who are already receiving ART for their own health should continue to receive the same regimen throughout pregnancy, labour and breastfeeding period and lifelong thereafter. The treatment should **not** be changed if the HIV positive pregnant woman has stabilised on the regimen she is taking and is responding adequately.

### 9.5.1 First-line regimen

As mentioned earlier, all HIV-infected pregnant women should start ART as soon as possible and continue ART throughout pregnancy, delivery, breastfeeding period and lifelong thereafter. Even if a pregnant woman presents late in pregnancy, ART should be initiated immediately.

- ❑ The recommended first-line regimen is once daily fixed-dose combination (FDC) of Tenofovir (TDF) 300 mg + Lamivudine (3TC) 300 mg + Efavirenz (EFV) 600 mg. This regimen is to be given only if there has been no previous exposure to Nevirapine or Efavirenz.
- ❑ Infants of mothers who are receiving ART and are exclusively breastfeeding or doing exclusive replacement feeding should receive at least six weeks of infant prophylaxis everyday with Nevirapine syrup. Infant prophylaxis should begin at birth or when HIV exposure is known.

The recommended first-line regimen for pregnant and breastfeeding women is safe for both pregnant and breastfeeding women and their infants. It is well tolerated, has low monitoring requirements and is compatible with the other drugs used in clinical care. It is also harmonised with the new recommendations for non-pregnant women and men.

Alternate regimens for pregnant women who are unable to tolerate the preferred first-line regimen are:

- ❑ Zidovudine (AZT) + Lamivudine (3TC) + Efavirenz (EFV)
- ❑ Zidovudine (AZT) + Lamivudine (3TC) + Nevirapine (NVP)
- ❑ Tenofovir (TDF) + Lamivudine (3TC) + Nevirapine (NVP)

### 9.5.2 ART regimen for pregnant women with previous exposure to NVP or EFV

HIV-infected pregnant women who have previous exposure to SD-NVP for PPTCT prophylaxis in earlier pregnancies or ART regimen with either Nevirapine or Efavirenz should be given Tenofovir (TDF) 300mg + Lamivudine (3TC) 300mg once a day as one tablet **AND** Lopinavir (LPV) 200mg/ Ritonavir (r) 50mg twice a day as two tablets . The baby must receive syrup Zidovudine (ZDV) 2mg/kg/day after birth.

### 9.5.3 Clinical and laboratory monitoring of pregnant women receiving ART

In addition to the national guidelines for clinical and laboratory monitoring of HIV-infected adolescents and adults, the following points need focus in HIV-positive pregnant women:

- ❑ **Anaemia** is common during pregnancy, especially around 28–34 weeks of pregnancy. Clinically significant anaemia should be looked for in HIV-infected pregnant women and timely corrective measures taken.
- ❑ **WHO clinical staging** is done to monitor the pregnant woman clinically to assess potential disease progression or treatment failure. Liver function tests and renal function tests should also be done if clinical signs indicate a need.
- ❑ **Weight loss** is one of the indicators used to determine deteriorating clinical stage, but it can be difficult to assess during pregnancy. When defining the clinical stage of a pregnant woman, it is necessary to take into consideration her expected weight gain in relation to the gestational age of her pregnancy and her potential weight loss from HIV.
- ❑ **ART-related side effects** may overlap with common pregnancy conditions such as nausea and vomiting. Minor symptoms should be controlled symptomatically with medicines that are safe for use in pregnancy. Table 10 lists the major side effects of common ART drugs.
- ❑ **Absolute CD4 cell count** decreases during pregnancy because of pregnancy-related haemo-dilution. After delivery, when the body fluid changes to the non-pregnant state, CD4 levels may rise by 50–100 cells/ul. Therefore, comparing a decrease in absolute CD4 count in a pregnant woman on ART with the woman's CD4 values prior to pregnancy may not necessarily indicate immunologic decline and should, therefore, be interpreted with caution. In case of doubt, the pregnant woman should be referred to the State AIDS Clinical Expert Panel (SACEP).

After six months of pregnancy, in case the pregnant woman is unable to go to the ART centre, the ART drugs can be given to an authorised member of her family. Such dispensing of drugs to an authorised family member can continue for two more months after delivery.

**Table 10:** Common side effects of ART drugs

Name of drug		Major side effects
1.	Tenofovir (TDF)	Toxicity of kidneys Abnormally low level of phosphates in the blood
2.	Lamivudine (3TC)	Very few side effects Hypersensitivity in some people Inflammation of pancreas (rarely)
3.	Efavirenz (EFV)	Neuropsychiatric symptoms such as hallucinations, suicidal thoughts, nightmares, vivid dreams, etc.
4.	Lopinavir/ritonavir (LPV/r)	Disturbances of the digestive system Glucose intolerance Increased lipids in the blood Abnormal or degenerative condition of the body's fat tissue

## 9.6 Care of the HIV-exposed infants

Infants born to HIV-infected women receive some protection against mother-to-child HIV transmission through the mother's ART drugs. They do, however, need additional protection during labour and breastfeeding, especially if the mother started ART late in the pregnancy, did not take ART regularly during pregnancy and has not had the full effect of ART in terms of reducing the viral load in the blood. ARV prophylaxis is, therefore, recommended for all HIV-exposed infants for six weeks, irrespective of whether the baby is breastfed or not. The duration of prophylaxis is increased by another six weeks in case the baby is being breastfed and the mother had not received ART regularly for at least 24 weeks before delivery. Details of dosage and duration of daily Nevirapine prophylaxis for infants is given in Table 1.

At six weeks, co-trimoxazole prophylactic treatment (CPT) is started and continued till the baby is 18 months of age. Thereafter, CPT is continued in case the baby tests positive for HIV infection in the confirmatory tests. Routine immunisation is given to the baby at six weeks, which includes first dose of OPV and DPT and second dose of Hepatitis B vaccine.

Testing for early infant diagnosis (EID) is also done at six weeks through dried blood sample (DBS) for all HIV-exposed infants. If the test is positive, a second DBS blood sample is taken for further testing. In case the second DBS is also positive, paediatric ART is started, irrespective of CD4 cell count, for children less than 2 years of age.

In case the mother is breastfeeding the baby, she is to be educated on the importance of exclusive breastfeeding for the first six months and the dangers of mixed feeding. She must be informed that giving anything other than breast milk can increase the risk of HIV transmission to her baby. She should **NOT** give the baby any formula milk, cow milk or dairy milk, or any other liquids such as juice and water during first six months while (exclusively) breast feeding.

### ➤ Five DOs for infants at 6 weeks of age

1. Reinforce exclusive breastfeeding for the first six months and continuation of breastfeeding with the introduction of complementary feeds after six months
2. Perform EID testing

3. Start immunisation
4. Start co-trimoxazole prophylactic treatment (CPT) and continue it till the baby is 18 months old; the prophylaxis is continued longer if the baby tests positive for HIV at 18 months
5. Continue NVP prophylaxis for another six weeks if the mother had not taken ART for at least 24 weeks before delivery or the mother had not complied with the recommended ART regimen

### 9.6.1 Infant feeding practice

National Family Health Survey - Phase 3 (NFHS-3), conducted in 2005–2006, found that 57 percent of the women of child-bearing age had anaemia and about 30 percent infants were born underweight. If the children's nutritional status, especially anaemia, is not corrected by 2 years of age, the children suffer irreversible, adverse changes in growth and development, including in intellectual development. The national guidelines on feeding of HIV-exposed and HIV-infected infants recommend exclusive breastfeeding for at least six months. Exclusive replacement feeding should be considered only if breastfeeding cannot be done either because the mother has died or is severely ill. In some instances, a woman may choose exclusive replacement feeding despite repeated counselling. If so, exclusive replacement feeding should be recommended only if AFASS criteria, as explained below, are fulfilled.

#### AFASS criteria

**A**ffordable: The mother or caregiver can reliably afford to provide sufficient replacement feeding (milk) to support the normal growth and development of the infant.

**F**easible: It is feasible for the mother or caregiver to give exclusive replacement feeding for six months.

**A**cceptable: The family is supportive of exclusive replacement feeding and accepts it without forcing the mother to breastfeed.

**S**ustainable: The mother and the caregiver can sustain sufficient replacement milk for the first six months.

**S**afe: Safe water and sanitation are assured at the household level and the community for preparing clean feeds and the mother or the caregiver can prepare it frequently enough in a clean manner so that the feed is safe and carries low risk of diarrhoea and malnutrition.

After six months, complementary feeding should be introduced gradually, irrespective of whether the infant is diagnosed HIV-positive or HIV-negative by EID. Breastfeeding should be continued for 12 months for infants diagnosed as HIV-negative and 2 years for infants diagnosed HIV positive. It is important to ensure that the mother takes ART regularly throughout breastfeeding.

In case two DNA PCRs are negative, a third DNA PCR is repeated six weeks after stopping breastfeeding. In case the first DBS DNA PCR is positive, a second DBS DNA PCR test is done. If it is positive, ART is started for the baby. Using three rapid antibody tests, HIV confirmatory testing is done at 18 months for all babies, irrespective of whether the earlier EID was positive or negative and irrespective of whether the baby was on paediatric ART.

For babies put on paediatric ART, breastfeeding is recommended until the baby is 2 years old.

Breastfeeding should not be stopped abruptly and should be gradually decreased over a month before it is stopped.

## **9.7 Guidelines for HIV diagnosis in infants and children < 18 months**

HIV infection progresses very rapidly in babies who acquire it around the time of delivery. Studies have shown that if HIV infection is not detected early in babies and/or care and treatment is not given, 35 percent of the infected children die in the first year of life, 50 percent by their second birthday and 60 percent by their third birthday. There is persuasive evidence that infants with HIV infection have a significant survival benefit if ART is started as early as possible after HIV diagnosis. Early diagnosis of HIV infection in infants is, thus, extremely important.

The tests used to detect HIV infection in adults are not suitable for children below 18 (< 18) months. This is because antibodies from the HIV-infected mother are transferred to the baby during pregnancy, delivery and breastfeeding. In other words, most infants born to HIV-positive mothers test positive using standard HIV antibody tests such as rapid or ELISA until about 18 months of age. HIV antibody tests are, however, useful for identifying potentially uninfected infants as early as 6 to 18 months of age if they are not breastfed or if breastfeeding was stopped at least six weeks before testing.

### ➤ **HIV-1 DNA PCR testing**

It is recommended that all HIV-exposed infants and children < 18 months of age undergo HIV-1 DNA PCR testing at 6 weeks of age or at the earliest opportunity thereafter. NACO, thus, rolled out an initiative in April 2015 to diagnose HIV-1 infection in infants and children < 18 months with the following main objectives:

- I. Diagnosis of HIV-1 infection in infants and children < 18 months through DNA PCR
- II. Infant HIV-1 DNA PCR testing algorithm is to be universally followed and implemented on every HIV-exposed infant and child < 18 months or children < 18 months suspected to be HIV infected (on clinical evaluation where the mother's HIV status is not known) so as to ensure equal and routine access
- III. Exposed and infected infants and children < 18 months are to be linked to appropriate referral, care and treatment services to ensure timely intervention and reduce morbidity and mortality due to HIV infection

### ➤ **National algorithm for diagnosis of HIV-1 infection in infants and children < 18 months**

The national algorithm for diagnosis of HIV-1 infection in infants and children < 18 months provides guidance to clinical providers and lab personnel regarding issues related to testing of infants and children and their management. The algorithm describes the following six issues:

- I. Type of test to be performed
- II. Eligibility for the test
- III. When the test should be performed
- IV. Number of tests required for a positive diagnosis

- V. Actions to be taken if: (i) HIV-1 DNA is detected, (ii) HIV-1 DNA is not detected, or (iii) there is discordant result
- VI. Testing required in the context of breastfeeding

### 9.7.1 Eligibility

HIV-1 DNA PCR testing is recommended for infants and children < 18 months who are:

- a. Born to mothers who have a confirmed diagnosis of HIV infection from ICTC
- b. Sick with signs and symptoms of HIV, the mother’s HIV status is unknown, and have been referred by a Medical Officer or paediatrician

The national unified testing algorithm for HIV-1 exposed infants and children < 18 months indicates that both Rapid/ELISA tests and HIV-1 DNA PCR test have a role to play in diagnosis of infants and children < 18 months. The algorithm describes different steps for testing in HIV-exposed infants less than 6 months **and** above 6 months.

### 9.7.2 Testing HIV-exposed infants below 6 months of age

Screening of HIV-exposed infants between 6 weeks to below 6 months of age is done at ICTC. The lab technician collects and sends a dried blood spot (DBS) sample to the DNA PCR lab for HIV-1 DNA PCR testing. If the screening test result is “HIV-1 DNA not detected”, it is necessary to monitor the infant for symptoms suggestive of HIV infection. In case the infant develops symptoms before 6 months of age, HIV-1 DNA test should be repeated. If the infant remains asymptomatic, testing should happen at 6 months. Actions to be taken if the screening test detects HIV-1 DNA are listed in Table 11.

**Table 11:** Recommended actions if HIV-1 DNA PCR is detected in infants 6 weeks to < 6 months

	Test result	Recommended actions
1.	HIV-1 DNA detected in screening test	<ul style="list-style-type: none"> <li>• Send DBS sample for confirmatory HIV-1 DNA PCR</li> </ul> <p><b>Follow Advisory 1:</b></p> <ul style="list-style-type: none"> <li>• Start co-trimoxazole, if not already started</li> <li>• Assess and encourage breastfeeding if replacement feeding has not been started</li> </ul>
2.	HIV-1 DNA PCR detected in confirmatory test	<ul style="list-style-type: none"> <li>• Infant has HIV-1 infection</li> </ul> <p><b>Follow Advisory 2:</b></p> <ul style="list-style-type: none"> <li>• Continue co-trimoxazole</li> <li>• Manage OIs, if any</li> <li>• Start ART as per national protocol</li> <li>• If breastfeeding, continue as long as possible</li> <li>• Avoid mixed feeding</li> <li>• Test for HIV antibody at 18 months of age with three rapid tests</li> </ul>
3.	HIV-1 DNA PCR is not detected in confirmatory test	<ul style="list-style-type: none"> <li>• Request a fresh DBS sample from ICTC for a second confirmatory test</li> </ul>

Test result		Recommended actions
4.	HIV-1 DNA PCR is detected in the second confirmatory test	<ul style="list-style-type: none"> <li>• Infant has HIV infection</li> </ul>
5.	HIV-1 DNA PCR is not detected in the second confirmatory test	<p><b>Follow Advisory 3:</b></p> <ul style="list-style-type: none"> <li>• Infant is probably not infected but is at risk</li> <li>• Repeat HIV-1 DNA PCR by DBS at 6 months, 6 weeks after last breastfeeding, <b>or</b> if the infant develops symptoms suggestive of HIV infection, irrespective of age</li> <li>• Continue co-trimoxazole until definitely negative</li> <li>• Discourage early weaning</li> <li>• Ensure AFASS criteria are met before weaning</li> </ul>



Please remember that:

- Rapid antibody test is not recommended for HIV-exposed infants less than 6 months of age.
- HIV-1 DNA PCR is not recommended for babies less than 6 weeks of age.
- The optimum age for the first HIV-1 DNA PCR test is 6 weeks or above.

### 9.7.3 Testing HIV-exposed infants at or above 6 months of age

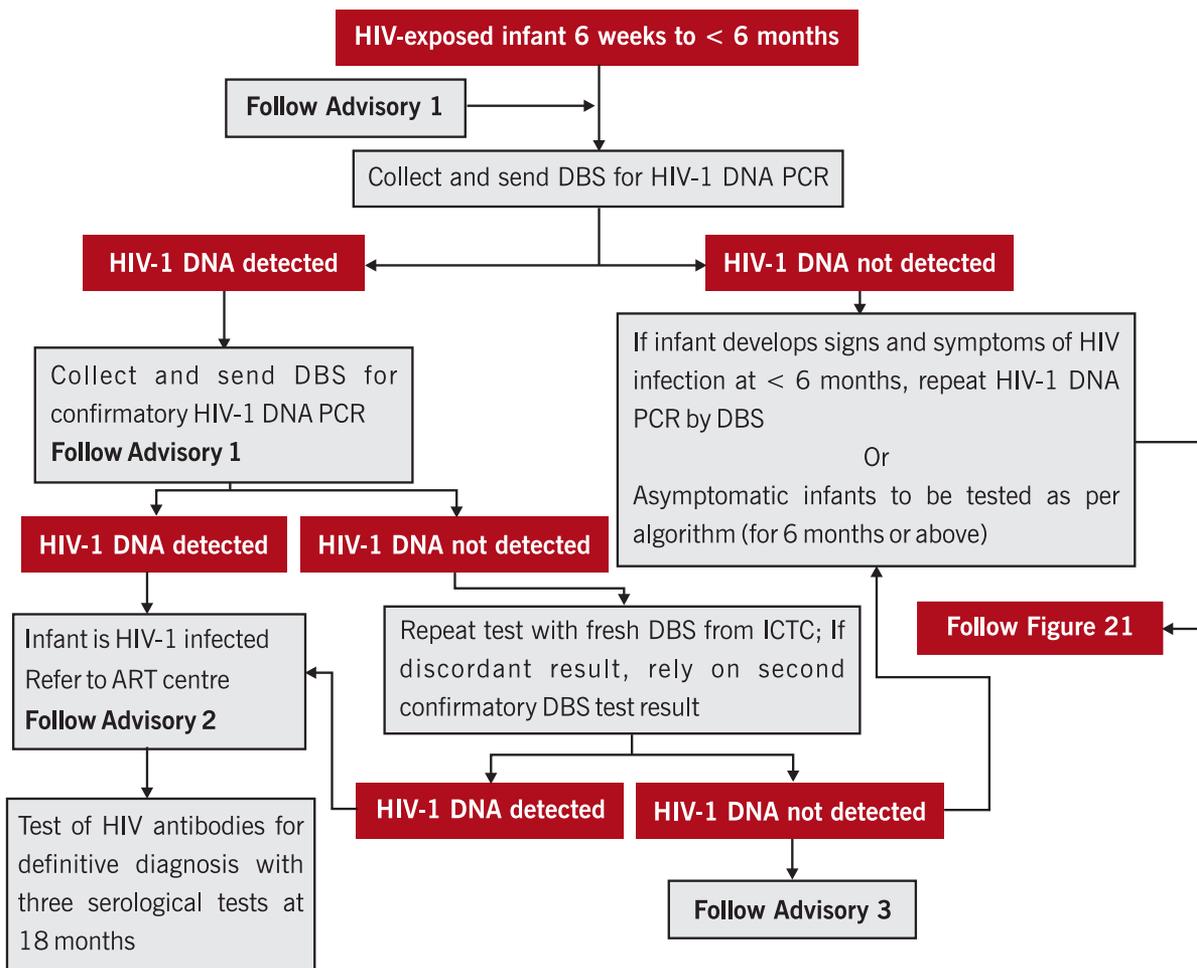
For screening of HIV-exposed infant 6 months old or more, blood is collected at ICTC for three serological (rapid) tests and a DBS sample is prepared. The recommended actions based on the results of the three serological tests are listed in Table 12.

**Table 12: Recommended actions based on rapid HIV test results in infants > 6 months of age**

Test result		Recommended actions
1.	HIV antibody test with three rapid (serological) tests is positive (reactive) for 1/2/all 3 tests	<ul style="list-style-type: none"> <li>• Send DBS sample to the ART centre for HIV-1 DNA PCR</li> <li>• Depending on the result of the first HIV-1 DNA PCR test, take actions for infants 6 weeks to &lt; 6 months</li> </ul>
2.	HIV antibody test with three rapid (serological) tests is negative (non-reactive) in all 3 tests	<ul style="list-style-type: none"> <li>• Infant does not need HIV-DNA PCR test</li> <li>• If the infant is breastfed during the six weeks before the tests, the infant is at risk but not currently infected</li> <li>• Repeat rapid HIV test six weeks after the last breastfeeding or if the baby develops symptoms suggestive of HIV infection</li> <li>• Using three rapid tests, test the infant for HIV antibodies at 18 months of age for definite diagnosis</li> <li>• If the infant is not breastfed during the six weeks before the test, the baby is not infected with HIV</li> </ul>

The national unified testing algorithm for HIV-1 exposed infants and children < 18 months is presented in three parts. **Figure 20** illustrates testing algorithm for infants 6 weeks to less than 6 months. **Figure 21** gives guidance for testing HIV-exposed infants who are 6 weeks or older. **Figure 22** describes algorithm for HIV-exposed infants whose antibody and HIV-1 DNA test result is negative.

**Figure 20:** Testing algorithm for HIV-1 exposed infants < 6 months of age



**Advisory 1**

- Start co-trimoxazole if not already started
- Assess and encourage breastfeeding if replacement feeding has not been started

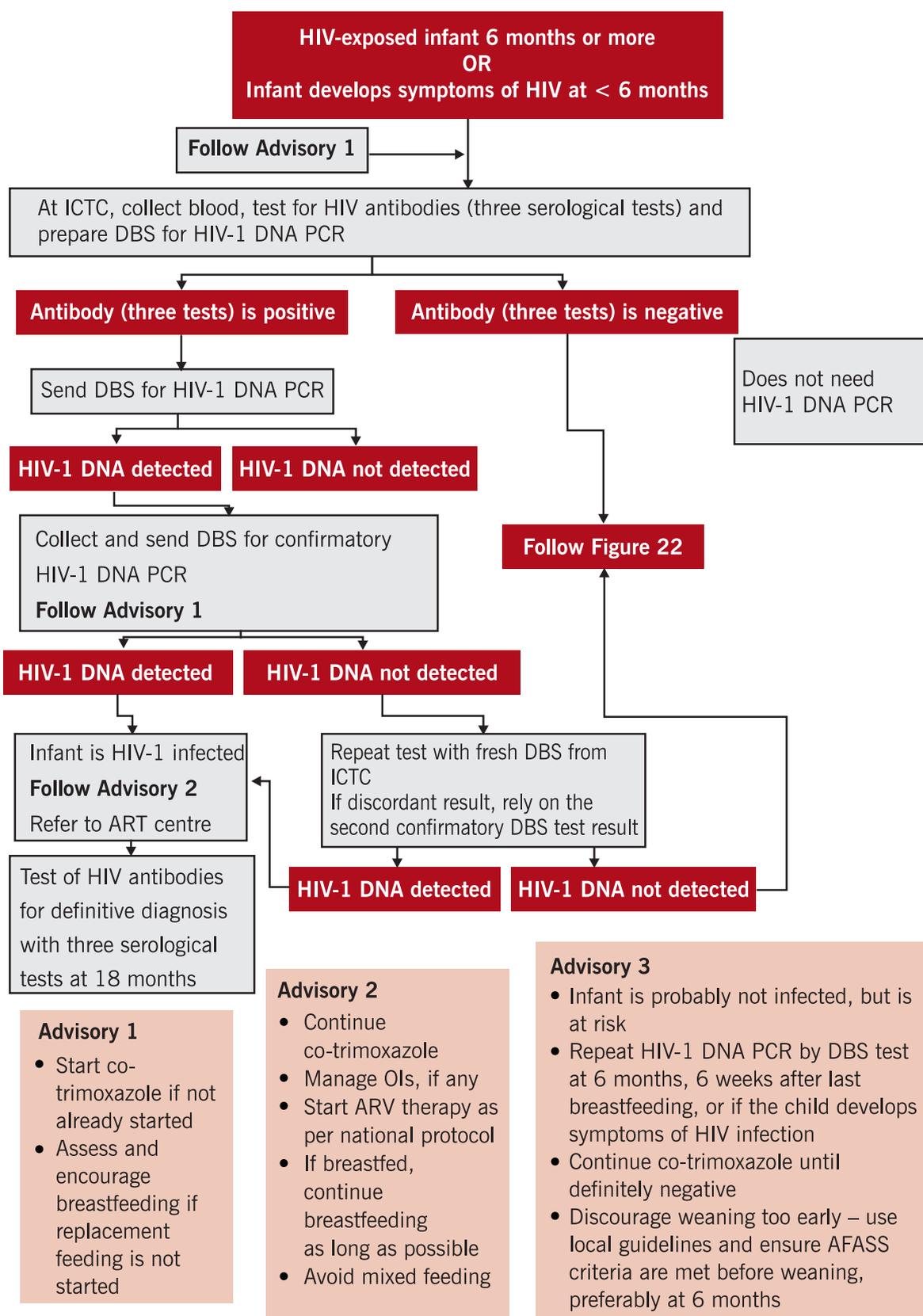
**Advisory 2**

- Continue co-trimoxazole
- Manage OIs, if any
- Start ARV therapy as per national protocol
- If breastfeeding, continue breastfeeding as long as possible
- Avoid mixed feeding

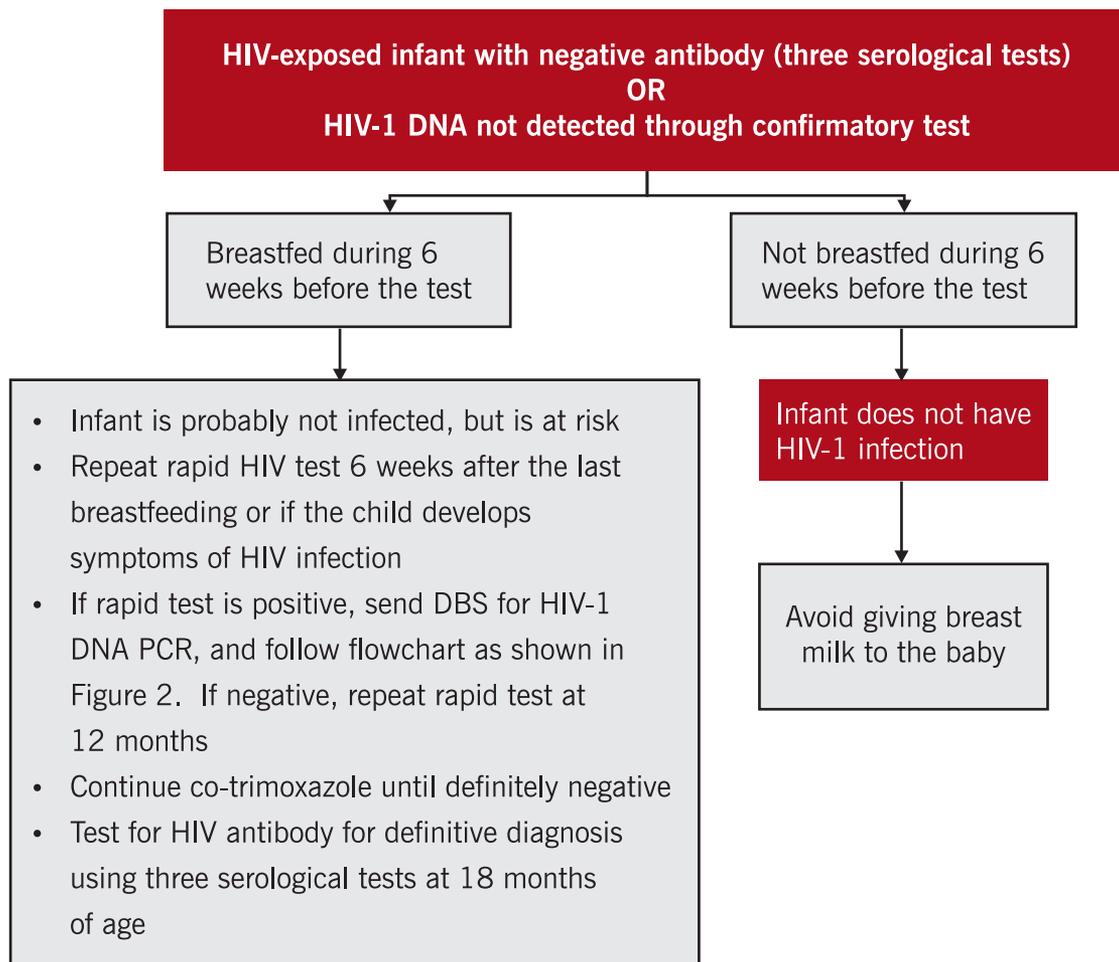
**Advisory 3**

- Infant is probably not infected, but is at risk
- Repeat HIV-1 DNA PCR by DBS test at 6 months, 6 weeks after the last breastfeeding, or if the child develops symptoms of HIV infection
- Continue co-trimoxazole until definitely negative
- Discourage weaning too early – use local guidelines and ensure AFASS criteria are met before weaning, preferably at 6 months

**Figure 21:** Testing algorithm for HIV-1 exposed infants of 6 months of age or more



**Figure 22:** Testing algorithm for HIV-1 exposed infants with negative antibody or HIV-1 DNA test



### Box 5 Universal Advisory

1. CPT to be started for all HIV-exposed babies from 6 weeks of age and continued until proven HIV negative by final confirmatory antibody test at age 18 months or later. All three antibody tests should be performed regardless of any interim HIV test results (DNA PCR or antibody) and irrespective of breastfeeding status. In case the baby is found to be HIV infected by the final confirmatory diagnosis, CPT should be continued until 5 years of age.
2. If the child has been started on exclusive replacement feeding, it should be continued for 6 months. Mixed feeding should be avoided as far as possible.
3. In children (< 18 months) with signs and symptoms of HIV whose exposure status is unknown, rapid test for HIV antibodies needs to be performed. If negative, child is labelled as uninfected. If positive, the algorithm relevant for the baby's age should be followed. Attempts should be made to determine the HIV infection status of the parents to determine if the child is HIV-exposed; thereafter, follow the algorithm to determine the infection status of the child.
4. In rare cases of sero discordance, that is, the infant tests negative on the antibody test after having been confirmed positive by DNA PCR, NACO (Labs Service Division, or Care, Support, Treatment Division) should be contacted.

## 10. Safer Surgical Techniques

Safer surgical techniques are useful in conducting any operative procedures, such as Caesarean section (C-section), repairing wounds and lacerations, etc. Some key safe surgical techniques are listed below:

- ❑ “Dry” haemostatic techniques, such as observing and following surgical fascial planes during dissection, judicious use of electro-cautery during C-section, etc., should be used to minimise bleeding.
- ❑ During C-section, the membranes should be left intact until the head is delivered through the surgical incision. The cord should be clamped as early as possible after delivery.
- ❑ Round-tip blunt needles should be used for C-section.
- ❑ Fingers should be used to hold the needle.
- ❑ Forceps should be used to receive the needle.
- ❑ Good practices for transferring sharps to surgical assistant, such as using a holding container for sharps, should be adopted.

# 11. Labour Room Requirements and Maintenance

The Indian Public Health Standards (IPHS) lists the following ten requirements for a fully equipped and operational labour room:

1. 1. A labour table
2. Suction machine
3. Facility for oxygen administration
4. Sterilization equipment
5. 24-hour running water
6. Electricity supply with back-up facility
7. Attached toilet facilities
8. New Born Care Corner (NBCC), as detailed ahead
9. **Emergency drug tray**, which has the following seven drugs:
  - a. Inj. Oxytocin
  - b. Inj. Diazepam
  - c. Tab. Nifedepine
  - d. Inj. Magnesium sulphate
  - e. Inj. Lignocaine hydrochloride
  - f. Inj. Methylergometrine maleate
  - g. IV Haemaccel
  - h. Sterilised cotton and gauze
10. Delivery kits, including those for normal delivery and assisted deliveries

Privacy of a woman in labour should be ensured as a quality assurance issue.

The recommended infrastructure for a labour room includes:

- A well-lit (preferably shadow-less) and ventilated room that is at least 3.8 m x 4.2 m in size
- Separate areas for septic and aseptic deliveries
- Attached toilet
- Drinking water facilities
- Designated areas for dirty linen, baby wash and sterilisation

It is essential that you follow the standard treatment protocols for common problems encountered during labour and for newborn care in the labour room. The labour room should have restricted entry, and separate footwear should be used. You also need to ensure that all the essential drugs and equipment (functional) are available. It is important to maintain the labour room clean by washing and mopping with disinfectants regularly. Guidelines for keeping labour room sterile at all times are described ahead.

IPHS guidelines also list the following desirable criteria for labour rooms:

- Delivery kits and other instruments shall be autoclaved where such a facility is available.
- If the labour room has more than one labour table, privacy of women must be ensured by having screens between two labour tables.

### **11.1 Configuration of Newborn Care Corner (NBCC)**

- A clear floor area should be provided in the labour room for the Newborn Care Corner (NBCC), where immediate care is provided to all newborns. It is the space within the labour room, 20–30 sq ft in size, where a functional radiant warmer must be kept. This space provides an acceptable environment for most uncomplicated infants born at full term. Services to be provided at NBCC include: (a) care at birth, (b) resuscitation, (c) provision of warmth, (d) early initiation of breastfeeding, and (e) weighing of the neonate.
- Oxygen, suction machine and simultaneously accessible electrical outlets should be provided for the newborn in addition to the facilities required for the mother. Both the oxygen cylinder and the suction machine should be functional with their tips cleaned and covered with sterile gauze, etc., for a ready-to-use condition. They must be cleaned after every use and kept in the same way for the next use. Clinical services provided here are administration of oxygen and airway suctioning.
- Resuscitation kit, including Ambu bag (paediatric size), should be placed in the radiant warmer.
- Provision of hand washing and containment of infection control should be available if it is not part of the delivery room.
- The area should be away from draught of air and should have a power connection for plugging in the radiant warmer.

### **11.2 Ensuring sterile environment in labour rooms**

Maintaining a sterile environment in the labour room at all times is essential to eliminate the risk of infection to women during delivery and their babies. The same measures are also relevant for the delivery of HIV-positive pregnant women.

**General measures** for maintaining a sterile labour room require that:

- Unnecessary entry to the labour room is restricted
- All staff members in the labour room wear mask while in the labour room
- Hospital staff helping during deliveries wear caps, mask, shoes/slippers and gown
- Individual autoclaved instrument set is provided for each delivery

**Monitoring of the sterile environment** is done by:

- Taking random swab sampling from surfaces and disinfecting articles every month
- Doing air quality sampling, using the Settle Plate method, every month

In addition to the above, steps to keep labour rooms sterile include:

- Cleaning and disinfection every morning
- Cleaning and disinfection after every delivery
- Need-based fogging

Let us learn more about these three key steps for keeping labour rooms clean and sterile.

### **I. Cleaning and disinfection every morning**

The following cleaning and disinfection activities should be done at the beginning of each day after wearing utility gloves:

- Cleaning floors and sinks with detergent (soap water) and keeping the floor dry at all times
- Cleaning table tops and other surfaces, such as light shades, almirahs, lockers, trolley, etc., with lock level disinfectant such as phenol (carbolic acid 2 percent)
- Cleaning monitor machines with 70 percent alcohol

The floor should also be mopped every three hours with a disinfectant solution.

### **II. Cleaning and disinfection after every delivery**

Wearing utility gloves is also necessary for the following cleaning activities that should be done after every delivery:

- Spillage of blood or other body fluids on the floor, if any, should be absorbed with newspaper, which must be discarded in the yellow bin. The area should be soaked in bleaching solution for ten minutes and mopped.
- Placenta should be discarded in the yellow bins.
- Waste and gloves should be discarded in the designated bins and not on the floor.
- Soiled linen should be discarded in the laundry basket and not on the floor. The soiled linen should be disinfected with bleaching solution before washing and then autoclaving.
- The table top should be cleaned with phenol or bleaching solution.

### **III. Need-based fogging**

Fogging is required after construction or renovation work in the health facility and after an infectious outbreak. It is done by:

- Using H<sub>2</sub>O<sub>2</sub> based commercially available disinfectant meant for fogging and mopping
- Spraying or mopping liberally in the room and on table tops in case the fogging equipment is not available and allowing 30 minutes contact time. It is not necessary to shut down the labour room.





# Short Summary Document





# Introduction

The Government of India (GOI) is committed to work towards achieving the global target of eliminating new HIV infections among children by 2015. Mother-to-child transmission of HIV can occur during pregnancy, delivery or breastfeeding, and is the main route of transmission of HIV to children. Since 2002, the National AIDS Control Programme (NACP) has been implementing Prevention of Parent to Child Transmission of HIV (PPTCT) programme. Through this programme, HIV testing services were offered to all pregnant women seeking antenatal care. In case a pregnant woman was found to be HIV positive, she was given single dose Nevirapine tablet before delivery and baby was given Nevirapine syrup soon after birth.

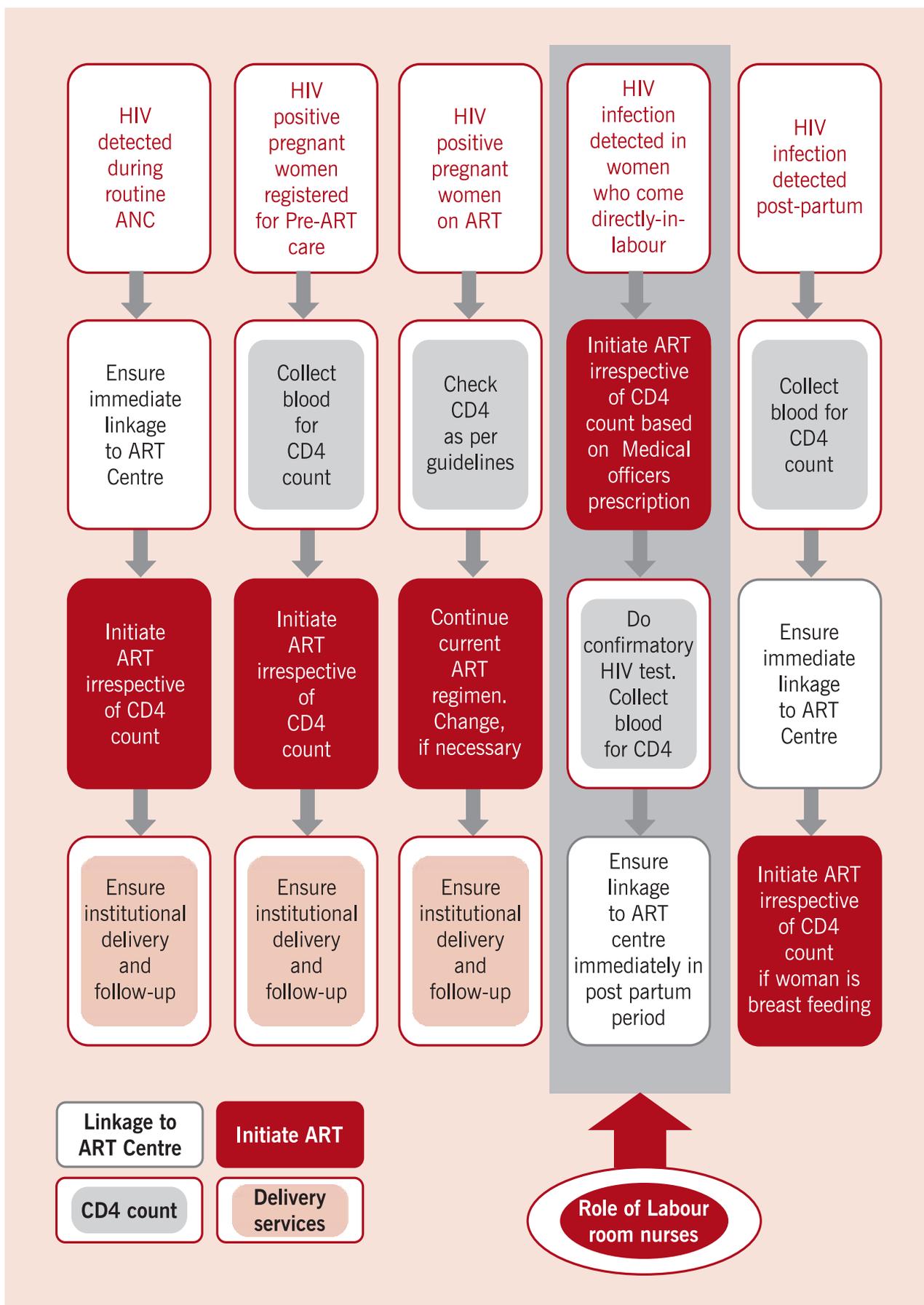
The World Health Organisation (WHO) studied evidence on mother to child transmission of HIV from around the world and modified the earlier guidelines to prevent mother to child transmission in June 2013. Based on these recommendations, the National Technical Resource Group (TRG) recommended lifelong three-drug ART regimen to all pregnant and breast feeding women, and to give Nevirapine prophylaxis (NVP) from birth to at least 6 weeks to HIV exposed infants (HEI), the term used for babies born to HIV positive mothers (Box 1). The National AIDS Control Organisation (NACO) has accepted the recommendation of TRG and plans to scale up the newer regimen across the country.

## **Box 1** National Technical Resource Group (TRG) recommendation on PPTCT

- a. All HIV positive pregnant and breast feeding women including those presenting in labour and breast feeding women with HIV should be initiated on a triple ART irrespective of CD4, for preventing Mother-to-Child Transmission risk and should continue lifelong ART.
- b. The duration of NVP to infant be minimum 6 weeks but more if ART to mother was started in late pregnancy, during or after delivery and has not been on adequate period of ART as to be effective to achieve optimal viral suppression (which is at least 24 weeks), then the infant NVP should be increased to 12 weeks. This recommendation on extended NVP duration applies to infants of breast feeding women only and not those on exclusive replacement feeding

The current guidelines describe steps in management of HIV infection in pregnant and breastfeeding women for prevention of mother to child transmission in five situations: (a) positive women on ART become pregnant, (b) positive women registered for pre- ART become pregnant, (c) HIV infection detected during pregnancy, (d) HIV infection detected during labour and (e) HIV infection detected during postnatal period (Figure 1:**Error! Reference source not found.**).

**Figure 1:** Management of HIV infection during pregnancy



The government is also committed to eliminate congenital syphilis and has drafted detailed guidelines for screening pregnant women for syphilis and initiating appropriate treatment to prevent congenital syphilis in the newborn.

Even though efforts are made to register all pregnant women in the early stage of pregnancy and motivate them to access antenatal care, many women go to a health facility only at the time of the delivery. **As labour room nurses, you therefore play an important role in HIV and syphilis screening of unregistered pregnant women who arrive to your health facility directly-in-labour..** This manual is meant as a learning document for labour room nurses who receive training on their roles and responsibilities for prevention of mother-to-child HIV transmission.

## **Roles and responsibilities of nurses in labour room**

As a labour room or ward nurse, you have four main responsibilities for preventing mother-to-child transmission of HIV and syphilis:

1. Counselling and screening for HIV and syphilis infection for direct-in-labour cases
2. Implementing guidelines for preventing mother-to-child transmission of HIV during labour and postnatal period
3. Facilitating treatment of syphilis positive pregnant women, her partner and newborn
4. Providing stigma and discrimination free services

In addition to the above four core responsibilities, you also need to document details about HIV screening and referrals, and practice recommended guidelines for infection control, which are the same as those for HIV negative women.



# Counselling and screening for HIV and Syphilis infections

Direct-in-labour cases who have either not been screened for HIV and syphilis during pregnancy or do not have documentary evidence of the test result should be counselled and then screened for HIV and syphilis infection. Tasks include:

- a. Pre-screening counselling, which includes history taking, providing information on HIV and AIDS and syphilis, and taking informed consent for HIV and syphilis screening
- b. Conducting HIV and syphilis screening through whole blood finger prick tests
- c. Providing post-screening counselling
- d. Maintaining confidentiality

**What is counselling?** Counselling is a process of assisting a person to explore their situations and difficulties, identify solutions and act upon them within the limitations of their environment. It is not giving advice, nor is it expecting or encouraging the person being counselled (client) to act in a specific way.

**Why counselling?** Counselling in HIV testing is done to prevent psychological, social and physical consequences on people by educating about facts of HIV and AIDS, and clarifying their myths and misconceptions before the test and educating about living healthy life despite HIV infection after a positive test result.

**The Aims of counselling** are to give information on HIV and AIDS, risk of mother to child transmission of HIV and PPTCT services including HIV screening test and options for preventing transmission of HIV to the baby.

**The six steps in counselling and HIV screening** in labour room are as follows:

1. **Creating a conducive environment** for counselling by ensuring privacy, talking softly, addressing doubts and concerns related to labour and childbirth, sharing information on the progress of labour and giving assurance of quality services to ensure mother and baby are safe and healthy
2. **Assuring confidentiality** by stating that the results of HIV and syphilis screening tests will not be disclosed without the woman's permission except among health care providers who are directly involved in her care
3. **History taking and pre-test counselling** where special emphasis is given on history of previous syphilis and HIV test and if any ART drug have been taken earlier (including single dose-Nevirapine in earlier pregnancies, if any). Pre-test counselling should include details about transmission of syphilis and HIV from mother to child, HIV screening and confirmatory

tests, the right to take the test or not and options available to prevent HIV transmission to the newborn and early treatment of congenital syphilis, is required

4. **Taking informed consent** orally after ascertaining that the woman has understood facts of HIV screening and confirmatory tests and risk of HIV transmission to the baby
5. **Performing the screening tests** for HIV and syphilis using whole blood sample from a finger prick and following the recommended guidelines for doing the test
6. **Doing post-test counselling**, which is especially important if syphilis and/or HIV screening test results is reactive. After disclosing the test result, prophylaxis for her and the newborn should be discussed. Anxiety, fear or any other similar reaction to the reactive test result should be managed

Pregnant women whose HIV screening test is reactive need to confirm their HIV status through ICTC services on the next working day. ICTC counsellor and lab technician will visit the women in the labour room or postnatal ward and do the HIV confirmatory test after counselling. Syphilis should also be confirmed if screening test result is reactive and appropriate treatment initiated as per the government guidelines.

## Process of doing HIV screening test

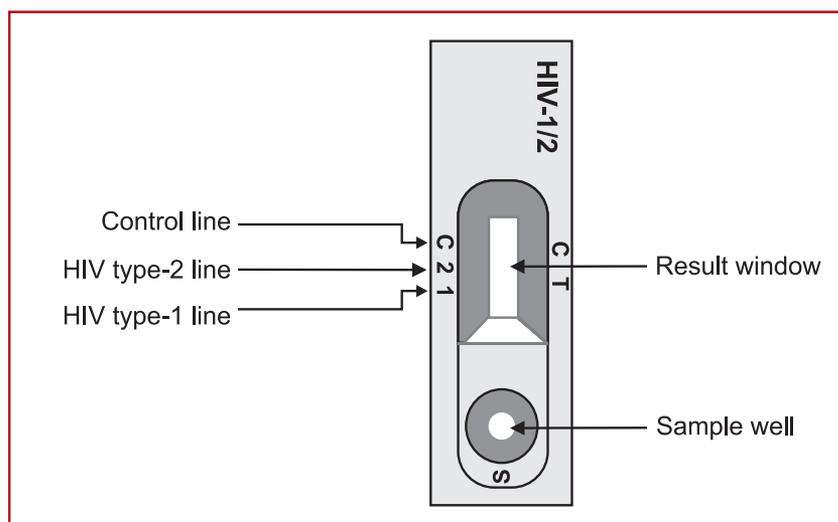
A rapid HIV screening test using whole blood from a finger prick is recommended for direct-in-labour cases. The test kit includes:

- a. Test pouch or test device
- b. Alcohol swab
- c. Lancet
- d. Assay diluents
- e. Disposable capillary pipette

The test device or pouch has the following parts, which are illustrated in **(Figure 2)**:

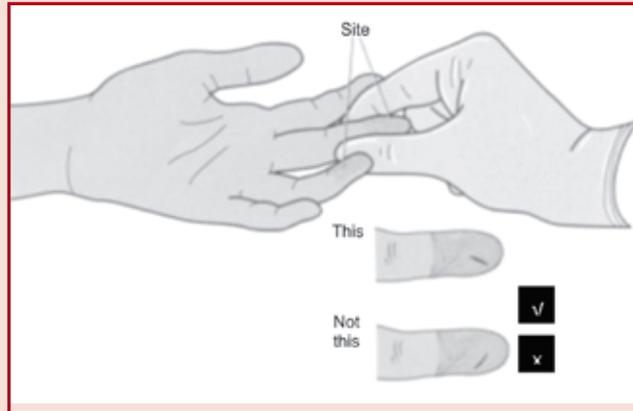
- a. A sample well, where you will put recommended volume of blood
- b. A result window, which as C and T written on top and C, 1 and 2 written at the bottom
- c. "C" denotes control and "T" denotes test
- d. "1" denotes HIV-1 and "2" denotes HIV-2

**Figure 2:** Overview of HIV screen test device



There are ***nine*** steps for doing the HIV screening test:

1. Check the expiry date. If the expiry date has passed, use another kit. Next, check the desiccant. If the colour is green, use another kit.
2. Put on the gloves
3. Open the test pouch and write patient's hospital number on the test device



Recommended sites of finger puncture

4. Choose the fingertip of the middle or ring finger as shown below



Selecting the site to be pricked

5. Open the alcohol swab and clean the patient's middle or ring finger from the middle out to reduce contamination. Allow the area to air dry before pricking, or the test may NOT work. Do not touch the area



Clean the fingertip with alcohol. Work from the middle out to reduce contamination. Allow the area to dry.

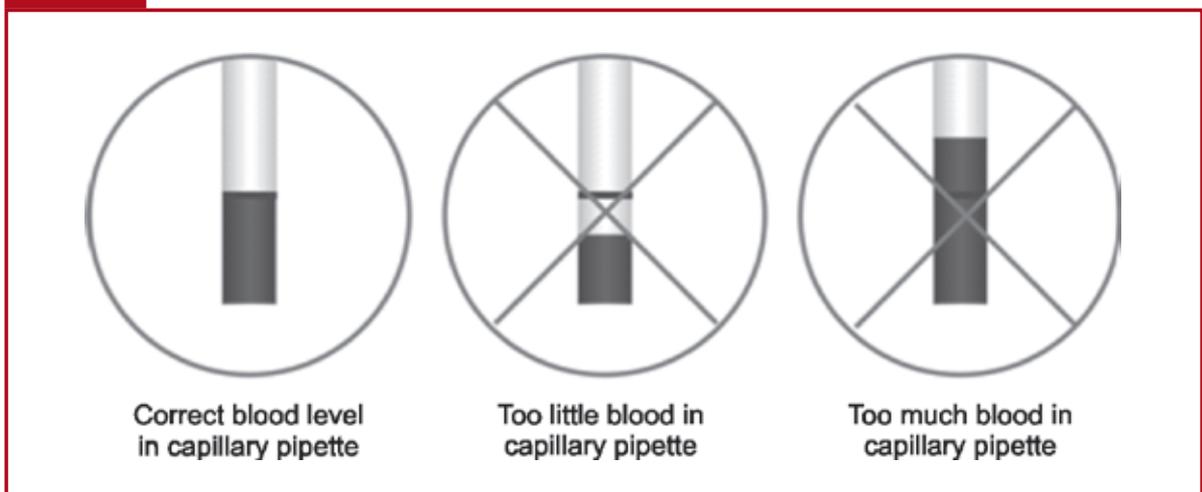
6. Prick the patient's finger with the lancet as shown below. Discard the lancet in the sharps box immediately after pricking the finger



Prick the finger as shown

7. Use capillary pipette to collect the drop of blood till the dark band as shown in **(Figure 3)**:

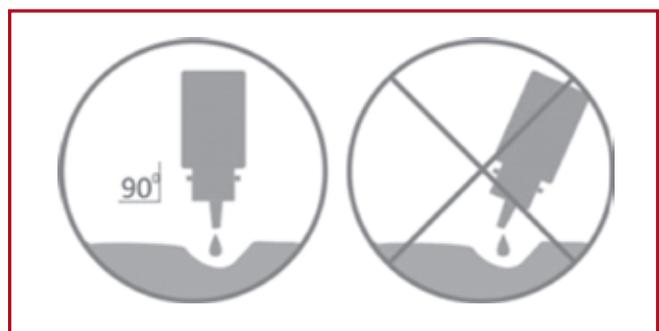
**Figure 3:** Correct level of blood in capillary pipette



8. Add drawn blood into the round sample well (S" marked). Discard the pipette in the sharps box after adding blood

9. Add 4 drops of buffer into the sample well ensuring that the diluents is held vertically at 90 degrees as shown below:

10. Wait 10-20 minutes after adding buffer and read the test result. Do not read test results after 20 minutes. Reading too late can give false results



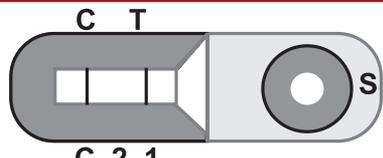
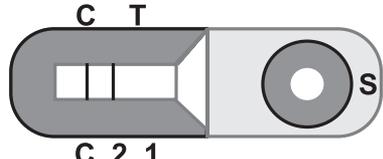
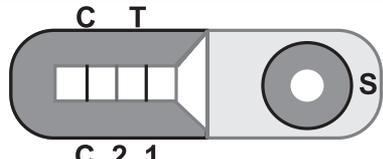
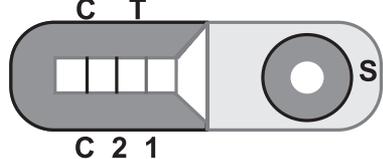
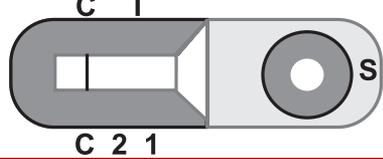
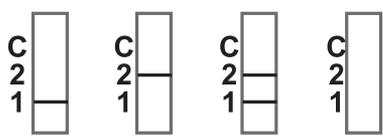
## Interpreting the test result

There can be only three possible outcomes of the HIV screening tests through rapid antibody card test:

- Reactive or Positive:** In this case, there will be band in both the test area and the control area
- Non-reactive or Negative:** In this case there will be no band in the test area and a band will be seen in control area
- Invalid:** In this case there will be no band in the control area. A band may be present in the test area but the test is considered invalid as there is no band in the control area

In case of an invalid test result, you need to repeat the test with a new card. Suppose the test result is invalid again and again, you can assume that there is a problem with either the procedure or the test kit. Please inform your supervisor and seek help to take corrective measures. **(Figure 4)** shows interpretation of HIV screening test result.

**Figure 4:** Interpretation of HIV screening test result

<p><b>HIV 1 Reactive</b> When 2 lines appear, “C” and “1” line</p>	<p>HIV-1/2</p> 
<p><b>HIV 2 Reactive</b> When 2 lines appear, “C” and “2” line</p>	<p>HIV-1/2</p> 
<p><b>When 3 lines appear</b> If line “1” is darker than line “2”, it should be interpreted as HIV-1 reactive only (Not HIV-2 Positive)</p>	<p>HIV-1/2</p> 
<p><b>When 3 lines appear</b> If line “2” is darker than line “1”, it should be interpreted as HIV-2 reactive only (Not HIV-1 Positive)</p>	<p>HIV-1/2</p> 
<p><b>Negative result</b> Only “C” line in result window</p>	<p>HIV-1/2</p> 
<p><b>Invalid result</b> No “C” line in result window The specimen should be retested</p>	

## Syphilis screening for D-I-L cases

Many pregnant women with syphilis may not be aware that they have the infection. Untreated syphilis in pregnant women may cause abortions and may transmit to their unborn baby during pregnancy or delivery. Syphilis is curable and early detection and treatment during pregnancy prevents transmission of syphilis to the unborn baby and does not have long term consequences for the mother or her child.

Counselling for syphilis screening in labour room is important because women may not know why a screening is essential if they do not have any symptoms. The aim of such counselling is to help pregnant women understand the consequences of untreated or inadequately treated syphilis on their health and the wellbeing of their unborn or newborn baby. It also helps pregnant women understand that adequate treatment can cure syphilis.

## Process of doing Rapid point of care (POC) syphilis testing

Rapid point of care (POC) syphilis testing is recommended where traditional laboratory tests for syphilis screening (VDRL or RPR) are not available. Rapid POC testing helps ensure that there are no missed opportunities for screening and initiating treatment, in case the test is reactive.

Steps in Rapid POC testing for syphilis include:

1. Removing the test strip from the wrapper and placing it on a flat surface
2. Collecting whole blood sample through a finger prick as described in the section on HIV rapid screening test
3. Adding a specified amount of blood in the well of the test strip (S)
4. Adding a specified amount of diluents buffer to the well of the test strip (S)
5. Waiting for 8-10 minutes or as recommended by the manufacturer of the kit, and
6. Reading the test results as shown in **(Figure 5)**

**Figure 5:** Strip test for syphilis screening and interpretation of results

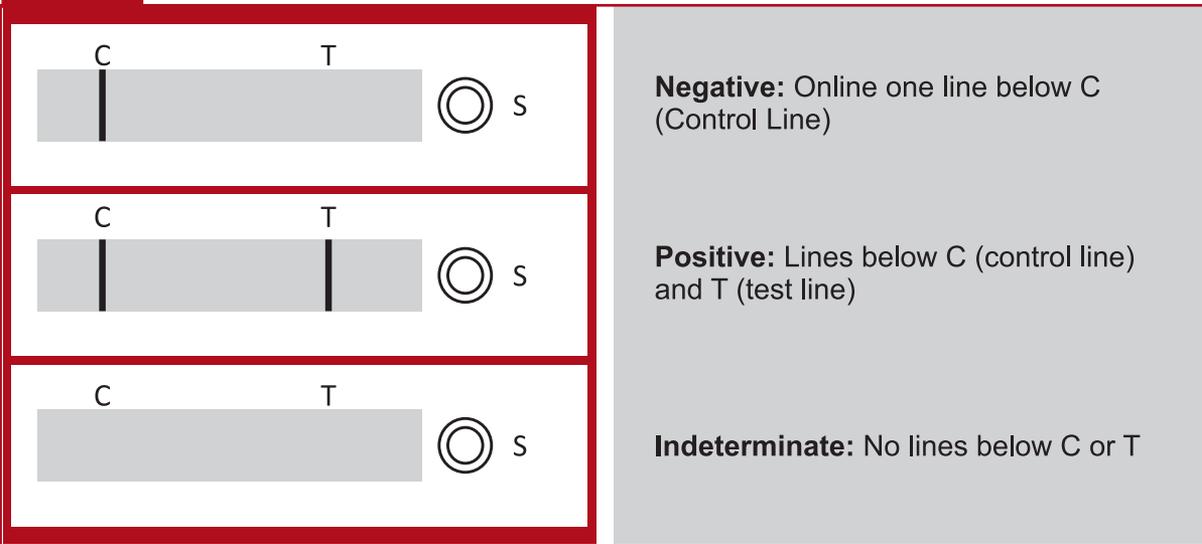
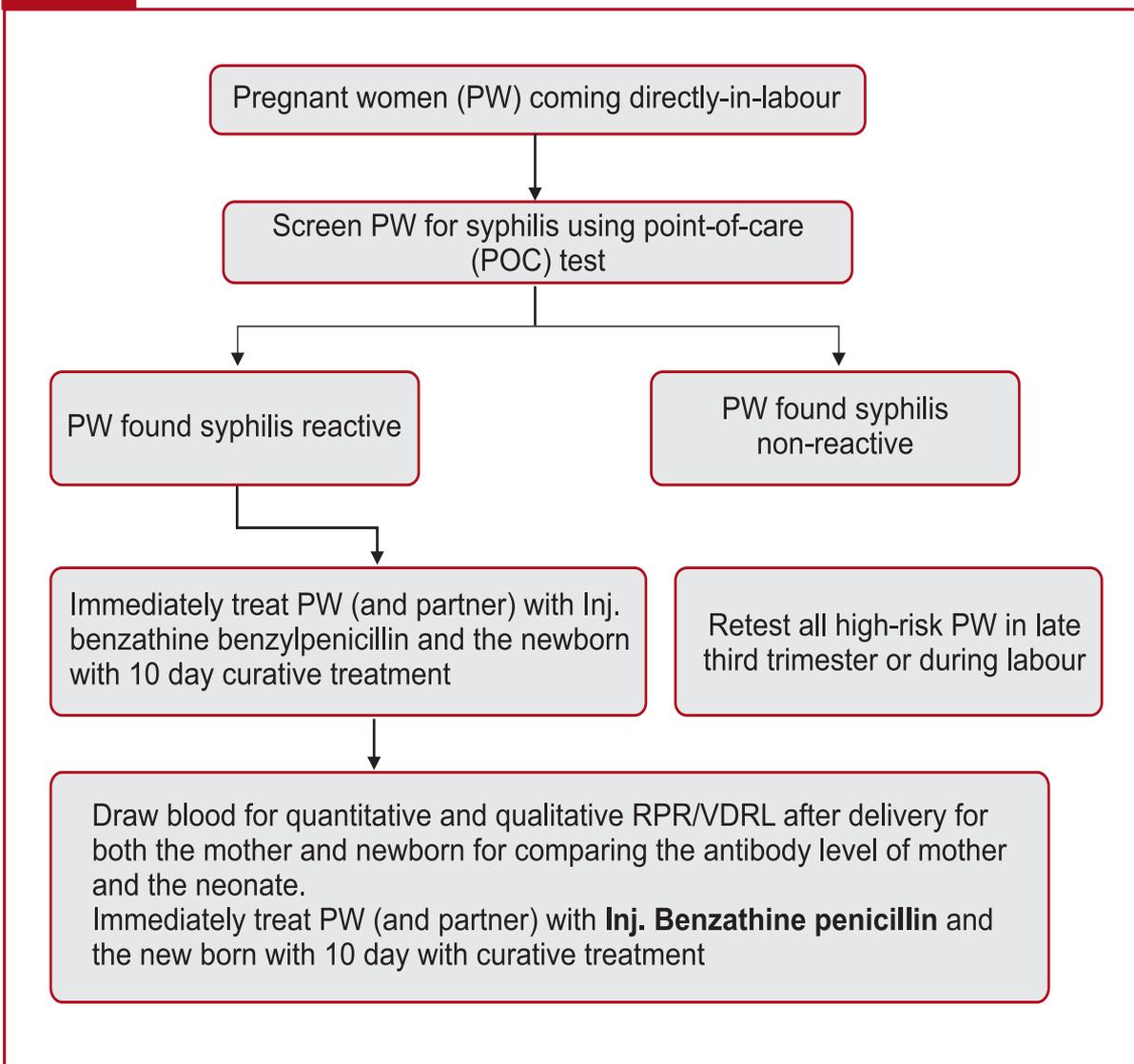


Figure 6 Illustrates the steps for screening directly-in-labour cases for syphilis.

**Figure 6:** Syphilis screening of pregnant women coming directly-in-labour





# Implementing Guidelines for Preventing Mother to Child Transmission of HIV

## 2

Tasks related to your responsibility to implement guidelines for preventing mother-to-child transmission of HIV during labour and postnatal period are:

- a. Initiating first line three drug ART regimen for direct-in-labour cases with reactive HIV screening test
- b. Ensuring HIV positive pregnant women already on ART continue to take ART as per their schedule during labour
- c. Practicing safer delivery techniques recommended for HIV positive women
- d. Initiating ARV prophylaxis for the newborn
- e. Making sure women with reactive HIV screening test obtains Integrated Counselling and Testing Centre (ICTC) services for confirmation of HIV infection on the next working day, where a counsellor and lab technician visits women in the labour room and does HIV confirmation test
- f. Motivating the mother to opt for exclusive breastfeeding for six months and initiating early breastfeeding. Despite motivation, if the mother refuses to breastfeed, training her for safe replacement feeding
- g. Educating the mother and the family to access HIV related treatment, and care and support services with special emphasis on ART, EID (early infant diagnosis) and CPT (co-trimoxazole prophylaxis)

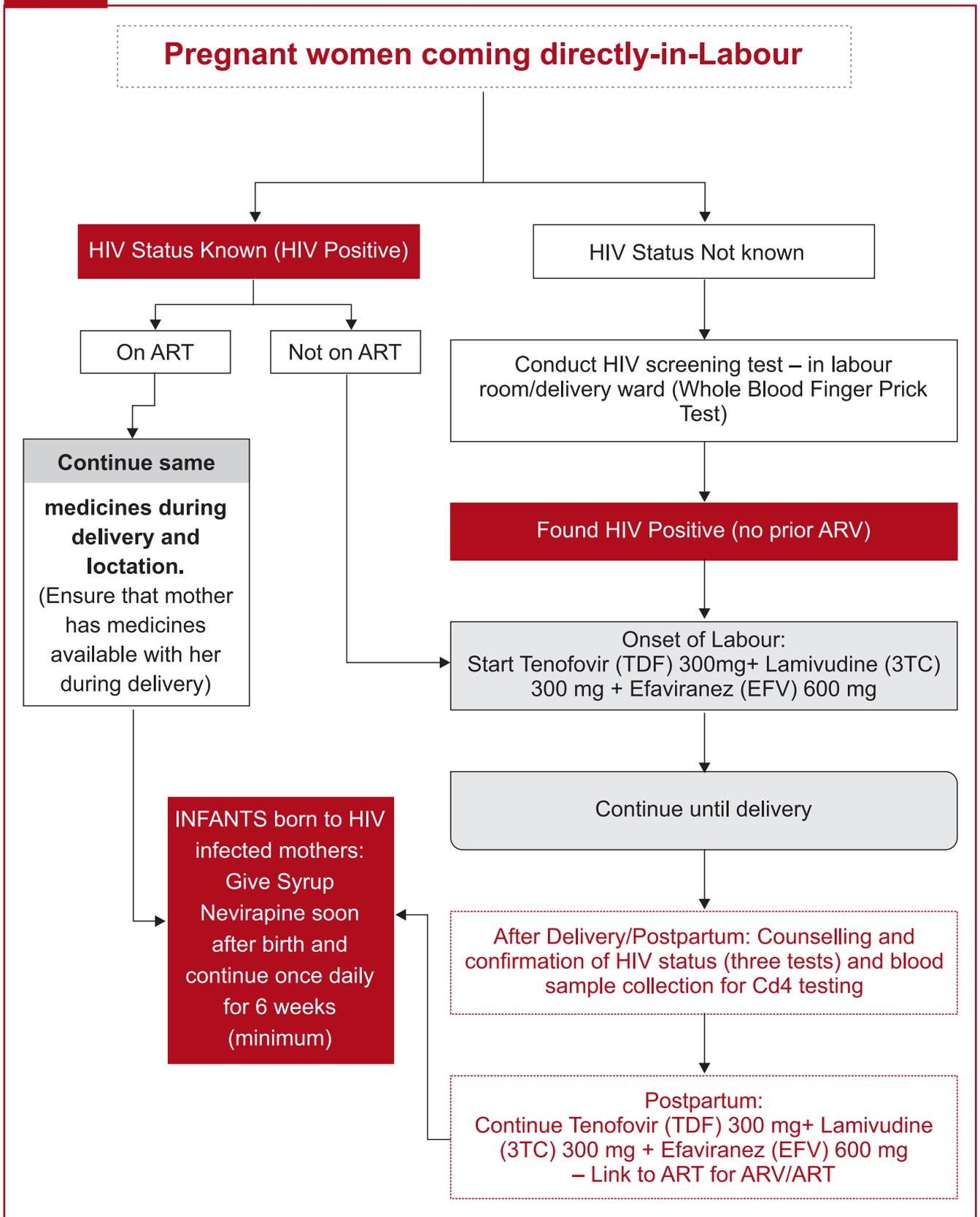
The protocol for HIV screening of women presenting directly in labour and initiating ART in case of reactive result is summarised in **(Figure 7)**.

### ART for D-I-L cases with reactive HIV screening test

As soon as you complete post-test counselling of the pregnant woman in labour whose screening test for HIV was reactive, you need to do the following for starting ART and giving her initial support for taking it for life:

1. **Take history** about previous HIV testing, and if she has ever taken any ART drugs, especially Nevirapine and Efavirenz
2. **Start ART:** If the woman in labour has never taken any ART drug, and she has either HIV 1 infection or a combination of HIV 1 and HIV 2 infection, you need to start her on fixed dose combination of Tenofovir (TDF) 300 mg + Lamivudine (3TC) 300 mg + Efavirenz (EFV) 600 mg after getting the prescription from the Medical Officer.

**Figure 7:** Protocol for women presenting directly-in-labour with unknown HIV status



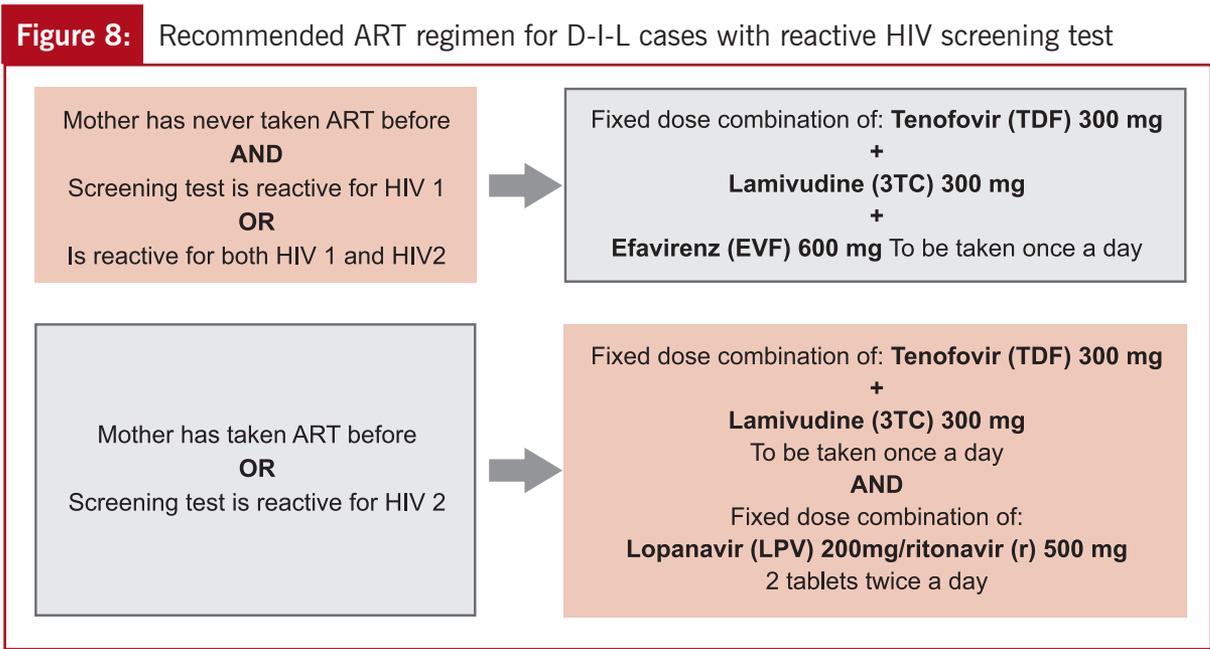
HIV-2 infection is less common than HIV-1 in India. However, if a pregnant woman has only HIV-2 infection, drugs such as Nevirapine and Efavirenz will not be effective against HIV-2. She should therefore receive one tablet of fixed dose combination of Tenofovir (TDF) 300 mg + Lamivudine (3TC) 300 mg once a day and fixed dose combination of Lopinavir (LPV) 200 mg/ritonavir(r) 50 mg 2 tablets, twice a day.

If a woman has both, HIV 1 and HIV-2 infection, she should be treated as for HIV-1.

Give subsequent doses at night two to three hours after dinner and advice mother not to take any fatty food at dinner time. The same regimen should be continued for life if the HIV confirmatory test is positive in postnatal period and until the woman consults with the ART Medical Officer. It is essential to ensure that she consults with ART Medical Officer before being discharged from the hospital. In case the HIV confirmatory test is negative, ART drugs should be stopped.

- 3. **Educate** the woman on the protection these medicines can offer to the baby and herself. Emphasise that before discharge, she will be explained the details of the treatment regimen and linked to ART centre from where she can access free and quality services for life
- 4. **Inform ICTC** and ensure that the ICTC Counsellor and the lab technician come to the postnatal ward for counselling and confirmatory test. The ICTC Counsellor will assign a Patient Identification Digit (PID), counsel the woman, coordinate with lab technician for confirmatory test, establish linkages with the ART Centre and ensure that there is no interruption in ART Centre. S/he will also counsel the spouse or partner if possible and motivate him for HIV testing.

ART regimen for D-I-L cases with reactive HIV screening test is summarised in (Figure 8)



## ART regimen for pregnant women who have prior exposure to SD-NVP

In case an HIV infected pregnant woman has taken SD-NVP for prevention of mother to child transmission in an earlier pregnancy, she may be resistance to both, Nevirapine and Efavirenz. In such case, the recommended regimen is Tenofovir (TDF) + Lamivudine (3TC) + Lopinavir (LPV) /ritonavir(r) (TLL).

One tablet of Fixed Dose Combination (FDC) of TDF (300 mg) and 3TC (300 mg) should be given once a day while two tablets of FDC of LPV(200 mg)/r(50 mg) should be given twice a day.

## ART and false labour

In case of false labour, or mistaken ruptured membranes, the women on life-long ART should continue their normal schedule of taking the drugs. In case of women who were initiated on ART during false labour, ART should be continued as initiated. It is important to link the woman to the ART centre at the earliest, preferably within two days.

## Pregnant women on ART

If a woman in labour has been taking ART during pregnancy, you need to ascertain that she has carried her ART drugs with her. If not, you will need to explore options for getting her the drugs that she has been taking. Your responsibility will be to ensure that she continues to take the medicines as per schedule during and after labour.

## ARV prophylaxis for newborn and infants

Pregnant women who have been taking ART during pregnancy offer protection to their unborn babies against HIV infection. Additional ARV prophylaxis is required for all infants born to HIV positive mothers to further reduce the risk of HIV infection before delivery, and to reduce the risk of HIV infection after birth. The additional protection is especially necessary in three situations:

- a. Mother had not started ART at least 24 weeks before delivery,
- b. Mother did not adhere to the ART regimen as recommended, and the mother's viral load continues to be high

ARV prophylaxis for infants whose mothers have received adequate ART during pregnancy is **NVP syrup once a day for six weeks**. This is when the baby receives the first dose of immunisation. This prophylaxis should be given irrespective of whether the baby is exclusively breastfed or has received exclusive replacement feeding.

## ARV prophylaxis for infants born to positive women presenting in active labour

You would have given three-drug ART to the woman who arrives to the health facility in active labour and has tested positive for the HIV screening test. The baby's prophylaxis will remain the same as described above. However, if the mother is breastfeeding, the duration will be 12 weeks instead of 6 weeks as the mother had not received ART long enough to reduce the viral load in her blood. You should advise the mother to take the baby for Early Infant Diagnosis (EID) at six weeks as per the guidelines.

## ARV prophylaxis for infants born to positive women who did not receive ART during pregnancy or labour

If an HIV infected pregnant woman has not received ART during pregnancy OR labour, or the HIV infection is detected after delivery, the infant should be:

- ▶ Started on daily syrup of Nevirapine as per the dose recommended for baby's weight during the first contact with health services
- ▶ Started on NVP even if the baby is more than 72 hours old
- ▶ Given NVP for 12 weeks if the mother is breast feeding. During this time, the mother should be linked to the nearby ART Centre. The baby should be sent for EID at 6 weeks

The dose and duration of infant NVP prophylaxis is given in **Table 1:**.

**Table 1:** Dose and duration of infant daily NVP prophylaxis

Birth weight (kg)*	Daily NVP dose in mg	NVP dose in ml**	Duration
Less than 2 kg	2 mg/kg Once a day	0.2 ml/kg Once a day	Up to 6 weeks irrespective of whether the baby is exclusively breastfed or exclusively replacement fed.  The duration may be extended to 12 weeks if mother has not received ART for at least 24 weeks including women initiated on ART during labour and if she is breastfeeding the child.
2 – 2.5 kg	10 mg Once a day	1 ml Once a day	
More than 2.5 kg	15 mg Once a day	1.5 ml Once a day	

\*The dose is relevant from birth till six weeks of age. Consultation with paediatrician trained in HIV care is essential.

\*\*Considering the content of 10 mg Nevirapine in 1 ml suspension

In case of mothers who have only HIV-2 infection, the HIV-exposed infants should receive daily Zidovudine (AZT) syrup from birth until 6 weeks of age, in case the mother has received ART for more than 24 weeks of pregnancy. If not, and the baby is being breastfed, AZT prophylaxis will need to be continued for an additional 6 weeks. The dosage for AZT prophylaxis for HIV-exposed newborns and infants is as shown in

**Table 2:** Dose and duration of AZT daily dose for infants

Birth weight (kg)*	Daily AZT dose in mg	AZT daily dose in ml**	Duration
Less than 2 kg	5 mg/dose Twice a day	0.5 ml twice a day	Up to 6 weeks irrespective of whether the baby is exclusively breastfed or exclusively replacement fed.  The duration may be extended to 12 weeks if mother has not received ART for at least 24 weeks including women initiated on ART during labour and if she is breastfeeding the child.
2 to < 2.5 kg	10 mg /dose Twice a day	1 ml twice a day	
2.5 kg or more	15 mg /dose Twice a day	1.5 ml twice a day	

## Differences between earlier and current PPTCT guidelines

Initial PPTCT guidelines had recommended three-drug ART to HIV positive mothers for life only if the CD4 was less than 350 cells per mm<sup>3</sup>. Positive women with CD4 more than 350 cells per mm<sup>3</sup> were given a single dose of Nevirapine (SD–NVP) tablet at birth. In both instances, the HIV exposed newborn was given 2 mg/kg body weight SD–NVP within 72 hours after delivery.

The current guidelines propose lifelong ART to pregnant and breast feeding women irrespective of their CD4 count, at least 6 weeks NVP syrup to infants, which will be increased up to 12 weeks if the mother had not taken ART for more than 24 weeks before delivery or had not adhered to the schedule as desired, and was breastfeeding the infant. **Table 3** summarises the old and current PPTCT regimens.

**Table 3:** Comparison between old and current PPTCT regimens

Regimen for the mother		
CD4 level	Initial PPTCT regimen that is not used now	Current regimen that you need to follow
CD4 more than 350	No ART was given. Single dose 200 mg NVP given at the time of delivery	Initiated on lifelong three drug ART at the first contact with health services during pregnancy <b>irrespective of CD4 count and WHO staging</b>
CD4 less than 350	Initiated on ART lifelong	
Regimen for the infant		
Initial PPTCT regimen that is not used now		Current regimen you need to follow
Single dose NVP 2 mg/kg body weight within 72 hours after delivery		Daily NVP syrup from birth till 6 weeks if mother had taken ART regularly for more than 24 weeks before delivery.  Daily NVP syrup from birth till 12 weeks if mother had either not taken ART during pregnancy or taken it irregularly, if the mother is breastfeeding the baby.

## Labour and delivery of HIV positive pregnant women

There is no difference in the practices related to labour and delivery of HIV positive pregnant women who knew their HIV status during pregnancy and who learned about it during labour. During the labour, you need to do the following:

- a. Record the woman's HIV status in the registers/records as per PPTCT guidelines
- b. Document details of the ART drugs taken during pregnancy, if any
- c. Give the same ART drugs that pregnant women on life-long ART has been taking during labour and delivery as per their usual schedule (dose and time)
- d. Start ART as described on Page 14 for women who were screened for HIV during labour
- e. Discuss breastfeeding with the pregnant women during labour and find out what their decision is (if not already decided). You can give the following information to help them make the decision:
  - ▶ Exclusive breastfeeding for six months is best for baby's physical and emotional wellbeing. After six months, it is desirable that she continues breastfeeding even when the baby starts supplementary feeds
  - ▶ If replacement feeding is preferred, it is important to practice exclusive replacement feeding for six months. Mixed feeding carries a higher risk of HIV transmission even with ART and NVP prophylaxis
  - ▶ Breastfeed is best started within one hour after delivery. You will help her initiate breastfeeding. Additional support will be given by the postnatal ward staff after she is shifted there
  - ▶ Taking ART and giving NVP syrup to the baby every day as recommended will protect the baby against the risk of HIV transmission during breastfeeding

## Care during the post-partum period

Newborn care for HIV exposed infants is the same as for all other newborns. In addition, they require NVP syrup immediately after birth and no later than six hours. Breastfeeding should be initiated within one hour of birth.

The mother should be trained to administer NVP prophylaxis to the infant using a syringe and to wash the equipment with clean boiled water after every use.

During the postpartum period, the HIV positive mother should receive counselling and education on ART, Early infant diagnosis (EID), care and support services available and guidance for living healthy with HIV infection. The husband/partner should also be tested during this period if he is available and the woman is willing to disclose the status to her husband. If she is willing, the husband and the family members should also be counselled and education on HIV related services for mother and baby.

## Early infant diagnosis (EID)

In addition to receiving daily Nevirapine syrup for six or twelve weeks (as per the mother's ART intake), HIV exposed infants need to be started on co-trimoxazole prophylaxis (CPT) at six weeks and continued till the baby is 18 months of age. In case the baby tests positive for HIV infection in the confirmatory test, CPT is continued. Routine immunisation is given to the baby at six weeks, which includes first dose of OPV and DPT and second dose of Hepatitis B vaccine.

Test for early infant diagnosis is also done at six weeks through dried blood sample (DBS) for all HIV exposed infants. If the test is positive, a second DBS is taken for further testing. In case second DBS is positive, paediatric ART is started irrespective of CD4 cell count for babies less than two years.

### Five Dos for infants at 6 weeks

It is important to do the following for infants at 6 weeks:

1. Reinforcement of exclusive breastfeeding for first 6 months. Continuation of breastfeeds with introduction of complementary feeds after 6 months
2. EID testing
3. Starting the first dose of immunisation
4. Starting co-trimoxazole prophylaxis (CPT) and continued till the baby is 18 months old. The prophylaxis is continued longer if the baby tests positive for HIV at 18 months, and
5. Continuing NVP prophylaxis for another 6 months IF the mother had not taken ART for at least 24 weeks for delivery OR the mother had not complied with the recommended ART regiment

## Guidelines for HIV diagnosis in infants and children < 18 months

The tests used to detect HIV infection in adults are not suitable for children below 18 months. This is because antibodies from the HIV-infected mother would be transferred to the babies during pregnancy, delivery and breastfeeding. In other words, most infants born to HIV positive mothers will test positive using standard HIV antibody tests such as rapid or ELISA tests up to about 18 months of age. HIV antibody tests are however useful for identifying potentially uninfected infants as early as 6 to 18 months of age if they are not breastfed, or if breastfeeding was stopped at least 6 weeks before testing.

It is recommended that all HIV exposed infants and children below 18 months of age undergo HIV-1 DNA PCR testing at 6 weeks of age or at the earliest opportunity thereafter.

The National algorithm for diagnosis of HIV-1 infection in infants and children < 18 months provides guidance to clinical providers and lab personnel regarding issues related to testing and their management. The algorithm describes the following **six** issues:

- a. Type of test to be performed
- b. Eligibility for the test
- c. When the test should be performed
- d. Number of tests required for a positive diagnosis
- e. Actions to be taken if (i) HIV-1 DNA is detected, (ii) HIV-1 DNA not detected, or (iii) in case of discordant results
- f. Testing required in the context of breastfeeding

### ***Eligibility***

HIV-1 DNA PCR testing is recommended for infants and children below 18 months who are:

- a. Born to mothers who have confirmed diagnosis of HIV infection from ICTC
- b. Sick with signs and symptoms of HIV, the mother's HIV status is unknown and have been referred by a Medical Officer or a Paediatrician.

## Testing HIV-exposed infants below 6 months of age

Screening of HIV-exposed between 6 weeks to below 6 months of age is done at the ICTC. The lab technician will collect and send a Dried Blood Spot (DBS) sample to the ART centre for HIV-1, DNA PCR test. If the screening test result is “HIV-1 DNA not detected”, it is necessary to monitor the infant for symptoms suggestive of HIV infection. In case the infant develops symptoms before 6 months of age, HIV-1 DNA test should be repeated. If the infant remains asymptomatic, the baby should be tested at 6 months. Actions to be taken if the screening test detects HIV-1 DNA are as described in **Table 4**.

**Table 4:** Recommended actions if HIV-1 DNA PCR is detected among infants 6 weeks to < 6 months

	Test result	Recommended actions
1.	HIV-1 DNA detected in screening test	<ul style="list-style-type: none"> <li>Send DBS sample for confirmatory HIV-1 DNA PCR</li> </ul> <b>Follow Advisory 1:</b> <ul style="list-style-type: none"> <li>Start co-trimoxazole, if not already started</li> <li>Assess and encourage breastfeeding if replacement feeding has not been started</li> </ul>
2.	HIV-1 DNA PCR detected in confirmatory test	<ul style="list-style-type: none"> <li>Infant has HIV-1 infection</li> </ul> <b>Follow Advisory 2:</b> <ul style="list-style-type: none"> <li>Continue co-trimoxazole</li> <li>Manage OIs, if any</li> <li>Start ART as per national protocol</li> <li>If breast feeding, continue as long as possible</li> <li>Avoid mixed feeding</li> <li>Test for HIV antibody at 18 months of age with 3 rapid tests</li> </ul>
3.	HIV-1 DNA PCR is not detected in confirmatory test	<ul style="list-style-type: none"> <li>Request a fresh DBS sample from the ICTC for second confirmatory test</li> </ul>
4.	HIV-1 DNA PCR is detected in second confirmatory test	<ul style="list-style-type: none"> <li>Infant has HIV infection</li> </ul>
5.	HIV-1 DNA PCR is not detected in second confirmatory test	<b>Follow Advisory 3:</b> <ul style="list-style-type: none"> <li>Infant is probably not infected but is at risk</li> <li>Repeat HIV-1 DNA PCR by DBS at 6 months, 6 weeks after last breastfeeding OR if the infant develops symptoms suggestive of HIV infection, irrespective of age</li> <li>Continue co-trimoxazole until definitely negative</li> <li>Discourage early weaning</li> <li>Ensure AFASS criteria are met before weaning</li> </ul>

## Testing HIV-exposed infants at or above 6 months of age

For screening of HIV-exposed infant six months old or more, blood is collected at ICTC for 3 serological (rapid) tests and a DBS sample is prepared. Actions recommended based on the result of 3 serological tests are listed in **Table 5**.

**Table 5:** Recommended actions based on rapid HIV test results in infants > 6 months of age

	Test result	Recommended actions
1.	HIV antibody test with 3 rapid (serological) tests is positive (reactive) for 1/2/all 3 tests	<ul style="list-style-type: none"> <li>● Send DBS sample to the ART Centre for HIV-1 DNA PCR</li> <li>● Depending on the result of the first HIV-1 DNA PCR test, take actions as described for infants 6 weeks to &lt; 6 months</li> </ul>
2.	HIV antibody test with 3 rapid (serological) tests is negative (non reactive) in all 3 tests	<ul style="list-style-type: none"> <li>● The infant does not need HIV-DNA PCR test</li> <li>● If the infant is breastfed during the 6 weeks before the test, the infant is at risk, although not currently infected</li> <li>● Repeat rapid HIV test 6 weeks after last breastfeeding or if the baby develops symptoms suggestive of HIV infection</li> <li>● Test for HIV antibodies at 18 months of age for definite diagnosis using 3 rapid tests</li> <li>● If the infant is not breastfed during the 6 weeks before the test, the baby is not infected with HIV</li> </ul>



# Facilitating treatment of pregnant women with reactive Syphilis screening test

## 3

In case of a reactive syphilis screening test, your tasks will be to:

- a. Facilitate treatment of the pregnant woman for syphilis as per the national guidelines
- b. Link the mother and the newborn for qualitative and quantitative RPR/VDRL for comparing the antibody titre levels of the mother and the neonate, and
- c. Facilitate testing and treatment, if necessary of spouse/partner

### Treatment for pregnant women with positive POC test result

Rapid POC test is a specific test for treponema, the bacteria that causes syphilis and therefore cannot distinguish between a new infection and previous infection that has been successfully treated. However, to ensure that there are not missed opportunities, all pregnant women testing positive with POC tests should be treated. Treatment for the mother is with Benzathine penicillin.

Although severe allergy to penicillin is rare, it is important to rule out history of allergy before administering penicillin. The emergency drugs for managing anaphylaxis should be kept ready before administering penicillin. Recommended treatment regimen for the mother is as follows:

**In the early stage (< 2 years duration and RPR titre is < 1:8 approximately),** a single intramuscular injection of 2.4 million IU benzathine benzyl penicillin is sufficient.

**In the late stage (> 2 years or unknown duration, RPR titre > 1:8 approximately),** three weekly intramuscular injection of 2.4 million IU benzathine benzyl penicillin are required.

### Ensure readiness of emergency tray for management of anaphylactic reactions

- a. The tray should be kept in the day-care room
- b. Every morning the tray should be checked for replenishment of used drugs and for expiry dates of drugs on the tray
- c. List of drugs and consumables that should always be available on the tray: Inj. Adrenaline, Inj. Chlorpheniramine Maleate, Inj. Dexamethasone, Inj. Hydrocortisone succinate, Inj. Deriphylline, Inj. Furosemide, Inj. Domanie, Inj. Sodium bicarbonate, Oxygen, Ringer Lactate, disposable needles, gloves and cotton swabs.



# Provide stigma and discrimination free services

# 4

Quality care to HIV positive pregnant women is an important factor for motivating her to access treatment and care services regularly. Indications of stigma and discrimination free services are as follows:

- a. Providing the same quality care of services that you provide to HIV negative women
- b. Demonstrating empathy and respect
- c. By helping HIV positive women overcome their fears, anxiety and hopelessness about living with HIV
- d. Committing to the HIV positive mother that the hospital staff will provide total support during her stay in the health facility, and if necessary, for referral in future

Stigma and discrimination of people living with HIV and AIDS (PLHIV) has grave adverse impacts on an individual, the affected family and the community at large. **Impacts that have direct influence on HIV epidemic** are reduced HIV testing in the community, unwillingness to disclose HIV status and thereby adopt safer behaviours and unwillingness to accept HIV related services.

**Healthcare providers can play an important role** in helping HIV positive people live a healthy and longer life if they provide the same quality of care of services that they provide to HIV negative people, demonstrate empathy and respect and helping HIV positive people overcome their fears, anxiety and hopelessness about living with HIV. You, as labour room nurse, can help reduce stigma and discrimination by being a role model in quality care, providing information on care and support services, giving examples of HIV positive role models and encouraging participation of husband/partner and family.



# Management of occupational exposure

# 5

Practicing universal precautions consistently offers you adequate protection against HIV and other blood borne diseases such as Hepatitis B and Hepatitis C. However, in case there is an exposure to body fluids containing HIV, prophylaxis with ART drugs can protect you against risk of HIV transmission.

Post-exposure prophylaxis (PEP) is the term used for comprehensive management given to minimize the risk of HIV infection after potential exposure to HIV infection. An exposure is defined as an injury to skin (such as needle-stick injury), contact of potentially infectious body fluids with mucous membrane and non-intact skin or prolonged contact with intact skin. **Potentially infectious body fluids** include among others, blood, semen, vaginal secretions, cerebrospinal fluid, amniotic fluid, and other body fluids contaminated with visible blood. Tears, sweat, urine and faeces, and saliva are considered “not at risk” unless they contain visible blood.

PEP should be started as soon as possible after the exposure and within 72 hours. The earlier it is started, greater is its effectiveness. It is important to do a baseline rapid HIV test before starting PEP.

**First aid** for skin that is broken due to needle-stick injury or sharp instrument includes washing the wound and surrounding skin immediately with soap and water. The **don'ts** include not scrubbing the area, not squeezing the injury area and not using antiseptics. First aid for exposure to the eye includes irrigating the eye immediately with water or normal saline and first aid for exposure to the mouth includes spitting the fluid out immediately and rinsing the mouth using water and saline and spitting it several times.

Immediately after the first aid, you need to report to a Medical Officer who is responsible for post-exposure prophylaxis (PEP) in your health facility. **Table 6** summarises the dos and don'ts for managing the exposure site.

**Table 6:** Dos and Don'ts of first aid for the exposure site

Do	Do not
Remove gloves, if appropriate	Do not panic
Wash the exposed site thoroughly with running water	Do not put the pricked finger in the mouth
Irrigate with water or saline if eyes or mouth have been exposed	Do not squeeze the wound to bleed it
Wash the skin with soap and water	Do not use bleach, chlorine, alcohol, betadine, iodine or other antiseptics or detergents on the wound

You need to report to the Medical Officer response for post-exposure prophylaxis (PEP) immediately after exposure. A **decision on starting PEP is** taken based on assessment of exposure code and HIV source code and the exposed individual. After counselling, a baseline HIV test is done to rule out pre-existing HIV infection.

Depending on the severity of exposure and HIV status of the source of exposure, a three drug ART is recommended for 28 days. It is desirable to start PEP within two hours of exposure but can also be taken within 72 days.

Follow-up including repeat HIV test and counselling is an important part of management of occupational exposure. Special leave can be taken while a healthcare provider is on PEP.

# Annexure

## Guidelines for Delivering HIV Positive Pregnant Women

### Factors increasing risk of HIV transmission from mother to child during labour

- Prolonged rupture of membranes
- Repeated per vaginal examinations
- Assisted instrumental delivery, such as vacuum or forceps
- Invasive foetal monitoring procedures such as scalp or foetal blood monitoring
- Episiotomy
- Prematurity

### Guidelines for delivering HIV positive women

- Practice universal precautions
- Minimise vaginal examination
- Avoid artificial rupture of membranes
- Avoid invasive procedures like instrumental delivery – use low-cavity outlet forceps if it is unavoidable
- Avoid routine episiotomy
- Avoid suctioning the new born unless there is meconium staining in the liquor
- Use personal protective equipment
- Avoid milking of umbilical cord
- Cut the umbilical cord as soon as possible



