THE REPUBLIC OF UGANDA

PMTCT

IYCF

PAED

ADULT

The Integrated National Guidelines

on

Antiretroviral Therapy

Prevention of Mother to Child Transmission of HIV

Infant & Young Child Feeding

2012

Background

Over the past decade in Uganda, Ministry of Health (MOH) in collaboration with partners, has rolled out comprehensive HIV prevention, care and treatment programs with a sizable focus on Prevention of Mother to Child Transmission (PMTCT) and Infant and Young Child Feeding (IYCF).

In 2011, MOH revised and updated Uganda's national guidelines for use by all health providers who take care of HIV infected patients either directly or in directly. The Integrated National Guidelines on Antiretroviral Therapy, Prevention of Mother to Child Transmission of HIV, and Infant and Young Child Feeding, assists health providers to provide quality and standardized HIV prevention, care and treatment services including the delivery of integrated nutritional care, treatment and support of people infected and affected with HIV.

This 2012 booklet combines the updated national guidelines into one easy to use tool for health providers. The information and guidelines in this booklet are divided into four sections:

PMTCT

Guidelines on:
Prevention of Mother to Child HIV Transmission

IYCF

Guidelines on:
Infant and Young Child Feeding

PAED

Guidelines on:
Diagnosing, Caring for & Treating Infants & Children exposed to or infected with HIV

ADULT

Guidelines on:
Treating Adults & Adolescents exposed to or infected with HIV

PMTCT

Guidelines on Prevention of Mother to Child HIV Transmission (PMTCT)

Contents

PMTCT

Mother to child HIV transmission (MTCT) still remains the second major mode of transmission of HIV in Uganda, accounting for up to 18% of new infections. It is the main source of HIV infection to children less than 5 years old.

Without PMTCT the risk of transmission of HIV during pregnancy and delivery is estimated at 15-30% and the additional risk through breastfeeding is estimated at 10-20%. With PMTCT intervention, the risk in the breastfeeding population reduces to less than 5% and in the non-breastfeeding population to less than to 2%.

The PMTCT program aims for virtual elimination of HIV transmission from mother to child and reduction of mortality and morbidity among women living with HIV and among HIV-exposed and infected infants. To achieve this, focus on ALL 4 prongs of PMTCT is essential:

Prong 1: Primary prevention of HIV infection among women of reproductive/child bearing age.

Prong 2: Prevent unwanted pregnancies among women living with HIV.

Prong 3: Prevent HIV transmission from women living with HIV to their infants.

Prong 4: Provide appropriate treatment, care, and support to mothers living with HIV and their children and families.

Health Promotion & Counseling; Examination & Screening

		ANC VISIT 1	ANC VISIT 2	ANC VISIT 3	ANC VISIT 4
Period of Visit		First Trimester (0-16 weeks)	Second Trimester (16-28 weeks)	Third trimester 28-42 weeks	Third trimester 28-42 weeks
Timing of Visit		**Anytime < 16 weeks**	**24-28 weeks**	**32-36 weeks**	**After 36 weeks**
Goal		• Assess risks • Health Education • Make plan for delivery	• Act on abnormal lab results • Check foetal growth • Exclude multiple pregnancies • Review delivery plan	• Check foetal growth • Assess for danger signs • Review delivery plan	• Check foetal growth • Assess for danger signs • Exclude abnormal presentation • Review delivery plan
Health Promotion and Counseling	**Family Planning**	• Counsel and provide information on family planning options at every visit • Emphasize dual protection methods for HIV-positive pregnant women, those with unknown status and those with STIs • Provide condoms if available and accepted by the pregnant woman/partner			
	Infant Feeding	**Discuss feeding options with the mother at every visit (EBF, MF, RF). Strongly recommend the following:** HIV-negative mothers: Breastfeed for 24 months (exclusively for the first 6 months, then add complementary feeds) HIV-positive mothers: Breastfeed for 12 months with ARV prophylaxis (exclusively for first 6 months, then add complementary feeds) • If breastfeeding, counsel mother how to properly breastfeed the baby • If replacement feeding, ensure AFASS criteria is met			
	Danger Signs	Inform client of danger signs to look for during pregnancy: Sensitize to visit the health facility immediately *Vaginal Bleeding / Convulsions/ Severe headaches and blurred vision /* *Severe abdominal pain / Fast or difficult breathing / Swelling of fingers, face, or legs*			
		Inform client of danger signs to look for during labour and delivery: Sensitize to visit the health facility ***Mother: Not in labour 6 hrs after water breaks / In labour > 24 hrs / Labour pains > 12 hrs / Heavy bleeding / Placenta not expelled 1 hr after*** ***Baby: Very small / Difficulty breathing / Fits / Fever / Feels Cold / Bleeding / Not able to feed***			
Examination and Screening	**PIH**	Take Blood Pressure and assess for signs of Pregnancy Induced Hypertention (PIH) at every visit. Indications of PIH are: ***High BP > 140/90 / High urine protein concentration / Severe headache / Sudden weight gain / Blurred vision*** ***If suspecting PIH, treat with Hydralazine (antihypertensive) and refer to clinician urgently for further management.***			
	Anemia	Assess for signs of anemia at every visit: ***Hb Test < 11.5 g/L / Conjuctival Pallor / Palmar Pallor / Fast or Difficult Breathing / Fatigue / Swelling of Finger Face or Legs*** ***If patient has anemia: give an increased dose of Fe and Folic Acid (double dose) and advise on diet. Refer for blood transfusion if severe.***			
	TB	**1)** Assess for signs and symptoms of tuberculosis at every visit: *Cough for > 2 weeks / Persistent Fever / Unexplained Weight Loss / Severe malnutrition / Suspicious lymph nodes / Night sweats* **2)** If any signs of TB or contact with active TB patient, take sputums or refer for CXR **3)** If patient has active TB, start treatment immediately (start RIPE)É.. Do not use Streptomycin for TB-infected pregnant women			
	Physical Examinations	• **Vital observations:** If BP > 140/90, provide antihypertensive & determine cause. Look for other signs of PIH. Treat or refer. • **Symphysis-Fundal Height:** SFH should be increasing and approximately the same length as weeks of gestation • **Abdominal Examination:** Presentation (do ECV if not cephalic) and Fetal Heart Rate (do ultrasound if not clearly visible) • **Vulva/Pelvic Exam (1st and 3rd Trimester):** Check for VBACs, previous c-section			
	Nutritional Status	Discuss mother's diet options and counsel on proper maternal nutrition	Assess diet & counsel on proper nutrition at each visit: ***Mother is receiving inadequate nutrition if weight fails to increase by at least 2 kg from previous visit.***		
	HIV Clinical Staging	**If mother is HIV-positive**, do WHO clinical staging at EVERY VISIT			

Lab Investigations; Vaccination, Supplements & Prophylaxis

		ANC VISIT 1	ANC VISIT 2	ANC VISIT 3	ANC VISIT 4
Period of Visit		First Trimester (0-16 weeks)	Second Trimester (16-28 weeks)	Third trimester 28-42 weeks	Third trimester 28-42 weeks
Timing of Visit		**Anytime < 16 weeks**	**24-28 weeks**	**32-36 weeks**	**After 36 weeks**
Lab Investigation	**HIV**	Test pregnant women & partner for HIV if status unknown	Test for HIV if: • Pregnant woman or partner have not yet been tested for HIV • Pregnant women or partner tested HIV-negative but > 3 months have elapsed since test		
	CD4	**IMMEDIATELY take CD4 sample if pregnant woman is HIV-positive** and has not had CD4 test for 6 months			
	Syphillis	Do RPR test for syphilis. **If positive, treat with single dose of IM benzathine penicillin (injection)**			
	Hb	Conduct Hb test. **If Hb < 11.5 g/L, patient is anemic**-- Give double dose of Fe/Folate & advise on diet	If pregnant women showing any signs of anemia (especially palor), conduct Hb test **For HIV+ pregnant women initiated on AZT, do Hb test at initiation, 4 weeks, 8 weeks, and 16 weeks after** Do not give AZT to HIV-positive pregnant woman if Hb < 7.5 g/L (severe anemia)		
	Urine	Conduct urine test for protein and glucose at every visit: • If protein test is positive, assess for PIH by taking blood pressure. Manage accordingly (see box on PIH). • If glucose or ketones positive, assess for Diabetes Mellitus with random blood sugar test.			
Vaccination, Supplements and Prophylaxis	**Vaccination**	Give first TT dose at first visit	Give second TT dose (if at least 4 weeks after first visit)	Give TT dose if due (if 2 doses not yet received during the pregnancy)	
	Fe/Folic Acid	Give 1 tablet of Iron (200 mg) and 1 tablet of Folic Acid (5 mg) daily to all women throughout the course of pregnancy. Provide enough supply to last until next ANC appointment. **For pregnant women showing signs of anemia, give 2 tablets daily as treatment. If severe anemia, transfuse or refer.**			
	Mebendazole	Do NOT give mebendazole during 1st trimester.	Give a single dose of Mebendazole (500 mg tablet) to the mother during second or third trimester.		
	IPTp for Malaria Prevention	**Do NOT give IPT during 1st trimester** Counsel mother on ITN use and provide ITN if available.	**Give 1PT1 dose in 2nd Trimester:** SP 500 mg/ 25 mg **If HIV-positive, give mother Cotrimoxazole instead of IPT**	**Give 1PT2 dose in 3rd Trimester:** SP 500 mg/ 25 mg **If HIV-positive, give mother Cotrimoxazole instead of IPT**	Counsel mother on ITN use and provide ITN if available
	Cotrimoxazole & ARV Prophylaxis	If HIV-positive, give mother: • **Cotrimoxazole prophylaxis** at every visit **(Do not give IPT).** • **ARV prophylaxis** every visit starting from 14 weeks gestation: AZT (Option A) or HAART (Option B)--- **Don't wait for CD4 result to start.** Do NOT give AZT if mother is anemic (Hb < 7.5 g/L).			

Health Promotion & Counseling; Examination & Screening

		LABOUR & DELIVERY (including the 6-hour postnatal visit)	1st POSTNATAL VISIT	2nd POSTNATAL VISIT	3rd POSTNATAL VISIT
Period of Visit		N/A	Within 1 week of delivery	Within 6 weeks of delivery	At 6 months old
Timing of Visit		**Labour, Delivery, and 1st 24 hours**	**6 days postnatal**	**6 weeks postnatal**	**6 months postnatal**
Goal		• Safe delivery for mother and baby • Ensure well-being of the newborn • identify problems in newborn baby • Ensure comfort & rehydration of mother	• Maintain physical and psychological well being of the mother and baby • Screen for complications of mother & baby, and for congenital abnormality of the baby • Provide health education on nutrition, infant feeding, immunization, family planning, hygiene, STD prevention • Promote couple dialogue, partner notification and responsible fatherhood		
Health Promotion and Counseling	**Family Planning**	• Counsel on family planning options and agree on method to be used • **Start contraceptive if appropriate**	Counsel on family planning and agree on method to be used **Start contraceptive if appropriate**	Counsel on family planning options and agree on method to be used **Start contraceptive if appropriate**	• Counsel on family planning and agree on method to be used **Start contraceptive if appropriate**
	Infant Feeding	• Discuss and agree with mother on feeding method to be practiced • Counsel on infant nutrition and how to feed properly	**Assess mother's feeding practice and counsel accordingly. Strongly recommend the following:** **HIV-negative mothers:** Breastfeed for 24 months (exclusively for the first 6 months, then add complementary feeds) **HIV-positive mothers:** Breastfeed for 12 months with ARV prophylaxis (exclusively for the first 6 months, then add complementary feeds) • If brestfeeding, counsel on how to feed properly • If replacement feeding, ensure AFASS criteria is met		
	Danger Signs	• Inform client of danger signs to look for during postpartum (see postnatal boxes for danger signs) • Sensitize to visit the health facility immediately	Inform client of danger signs to look for during postpartum: Sensitise to visit the health facility immediately **Mother: Vaginal bleeding / Convulsions / Fast or difficult breathing / Fever & weakness / Abdominal pain / Paleness / Oedema / Vaginal Discharge (Foul Smell)** **Infant: Reddening of umbilical area / Puss from the stump / High fever / Jaundice /Refusal of breastmilk / Convulsions / Grunting / Chest in-drawing**		
Examination and Screening	**Anemia**	Assess for anemia before discharge If anemic, give increased Fe/Folate	Assess for signs of anemia at every visit: **Hb Test < 11.5 g/L / Conjuctival Pallor / Palmar Pallor / Fast or Difficult Breathing / Fatigue / Swelling** **If patient has anemia: give double dose of Fe/Folate and advise on diet. Refer for blood transfusion if severe.**		
	TB	• Screen for TB; start on tx if active • **If mother has positive sputum w/in 2 months of delivery, give baby INH prophylaxis for 6 months**	1) Assess for signs and symptoms of TB at every visit: **Cough > 2 weeks / Persistent Fever / Weight Loss / Severe malnutrition / > lymph nodes / Night sweats** 2) If signs of TB, take sputums or refer for CXR 3) If active TB, start mother on TB treatment immediately **and infant on INH prophylaxis for 6 months**		
	Physical Examinations	• Symphysis-Fundal Height • Fetal Heart Rate (120-160 after 30 min) • Uterine Contractions (2-4 in 10 min) • Cervical dilation (1 cm/hr after 4 cm);	• Mother Abdomen & Vaginal Exam • Mother's Breast and Cervical Exam • Baby's Anterior Fontanelle • Baby's Umbilical Cord Stump	• Mother Abdomen & Vaginal Exam • Mother's Breast and Cervical Exam **(Pap Smear or VIA)**	• Mother Abdomen & Vaginal Exam • Mother's Breast & Cervical Exam **(Pap Smear or VIA)**
	Nutritional Status	Counsel on proper nutrition & diet for mother and baby postpartum	• Give mother 200,000IU of Vitamin A within 8 weeks of delivery • Assess infant's weight and height for age- if malnourished provide supplements or refer • Counsel on proper nutrition and diet		
	HIV Clinical Staging	If mother is HIV-positive, do WHO clinical staging	If mother is HIV-positive, do WHO clinical staging at EVERY VISIT		

Lab Investigations; Vaccination, Supplements & Prophylaxis

		LABOUR & DELIVERY (including the 6-hour postnatal visit)	1st POSTNATAL VISIT	2nd POSTNATAL VISIT	3rd POSTNATAL VISIT
Period of Visit		N/A	Within 1 week of delivery	Within 6 weeks of delivery	At 6 months old
Timing of Visit		**Labour, Delivery, and 1st 24 hours**	**6 days postnatal**	**6 weeks postnatal**	**6 months postnatal**
Lab Investigation	**HIV**	Test mother and partner for HIV (if status unknown or more than 3 months since negative test)	Test mother and partner for HIV (if status unknown or more than 3 months since negative test)	Test mother and partner for HIV (if status unknown or more than 3 months since negative test)	Test mother and partner for HIV (if status unknown or more than since negative test)
	CD4	**Take CD4 sample if mother is HIV-positive** and has not had CD4 test for 6 months	Take CD4 sample if mother is HIV-positive and has not had CD4 test for 6 months		
	Syphilis	**If mother tested positive during pregnancy, give single dose of IM benzathine penicillin to newborn baby**			
	Hb	If pregnant women showing any signs anemia, conduct Hb test. If Hb < 11.5 g/L, double the dose of Fe/Folate	If mother showing any signs of anemia (especially palor), conduct Hb test **If Hb < 11.5 g/L, patient is anemic**-- give double dose of Fe/Folate & advise on diet		
	Urine				
Vaccination, Supplements and Prophylaxis	**Vaccination**	Give BCG and OPV-0 to the newborn baby	*If not received at birth,* give BCG and OPV-0 to the infant	Give **DPT-HepB+Hib1** and **OPV-1** to the infant at 6 weeks old	Infant should have completed **OPV series and DPT-HepB-Hib series**
	Fe/Folic Acid	Give 1 tablet of iron (200 mg) and folic acid (5 mg) daily to mothers ***If anemic, give double dose***	Give 1 tablet of Iron (200 mg) and 1 tablet of Folic Acid (5 mg) daily to all postnatal mothers for 3 months ***If anemic, give double dose***		
	Mebendazole	*If not received during pregnancy,* give mother a single dose of Mebendazole	Give mother a single dose (500 mg tablet) of Mebendazole every 6 months		
	IPTp for Malaria Prevention	Counsel mother on ITN use and provide ITN if available	Counsel mother on ITN use and provide ITN if available		
	Cotrimoxazole & ARV Prophylaxis	• Give mother Cotrimoxazole • Give mother **sdNVP + AZT for 7 days** (Option A) or **ART** (Option B) • Give baby **daily NVP syrup** (Option A & B)	• Give HIV-positive mother Cotrimoxazole at each visit • Give HIV-exposed infant Cotrimoxazole starting at 6 weeks • If mother NOT on ART, give infant daily NVP through breastfeeding (for only 6 weeks if replacement feeding) • If mother on ART (either prophylaxis or treatment), give infant NVP for only 6 weeks		

Pathfinder INTERNATIONAL

FP/HIV Integration Provider Reference Tool: Family Planning Considerations Specific to HIV-Positive Clients

(includes contraindications with ARVs and common opportunistic infection drugs)

Essential Principles of FP Counseling in HIV Services

- Every HCT, ART, and PMTCT client should be assessed for FP need.
- Quality FP counseling and services should reinforce clients' ability to limit HIV transmission to HIV-negative partners and to infants.
- HCT, ART, and PMTCT clients have the right to make their own FP choice, including safer pregnancy for HIV-positive women (using risk reduction measures like ARVs and exclusive breastfeeding), if desired.

Key Messages for FP Counseling in HIV Services

- Dual method use, using condoms and a contraceptive method for good protection from infection and unintended pregnancy, should be included in FP counseling for clients with HIV.
- Generally, HIV-positive clients can use most contraceptive methods, even on ARVs.

		HIV-related treatments and conditions								
	fp options	NNRTIs: NVP	NNRTIs: EFV	NRTIs (AZT, D4T, 3TC, ABC, TDF)	Ritonavir or Ritonavir-Boosted Protease Inhibitors	Rifampicin (common for TB)	Certain Anti-Convulsants (Carbamazepine, Phenytoin, Barbituates)	Systemic Anti-Fungals (Azoles)	Untreated Chlamydia and/or Gonorrhea	Clinical AIDS/not doing well on ARVs
	Male/Female Condoms									
	COCs									
	POPs									
Progestin–Only Injectables	Implants									
	EC									
	DMPA Injectables									
	NET-EN Injectables									
	IUD Insertion									
	Tubal Ligation									
	Vasectomy									
	Natural Family Planning									
	Fertility Awareness									
	Client Desires Safer Pregnancy									

legend: Green: Method appropriate for client; No reservation of drug interaction; Yellow: Possible reduced contraceptive effect or increased side effects of hormonal method; Recommend dual method use with condoms and perfect use of method; Red: Do not use the method; Contraindication references: WHO Medical Eligibility Criteria for Contraceptive Use, 2008 Update; Contraception for Women with HIV, FHI 2005; University of Liverpool Drug Interaction Charts, 2008.

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FistulaCare

EngenderHealth for a better life

QUICK REFERENCE CHART FOR CONTRACEPTIVE METHODS

Effectiveness

Method description	Protects against STIs/HIV**	Anything to do before sex?	Use only when needed?	Reversible?	Fertility intention	Considerations
98% Vasectomy* or female sterilization ▲ One-time procedures	✖	✖	✖	✖	Limiting	Side effects : Pain at cut site, infection, bleeding at site
IUD ▲ One-time procedure	✖	✖	✖	● ▲	Limiting or spacing	Side effects : Heavier menses, cramping in the first few months
Implants ▲ One-time procedure	✖	✖	✖	● ▲	Delaying or spacing	Side effects : Menstrual changes in the first few months
85% Injectables ▲ Every 1 to 3 months (depending on injection type)	✖	✖	✖	●	Delaying or spacing	Delayed return of normal fertility Side effects : Menstrual changes may occur
Oral contraceptives Must take one pill a day	✖	✖	✖	●	Delaying or spacing	Side effects : Menstrual changes in the first few months
Condoms (male or female) Must use every time you have sex	●	●	●	●	Delaying or spacing	To ensure that condoms are used effectively every time, health workers must demonstrate condom use and ask clients to return the demonstration to ensure correct technique. Side effects : In extremely rare cases, an allergy to latex may produce an allergic reaction
70% Emergency contraceptive pills (ECP) Take within 120 hours of unprotected sex	✖	✖	●	●	Emergency prevention of pregnancy	Side effects : Nausea, vomiting if estrogen-containing ECP is used
Fertility awareness Must abstain or use condoms on fertile days	✖	✖	✖	●	Delaying or spacing	When used correctly, good method for couples interested in preventing an unintended pregnancy. Because some approaches work by identifying the fertile phase of a woman's menstrual cycle, can also be used to achieve a desired pregnancy.

▲ = Requires skilled health worker ● = Yes ✖ = No

*Must use contraceptive during first 3 months after procedure. **Use condoms to prevent STIs/HIV.

www.fistulacare.org

Adapted from: World Health Organization (WHO) and Johns Hopkins Bloomberg School of Public Health Center for Communication Programs Information and Knowledge for Optimal Health (INFO) Project. 2005. Decision-making tool for family planning clients and providers. Baltimore, MD, and Geneva.

Preferred
(Option B Plus)

THE REPUBLIC OF UGANDA

National PMTCT Programme

Option B-Plus ARVs for PMTCT:

Providing lifelong ART for pregnant mothers

Antenatal

HIV-Positive Pregnant Woman

↓

Do clinical staging, take CD4 sample and administer Cotrim
(Begin ART prophylaxis immediately if woman is past 14 weeks gestation – do not wait for CD4 result)

↓

Initiate ART

1st line (preferred): **TDF + 3TC + EFV**

1st line (alternate):
For women with CD4<350: TDF + 3TC + NVP
For women with CD4>350: AZT+3TC+EFV

*Don't use EFV in 1st trimester of pregnancy
*Women already on ART should continue existing regimen
*Don't use NVP for women with CD4>350 due to toxicity

Labor & Delivery

↓

Continue ART

For mothers attending ANC for the first time just before delivery, administer sdNVP, then initiate mother on ART

Postpartum

↓

Breastfeeding or Replacement Feeding

Mothers: Continue lifelong ART, Cotrim

Infants: Daily NVP until 6 weeks of age, Cotrim beginning at 6 weeks, DNA PCR test at 6 weeks and again 6 weeks after cessation of breastfeeding

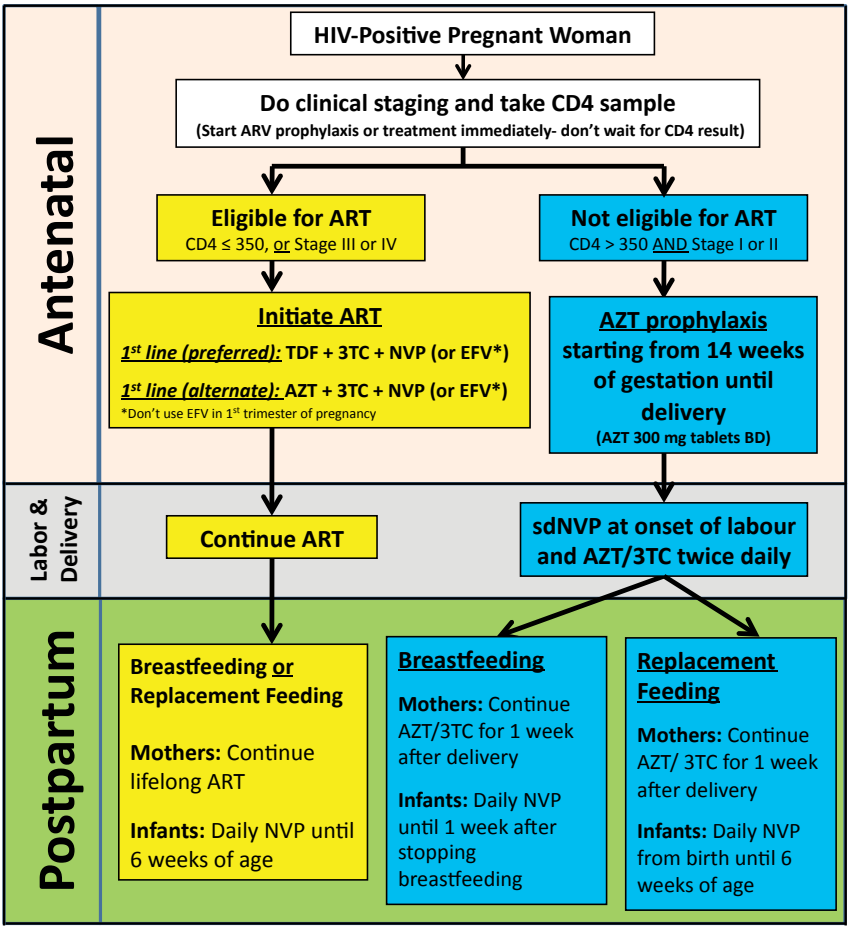
INFANT NVP DOSING (Birth to 6 weeks)	**2.0 – 2.5 kg**	**1 ml once daily**
	> 2.5 kg	**1.5 ml once daily**

Alternative
(Option A)

THE REPUBLIC OF UGANDA

National PMTCT Programme

OPTION A – ARVs for PMTCT



INFANT NVP DOSING	Age	Birth to 6 weeks		>6 weeks to 6 months	>6 months to 9 months	>9 mo to end of breastfeeding
		2.0 – 2.5 kg	> 2.5 kg			
	Daily Dose	1 ml	1.5 ml	2 ml	3 ml	4 ml

IYCF

Guidelines on Infant & Young Child Feeding (IYCF)

Contents

IYCF

Infant feeding in the context of HIV has implications for child survival. Balancing the risk of infants acquiring HIV through breast milk with the higher risk of death from malnutrition, diarrhea and pneumonia among non-breastfed infants is a challenge. Protecting the infant from the risk of death from these causes is as important as avoiding HIV transmission through breastfeeding. Replacement feeding unquestionably prevents all postnatal transmission but has been associated with increased risk of death from other causes.

Early diagnosis of HIV in children has made it possible to classify HIV- exposed children into four categories:

HIV-exposed but not HIV-infected
HIV-exposed and HIV-infected
HIV exposed and HIV infected on ARV treatment
HIV-exposed but with unknown HIV status

The IYCF program specifically aims to promote optimal feeding for the HIV-exposed children and minimize HIV transmission through breastfeeding.

Policy Guidelines for a Baby Friendly Health Facility Initiative

Best practices for successful infant and young child feeding

Help mothers initiate breast feeding within half an hour of birth. Show mothers to position and attach their babies to the breast.

Support an HIV positive mother to give the first replacement feed.

Show mothers how to breast feed and maintain lactation even when separated from their infant. Show the HIV positive mother how to maintain the safety of the replacement feeds.

Do not give all new born babies any food or any other drink unless medically indicated. Only breast milk or replacement feed should be given up to six months.

All mothers and their infants should stay in the same bed after delivery all the time, including the HIV positive mothers who have opted not to breast feed. Baby cots should not be used in maternity wards unless there is a medical reason.

Inform all pregnant women about the management and benefits of breast feeding, mother to child transmission of HIV; benefits of HIV counseling and testing; infant feeding options for HIV positive women.

All health facility administrators and staff should be trained to understand, communicate and implement these best practices for successful infant and young child feeding.

Promote the establishment of community support groups to which mothers should be referred.

Encourage all mothers to feed their infants on demand. Mothers should adhere to the recommended number of feeds in a day for the babies on replacement feeding.

Do not promote Infant Foods, Bottles, Tits, in a Health Facility. Avoid free or low cost supplies of Infant foods

Issue a properly filled-in child health card for each new-born baby. Advise the mother on follow up visits before discharge from the maternity ward.

Provide all mothers who have delivered in health facilities/clinics with 200,000IU of Vitamin A before discharge. Provide 50,000IU of Vitamin A to all babies on replacement feeding before they are discharged.

Provide all new born babies delivered in hospitals or clinics with BCG and Polio "O" vaccine before discharge.

Provide mother friendly birth practices: support during labour, limit invasive interventions, offer light food and fluids and facilitate early mother and baby contact

THE REPUBLIC OF UGANDA

Feeding Algorithm for HIV-Exposed Infants

- **All HIV-positive mothers should be STRONGLY recommended to breastfeed for the first 12 months of life while receiving ARVs (either NVP for baby or ART for mother).**
- **The benefits of breastfeeding with ARV prophylaxis outweigh the risks from replacement feeding that is not AFASS.**
- **If mothers still desire to replacement feed, AFASS criteria must be met.**

HIV-positive mother

What is the infant's HIV status?

- Unborn (Pregnant woman)
- Unknown (HIV-Exposed)
- HIV-Positive

Pregnant Woman (Unborn)
Counsel to breastfeed!

Mother willing to breastfeed?

Yes

Breastfeeding:

Counsel mother on

- **Exclusive breastfeeding until 6 month old** (No Mixed Feeding)
- **Complementary feeding from 6 months to 12 months old**

All breastfeeding infants should receive ARV prophylaxis until 1 week after cessation of breastfeeding (either NVP for baby or ART for mother)

No

Is replacement feeding AFASS?

No

Breastfeeding:

If currently breastfeeding:

- Exclusive breastfeeding until 6 months old (no mixed feeding)
- Complementary feeding from 6 months to 12 months

If currently replacement feeding: counsel to re-lactate

Yes

Replacement feeding (Exclusive)

- Counsel on use of commercial infant formula or modified animal milk

HIV-Exposed Child
(unknown status)

How old is the baby?

<12 months

Is mother currently breastfeeding?

Yes

Breastfeeding

If currently breastfeeding:

- Exclusive breastfeeding until 6 months old (no mixed feeding)
- Complementary feeding from 6 months to 12 months

If currently replacement feeding: counsel to re-lactate

No

Is replacement feeding AFASS?

No

Continue Replacement feeding

- Counsel on use of commercial infant formula or modified animal milk **(no mixed feeding below 6 months)**
- If above 6 months, infant should be receiving other feeds in addition to formula or animal milk

Yes

Continue Replacement feeding

- Counsel on use of commercial infant formula or modified animal milk **(no mixed feeding below 6 months)**
- If above 6 months, infant should be receiving other feeds in addition to formula or animal milk

12 months or older

Is it possible for mother to give baby a least 2 cups of animal milk everyday?

Yes

Weaning from breast milk

- Counsel to wean from breastfeeding over the course of 1 month
- **ARV prophylaxis for mother or baby** should continue until 1 week after completely stopping breast feeding
- **Give at least 2 cups of animal milk** and provide nutritious meals 4-5 times daily

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If currently replacement feeding, continue

No

Extended Breastfeeding

- Counsel to continue complementary feeding including nutritious meals 4-5 times daily
- **ARV prophylaxis for mother or baby should continue** until 1 week after stopping breast feeding

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If currently replacement feeding, re-lactate

HIV-Positive Child

Explain that breastfeeding protects baby from other infections. Counsel to breastfeed up to 2 years or more:

- Exclusive breast feeding until 6 months
- Complementary feeding from 6 months to 2 years or more

AFASS Criteria for Replament Feeding

Acceptable	Mother perceives no significant cultural or social barriers to replacement feeding.
Feasible	Mother has adequate knowledge, skills, resources and support to correctly mix formula or milk, and feed the infant up to 12 times in 24 hours.
Affordable	Mother and family can pay the costs of replacement feeding—fuel, clean water, and all ingredients— without compromising the health and nutrition of the family.
Sustainable	Mother has access to a continuous and uninterrupted supply of all ingredients needed for safe replacement feeding as long as the infant needs it.
Safe	Replacement feeds are correctly and hygienically stored, prepared, and fed in nutritionally adequate amounts. Infant is fed by clean hands and preferably by cup.

Exclusive Breastfeeding (0 – 6 months)

All HIV exposed infants should be EBF for the first six months.

- **HIV exposed but not HIV infected**
  - From six months continue BF until the infant is 12 months old. After 12 months, BF should be stopped only if nutritionally adequate and safe diet which includes source of milk can be provided. From birth and throughout the breastfeeding period, both the mother and baby should receive ARVs as per PMTCT guidelines.
- **HIV exposed and HIV infected**
- Continue BF as per the general population until the child is 24 months and beyond.
- **HIV exposed and HIV infected on ARV treatment**
  - Continue BF as per the general population until the child is 24 months and beyond.
- **HIV exposed and unknown HIV status**
  - Endeavour to establish the status of the infant. In the meantime, Encourage exclusive BF for the first 6 months, introduce complementary feeds at six months with continued BF until the infant is 12 months old. During this period both the mother and baby should receive ARV prophylaxis as per PMTCT guidelines. Once the infant's HIV status is established, follow the above guidelines as appropriate.
  - Mothers known to be HIV positive should be provided with life long ART if eligible or ARV prophylaxis to reduce HIV transmission through pregnancy, labor, delivery & Breastfeeding. When ARVs are unavailable, mothers should be counseled to exclusively breastfeed for the first 6 months; the HIV sero-status for the infant should be established.
  - If negative, the mother should consider discontinuing breastfeeding and use replacement feeding if affordable, feasible, acceptable, sustainable and safe (AFASS).
  - If infant is positive continue to breastfeed up to two years.
  - Complementary feeds should be started at six months of age.

Complementary Feeding (6 – 12 months)

- The mother should be encouraged breastfeed as often as the infant wants.
- HIV positive mothers who have decided to stop breastfeeding should feed their infants at least 500 ml of milk every day. (A full NICE cup is 500 ml.)
- When counseling mothers on complementary feeding; consider the following:
  - **F=Frequency,** (Feed your baby 3-5 times a day increasing frequency as the baby grows).
  - **A = Amount,** Start with 2-3 heaped tablespoons per feed. Gradually increase the amount of food to at least one-third (1/3) of a NICE cup. (A full NICE cup is 500 ml.)
  - **T = Thickness** (consistency), mothers should mash and soften the food for easy swallowing and digestion. Meat should be minced, fish flaked and bean skin removed. Animal milk or margarine/ ghee/oil (not water) can be used to soften and enrich the food. Food thickness should be gradually increased as the infants grow.
  - **V = Variety** (different kinds of foods). Encourage mothers to include at least one type of food from the food groups below daily:

- a) STAPLE FOODS: Millet flour, sorghum flour, maize flour, potatoes, matooke etc.
- b) LEGUMES: Fresh or dry beans, peas, groundnuts
- c) ANIMAL SOURCE: Milk, Meat, chicken, fish, eggs
- d) VEGETABLES: dark green leafy vegetables (dodo, nakatti, buga), tomato, eggplant, carrot, etc.
- e) FRUITS: Passion fruit, mango, pawpaw, orange, banana, watermelon, pineapple, avocado, sugarcane juice etc.
- f) FATS AND OIL: ghee, shea butter, margarine, palm oil

- **A = Active/responsive feeding.** Mothers should be encouraged to patiently and actively feed their infants and young children and to use separate plate for the infant to ensure adequate intake.
- **H = Hygiene** Counsel Mothers on hygienic food preparation and handling to avoid Foods given to contamination leading to diarrhea and illness.

This includes:

- Use of clean open cups. Discourage use of feeding bottles, teats or spouted cups as they are very difficult to clean.

Complementary Feeding

Complementary Feeding for HIV-negative infants (12 – 24 months)

- Discourage breastfeeding for mothers, whose infants are HIV negative at 12 months. Alternative forms of milk should be given; of at least 500ml a day. (1 TUMPECO)
- Encourage mothers to feed their children 5 times a day - 3 main meals and 2 extra foods between meals (snacks).

Complementary Feeding for HIV-positive infants (12 – 24 months)

- Encourage mothers to continue breastfeeding on demand, day and night up to 24 months and beyond to maintain the baby's health and nutrition.
- Counsel caregivers to:
  - Give 1 extra snack to well children and 1 extra meal (or 2 snacks) at onset of sickness.
  - Give 3 extra meals (or 2 extra meals and 1 snack) when sick and loosing weight.

Feeding a Child

Feeding a Child (2 – 6 years)

- Encourage mothers to give a variety of foods prepared from the family meal (each meal should consist of a carbohydrate, protein, vegetables) at least 3 main meals a day.
- Encourage care givers to give nutritious snacks between meals e.g. a fruit (banana, pawpaw, orange, mangoes) egg, bread, enriched thick porridge or a glass of milk.

Sick and recuperating infants and children should be fed on small, frequent meals which include porridge enriched with milk/groundnut paste/margarine/honey/oil/cooked, skinned, mashed beans; thickened soups, etc.

PAED

Guidelines for Infants & Children (PAED)

Contents

CHILDREN'S HIV SERVICES

Be their key to life

Determining HIV Exposure Status

Determining the HIV-exposure status in Infants & Children

PAED

1. Check child health card of every infant for mother's HIV Status	If mother is HIV-positive, counsel and do PCR testing on infant
2. Check mother's ANC card if no indication from child card	If mother is HIV-positive, counsel and do PCR testing on infant
3. If mother's HIV status unknown, perform a rapid HIV test on her	If mother is HIV-positive, refer her to immediate ART care and do PCR testing on infant
4. If unable to HIV test mother, perform a rapid HIV test on infant	If infant's rapid test is positive, he/she is HIV-exposed. Counsel and do PCR testing on infant

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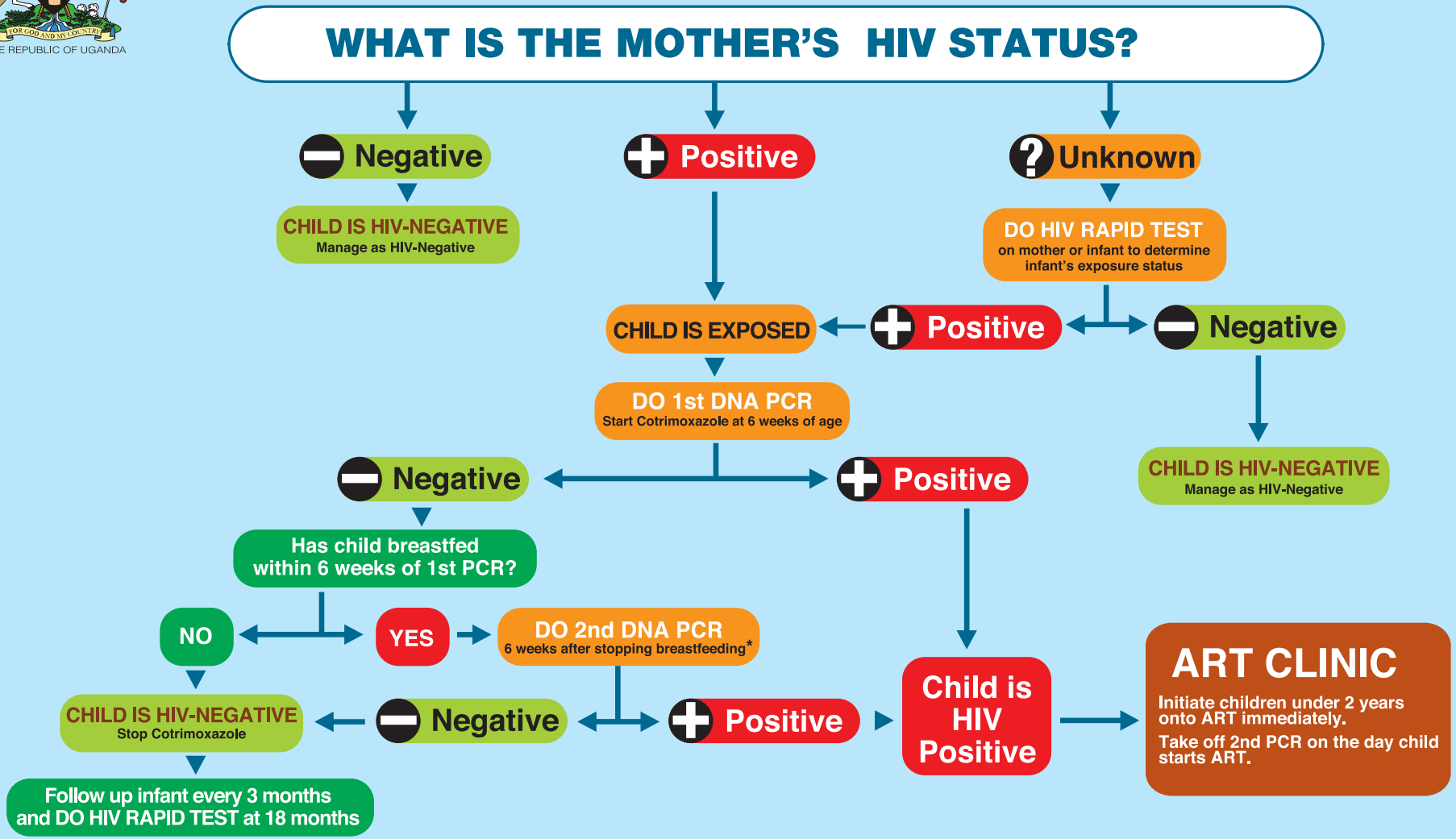
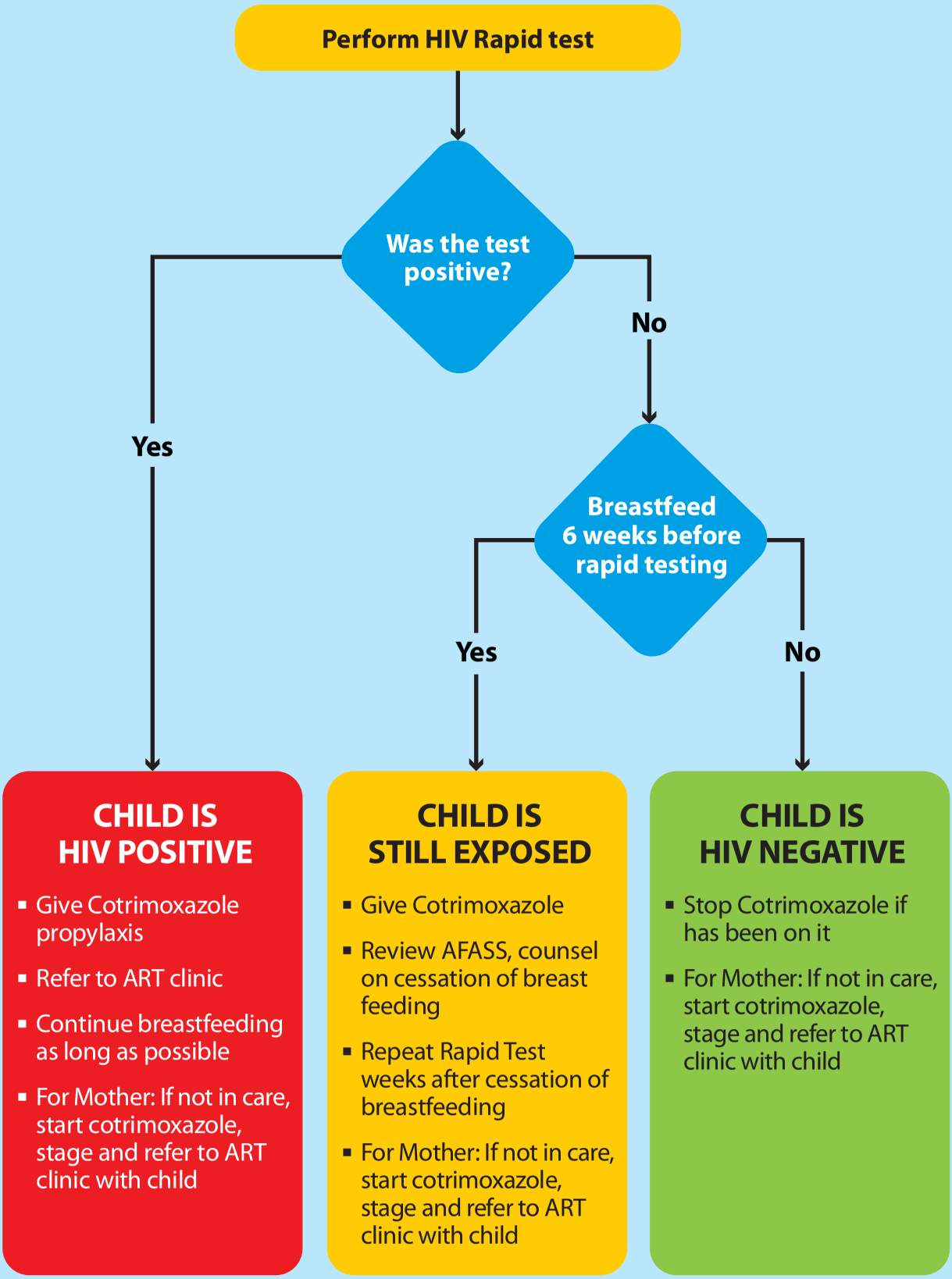
TESTING ALGORITHM FOR HIV EXPOSED INFANTS



*If infant with negative 1st PCR is symptomatic, take off a 2nd PCR immediately even when still breastfeeding.
If the 2nd PCR is negative, still take a 3rd PCR 6 weeks after stopping breastfeeding.



In sick child, repeat rapid test after 4 weeks if intial test is negative

HIV-EXPOSED INFANT VISIT SCHEDULE

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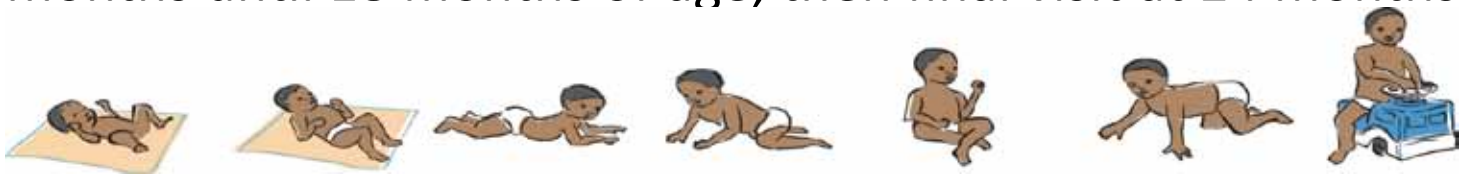
Monthly visits for the first six months of life, then every 3 months until 18 months of age, then final visit at 24 months



	Birth	6 wks	10 wks	14 wks	5 mo	6 mo	9 mo	12 mo	15 mo	18 mo	24 mo
Immunization	X	X	X	X	-	X	X	X	-	X	-
Clinical Assessment	X	X	X	X	X	X	X	X	X	X	X
Growth and Development	X	X	X	X	X	X	X	X	X	X	X
Cotrim and ARV Prophylaxis	--Start Cotrimoxazole at 6 weeks and continue until infant is determined to be HIV-negative --Start ARV prophylaxis at birth (NVP for baby or ART for mother) until 1 week after breastfeeding										
Infant Diagnosis Testing	None	**X** (if 1st PCR not yet done) 2nd PCR should be done 6 weeks after cessation of breastfeeding								Antibody test done at 18 mo	
Counseling and Feeding Advice	X	X	X	X	X	X	X	X	X	X	X
Mother's care and treatment	X	X	X	X	X	X	X	X	X	X	X

Infants should come every month until test results are received

Exposed Infants Care Guidelines

Assess for:			At birth	At 6 weeks	At 10 weeks	At 14 weeks	At 5 months	At 6 months	At 9 months	At 12 months	At 15 months	At 18 months
Immunization			Assess immunization status and refer if not up-to-date	BCG OPV-0	OPV-1 DPT-HepB+Hib1	OPV-2 DPT-HepB+Hib2	OPV-3 DPT-HepB+Hib3	N/A	Vitamin A	Measles	"Vitamin A De-worming	N/A	Vitamin A Status De-worming
Growth Measures	Girls	Under-weight		< 2.5kg	< 3.5kg	4.5kg or less	5.0kg or less	5.5kg or less	5.75kg or less	6.5kg or less	7kg or less	7.5kg or less	8kg or less
		Stunted		< 45.5cm	< 51cm	< 54cm	< 58cm	< 59.5cm	< 61cm	< 65.5cm	< 69cm	< 72cm	< 75cm
	Boys	Under-weight		< 2.5kg	< 4.0kg	4.5kg or less	5.5kg or less	6.0kg or less	< 6.5kg	< 7.0kg	< 7.5kg	8.5kg or less	< 8.75kg
		Stunted		46cm or less	< 52.5cm	< 55.5cm	< 60cm	< 62cm	< 63.5cm	67.5cm or less	71cm or less	< 74cm	< 77cm
	MUAC			**Do not do MUAC before 6 months of age.**					**MUAC < 12.5cm**				
	Check weight, length and MUAC. Compare to standards. If infant is underweight or stunted, refer to ART centre. After 6 months of age, MUAC < 12.5 cm indicates infant has moderate or severe acute malnutrition.												
Clinical Assessment for Signs and Symptoms of HIV	**Check for any of these HIV signs/symptoms at each visit. Refer to ART clinic is child has any of these signs or symptoms:** Skin Rash / Poor growth (height) / Weight Loss / Pneumonia / Oral Thrush / Persistent Diarrhea (> 2wks) Recurrent Diarrhea / Ear Infection / Palpable Lymph Nodes in more than one place												
	Inquire about & assess for recent signs and symptoms of childhood illness below and manage according to IMCI guidelines: Inability to drink or breastfeed / Breathing Difficulty / Coughing / Vomiting / Fever / Diarrhea / Lethargy / Pallor												
Developmental Assessment for Evidence of Delay	Milestones		N/A	Smiling	Controlling the head	Rolling over	Transferring objects from hand to hand	Sitting	Crawling	Standing	Walking with help	Pointing to at least 3 familiar objects cognition
			Check milestones at present age and all previous ages for possible regression. Delay may be present if child is not showing the age appropriate milestones listed above									
	Head Circum-ference		< 32cm	< 36cm	< 37cm	< 38cm	< 38.5cm	< 39.5cm	< 41.5cm	< 43cm	< 44cm	< 44.5cm
	Failure to gain developmental milestones or low head circumference may be suggestive of HIV encephalopathy. Infants showing delay must be referred to ART centre.												
NVP Prophylaxis			Weight < 2.5 kg 1 ml once daily	2 ml once daily				3 ml once daily	4 ml once daily				
			Weight > 2.5 kg 1.5 ml once daily										
	• If mother not on ART and breastfeeding, infant should receive daily NVP until 1 wk after stopping breasteeding (only for 6 wks if not breastfeeding) **• If mother receiving ART either as treatment or prophylaxis, infant should receive daily NVP until 6 weeks old-- irrespective of feeding option**												
Cotrimoxazole Prophylaxis			**Cotrimoxazole Dosing**	**< 5.0kg**	**5.0 - 14.9kg**								
			Oral Solution (200mg TMP + 40mg SMX per 5ml)	2.5ml daily	5ml daily								
			Junior Tablet (100mg TMP + 20mg SMX)	1 tab daily	2 tabs daily								
			Single-strength Tablet (400mg TMP + 80mg SMX)	0.25 tabs daily	0.5 tabs daily								
	All HIV-exposed infants must receive CTX from 6 weeks until confirmed HIV-negative (after breastfeeding)												
HIV Testing			N/A	Do 1st PCR	Do 1st PCR if not yet completed; Do 2nd PCR 6 weeks after cessation of breastfeeding							Rapid Test confirmation at 18 months	
	PCR testing is necessary to definitively diagnose HIV in infants. Antibody tests cannot confirm HIV infection until 18 months.												
Feeding advice			Exclusive breast feeding unless replacement feeding is AFASS*; no mixed feeding					Continue breastfeeding while introducing other feeds (Complimentary Feeding)		Stop breastfeeding.			
	Mothers should be strongly recommended to breastfeed for 12 months. If mother prefers to replacement feed, ensure AFASS* criteria is met. Counsel not to mixed feed.												

Baseline Assessment for Infants & Children with HIV

Following confirmation of HIV infection status, the baseline clinical assessment for children should include:

- Weight, height, head circumference and other measures of growth.
- Clinical staging of HIV disease.
- Developmental status assessment.
- Screening for malaria, TB disease, and exposure to TB.
- Identification of concomitant medical conditions (e.g. hepatitis B or C infection, TB, other Co infections or OIs, pregnancy in adolescent girls).
- Details of concomitant medications, including co-trimoxazole and Anti TB's.
- Nutritional status, including assessment of the quality and quantity of intake.
- For those eligible for ART, assessment of the child's and caregiver's preparedness for therapy.

Routine Monitoring for Children not yet on ART

- Manage the child in same clinic with mothers/parents and other family member who are HIV positive.
- Ensure that the appointment dates of the child are synchronized with that of the Mother/parents.
- Should visit the HIV clinic every month to receive clinical care and refill their drugs.
- Do clinical evaluation every one to two months.
- Do WHO clinical staging at every visit and CD4 every 6 months at a minimum.

Routine Clinical Assessment for infants & children on ART

Parameter	Issues to Evaluate
Review Interim medical History	• Assess for TB exposure
Assess growth and nutrition	• Weight , height, head circumference and Mid upper arm (for children after 6 months of age)
Perform physical exam	• As directed by symptoms
Assess development progress	• Evaluate the developmental milestone. Look out for encephalopathy characterized by delayed or loss of milestones
Identify concomitant conditions	• Opportunistic infections e.g. TB, Monitor for decrease or increase in frequency of OIs • For adolescents always monitor for pregnancy
Do HIV disease staging	• Assessment for OIs will guide the staging
Check adherence to ART	• Evaluate the child's and caregivers understanding of ART • Adherence can be done by - Pill counts at the clinic or an announced pill count at home - Self reporting by patient can also be used to assess adherence though it is limited by recall bias. - In advance care centers, patient drug levels can be used to assess adherence. It more expensive but more reliable.
Prescribe correct ARV dose	• Use the ARV dosing guide to prescribe the right dose
Review concomitant medication	• Consider drug interaction • Check out cotrimoxazole and INH therapy. Make dose adjustments
Discuss findings	• Always explain the findings from the visit mean
Provide referral as needed	• For support services and other required clinical services like Lab
Advice and guide	Re enforce and support adherence to ART, nutrition, when to seek medical care and medication side effects
Schedule lab tests if indicated	Infants and children started on ART on the basis of presumptive diagnosis of severe HIV disease should have confirmation of their HIV status as soon as possible
Schedule next visit	Frequency of follow up visits depends on the response to ART

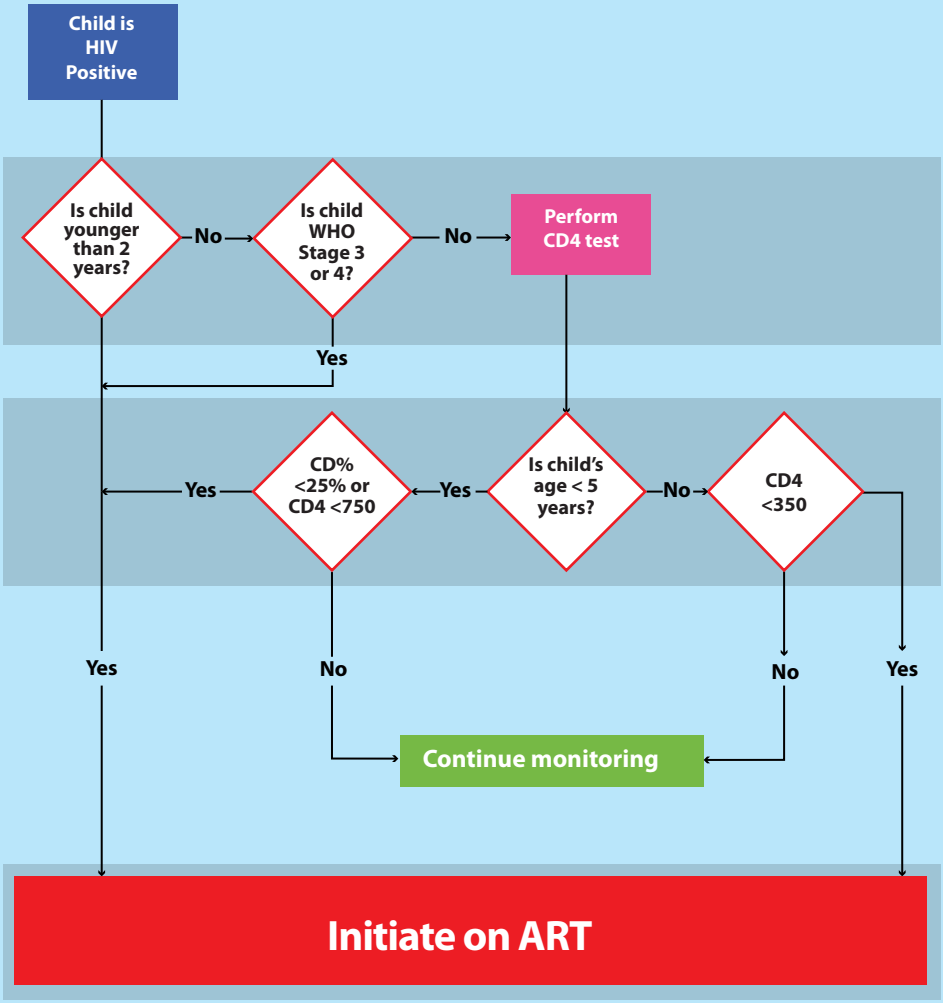
Laboratory Parameters for Monitoring Infants & Children at Baseline, Before and During ART

Lab test for diagnosis & monitoring	Baseline (entry into care)	Initiation of 1st or 2nd regimen	Every 6 months	As required or symptom directed
HIV diagnostic testing	✔			
Hb	✔	✔		✔
CD4% or Absolute CD4 count	✔	✔	✔	✔
WBC and differential				✔
Pregnancy test in adolescents				✔
Chemistry				✔
Viral Load				✔
OI screening	✔			✔

Visit Schedule for Infants & Children on ART

• **FOR INFANTS (<12 months)**	At 2 weeks, then every 4 weeks for the 1st year
• **FOR CHILDREN(≥ 12 month)**	At weeks 2, every 4 weeks for 1st 6 months and then every 2 months once the child has stabilised on therapy

Guide for Assessing Children for ART Eligibility



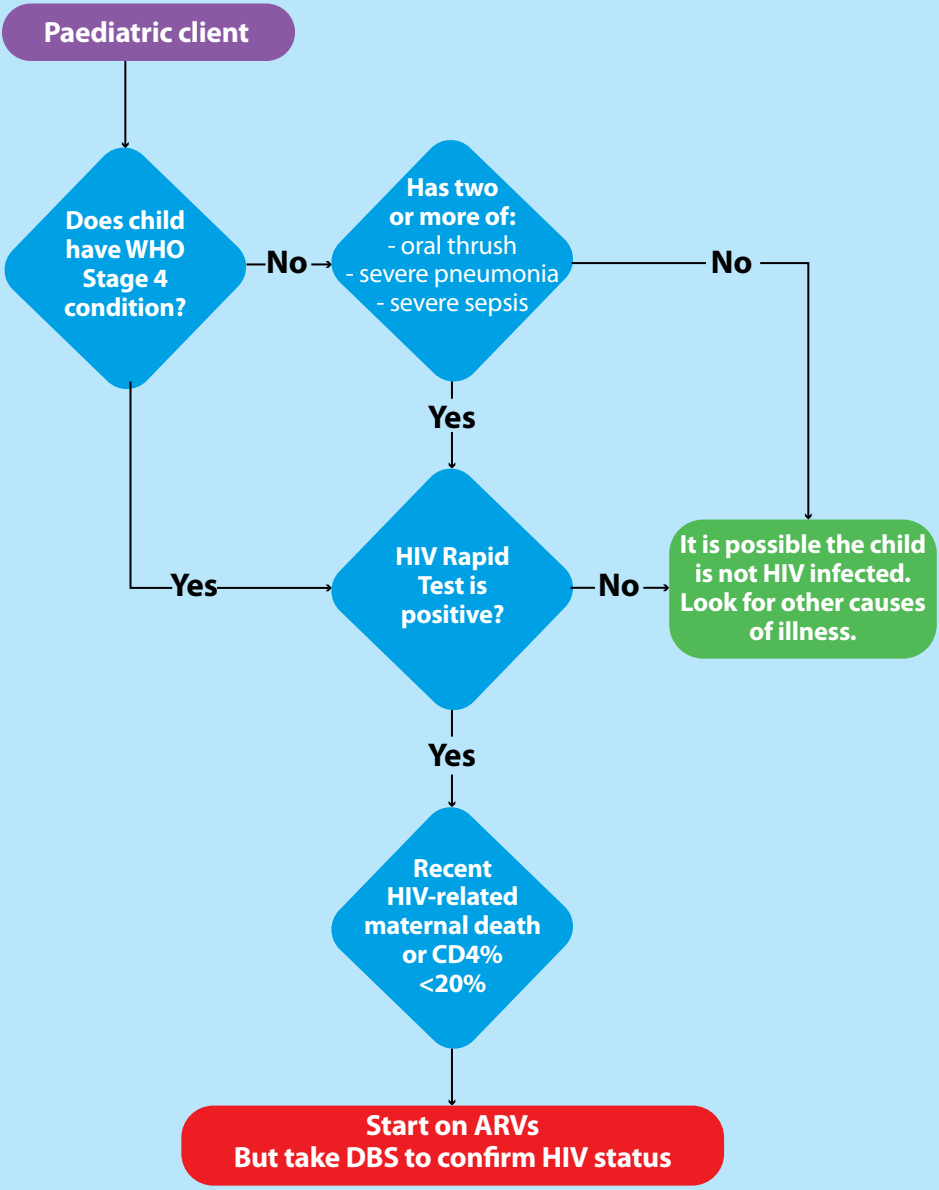
When to Initiate ART in Children

All HIV-positive children should be clinically staged and recieve a CD4 test when possible to determine the eligibility for ART, except for children ***under 2 years of age*** *who should* ***initiate ART immediately irrespective of clinical or immunological stage***

Age	Criteria for Initiating ART		
	WHO Clinical Staging	CD4%	CD4 Count
Under 2 years	Initiate ART if child is confirmed HIV Positive, regardless of CD4 or Clinical Staging		
2 to < 5 years	Initiate ART if Stage III or Stage IV	< 25%	< 750
5 years & above		N/A	< 350

ART Initiation Criteria for Infants & Children

Presumptive Diagnosis of HIV: Starting ART in Infants (<18 months) without confirmed HIV Status



Adherence Counseling Schedule

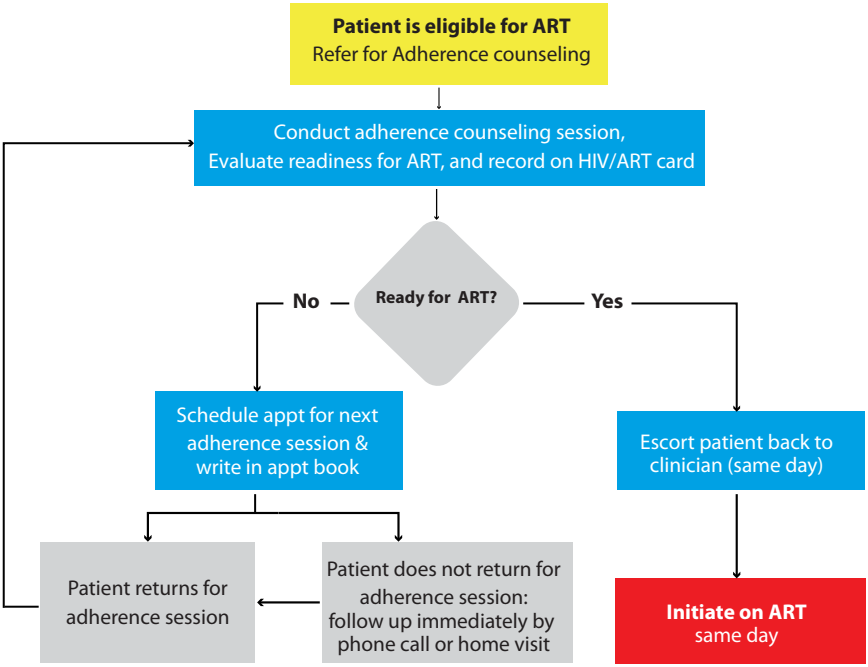
All HIV+ Children should be initiatiated on ART within 7 days of becoming eligible

Standard Counseling Schedule	
1st adherence Session	On day when ART eligibility is determined
1st adherence Session	1 week after the 1st session
Continue adherence counseling as patience takes ARVs	

Exception to Standard Counseling Schedule:

- Children whose caregivers demonstrate readiness at the 1st session should be initiated immediately.
- Children with significant barriers to adhrence, could have an added adherence counseling sessions.

ART Preparation Process



1st line ART Regimens for Infants & Children

Regimens	Comments
***Preferred* 1st Line Regimens**	
AZT*/3TC/NVP or **AZT*/3TC/EFV[1]**	*If a child is anemic (Hb <7.5g/dl) do not use AZT. Use ABC based regimen.
1st Alternative Regimens	
ABC/3TC/ NVP or ABC/3TC + EFV[1]	
2nd Alternative Regimens	
D4T/3TC/ NVP or D4T/3TC + EFV[1]	• D4T should only be used if preferred or 1st alternative regimens are contraindicated or missing • All children above 5 years on D4T based regimens should be switched to AZT based regimen
Regimens for children exposed to NVP during PMTCT	
AZT/3TC/LPV/r	•Children whose exposure to NVP is more than 24 months ago, the preferred 1st line ARV regimens
ABC/3TC/LPV/r	
D4T/3TC/LPV/r	

[1] Do not use EFV in children under 3 yrs (or 15 kg).

1st and 2nd line ART Regimens for Infants & Children

Preferred 1st line Regimens	*Preferred 2nd line Regimens*
AZT*/3TC/NVP or AZT*/3TC/EFV	ABC/3TC+LPV/r
1st Alternative Regimens	
ABC/3TC/ NVP or ABC/3TC + EFV	AZT/3TC+LPV/r
2nd Alternative Regimens	
D4T/3TC/ NVP or D4T/3TC + EFV	ABC/3TC+LPV/r
For children exposed to NVP during PMTCT	
AZT/3TC/LPV/r	ABC/3TC/NVP or ABC/NVP/EFV
ABC/3TC/LPV/r	AZT/3TC/NVP or AZT/NVP/EFV
D4T/3TC/LPV/r	ABC/3TC/NVP or ABC/NVP/EFV

1st and 2nd Line ART Regimens for Infants & Children

When to Switch ART Regimens

A regimen should only be switched by using the following criteria after at least 24 weeks on ART in a treatment-adherent child

Clinical Criteria	▪ New Stage 4 event or ▪ New Stage 3 event & No improvement with treatment
Immunologic (CD4) Criteria	A drop in CD4 or failure of CD4 count to rise above these values ▪ Child less than 5 years: CD4 count of < 200 cells/mm3 or %CD4 <10 ▪ Child 5 years and above: CD4 count of < 100 cells/mm3
Virological Criteria	Viral load > 5000 copies/ml

Guiding Principles for managing ART Drug Toxicity

- ✔ Determine the seriousness of the toxicity.
- ✔ Evaluate concurrent medications and establish whether the toxicity may be attributable to an ARV drug or drugs, or to a non-ARV medication taken at the same time.
- ✔ Consider other disease processes. Not all problems that arise during treatment are caused by ARV drugs.
- ✔ Manage the adverse reaction according to its severity.
- ✔ In general:
  a) Severe life-threatening reactions: Immediately discontinue all ARV drugs, manage the medical event and reintroduce the ARV drugs using a modified regimen (substituting the offending drug) when the patient is stabilized.
  b) Severe reactions: Substitute the offending drug without stopping the ART.
  c) Moderate reactions: Consider continuation of ART as long as feasible. If the patient does not improve on symptomatic therapy, consider single –drug substitution.
  d) Mild reactions: Reassure the child and caregiver that while the reaction may be bothersome, it does not require a change in therapy; provide support to mitigate the adverse reactions as well as counseling about the events.
- ✔ Stress the maintenance of adherence despite toxicity for mild and moderate reactions.

Recommended ARV Drug Substitutions for Infants & Children with severe toxicities

Toxicity event	Responsible ARV drug	Suggested first line ARV drug substitution
Acute symptomatic hepatitis	NVP	EFV
Hypersensitivity reaction		A 3rd NRTI (e.g. ABC) or PI (e.g. LPV/r)
Steven Johnson Syndrome (Severe or life threatening rash)		
Lactic acidosis	d4T	ABC
Peripheral neuropathy		AZT or ABC
Pancreatitis		
Lipoatrophy/ metabolic syndrome		ABC
Severe anemia or neutropenia	AZT	d4T or ABC
Lactic acidosis		ABC
Severe gastrointestinal intolerance		d4T or ABC
Persistent and severe central nervous system toxicity	EFV	NVP
Potential terratogenicity (applies to adolescent girls in first trimester of pregnancy)		
Hypersensitivity reaction	ABC	AZT
Lipoatrophy/ metabolic syndrome	LPV/r	NNRTI
Dyslipidaemia		
Severe diarrhea		

Treatment Regimen for HIV-infected Infants & Children with TB

TB cases & diagnostic category	Anti-TB drug	
	Intensive phase	Continuation phase
New patient regimen		
• Smear positive PTB • Smear Negative PTB with or without extensive Parenchyma involvement • All forms of EPTB except TB meningitis and osteo-articular TB	2HRZE	4HR
New patient regimen		
TB meningitis and Osteo-articular TB	2HRZE	10HR
MDR regimen MDR TB	Individualized regimens	

Anti-TB Drug Doses

Drug	Daily Dose in mg/kg Range (max)
Isoniazid	10-15 (300mg)
Rifampicin	10-20 (600mg)
Ethambutol	15-25 (1200mg)
Pyrazinamide	30-40 (2000mg)

ARVs for Infants & Children with TB-HIV Co-infection

<table>
<tr><th>Situation</th><th>Regimen</th><th>Comments</th></tr>
<tr><td rowspan="2">< 3 years</td><td>Preferred
AZT + 3TC + ABC</td><td rowspan="3">If make TB diagnosis & child is not on ART;
• Start TB treatment and Initiate ART 2-8 weeks after initiating TB treatment

If make TB diagnosis & child is on ART;
• Start TB treatment immediately

• For children 3 years and older who are NVP based regimen, it should be substituted with EFV

• For children under 3 years maximize dose of NVP to 200mg/m2 or give a triple NRTI regimen (AZT/3TC/ABC)

• For patients on a regimen containing LPV/r, adjust RTV dose to LPV: RTV ratio of 1:1</td></tr>
<tr><td>Alternative
AZT + 3TC + NVP</td></tr>
<tr><td rowspan="2">≥ 3 years</td><td>Preferred
AZT + 3TC + EFV</td></tr>
<tr><td>Alternative
ABC + 3TC + EFV</td></tr>
</table>

Guidelines for Isoniazid Preventive Therapy (IPT) for Infants & Children

	CHILDREN		ADULTS
	<12 months	>12 months	
TB exposed	Yes-for 6 months		Yes-for 12 months
Not TB exposed	No	Yes-for 6 months	No

NOTE: Active TB must always be ruled out before initiating on IPT

- The recommended dose of INH for preventive therapy in HIV co-infection in children is 10 mg/kg/daily for 6 months (maximum 300 mg/day)

MINISTRY OF HEALTH

WHO Paediatrics HIV

	WHO Clinical Stage 1 *Asymptomatic*	WHO Clinical Stage 2 *Mild Disease*
Growth		
Symptoms Treat common and opportunistic infections according to IMCI guidelines	No symptoms or only: • Persistent generalized lymphadenopathy	• Unexplained persistent enlarged liver and/or spleen • Unexplained persistent parotid enlargement • **Skin conditions** (e.g. chronic dermatitis, fungal infections or extensive molluscum contagiosum, extensive wart, seborrhoeic dermatitis, prurigo, herpes zoster) • Fungal nail infection • **Recurrent or chronic** (sinusitis, ear infections, pharyngitis, tonsillitis bronchitis) • **Mouth conditions** (Recurrent oral ulceration, angular cheilitis, lineal gingival Erythema)
Prophylaxis	• Cotrimoxazole prophylaxis • INH prophylaxis, after excluding active TB	• Cotrimoxazole prophylaxis • INH prophylaxis, after excluding active TB
ARV therapy	Start ART if: • <2 Years treat all, irrespective of CD4 % or count • 2 to <5 Years CD4 < 25% (< 750 cells/mm3) • > 5years CD4 < 350 cells/mm3	Start ART if: • <2 Years treat all, irrespective of CD4 % or count • 2 to <5 Years CD4 < 25% (< 750 cells/mm3) • > 5years CD4 < 350 cells/mm3

Clinical Staging

World Health Organization

	WHO Clinical Stage 3 *Advanced Disease*	WHO Clinical Stage 4 *Severe Disease (AIDS)*
Growth	Moderate unexplained malnutrition not adequately responding to standard therapy (very low weight for age, or low height for age,or low weight for height)	Severe refractory wasting or severe malnutrition unexplained and not adequately responding to standard therapy
Symptoms Treat common and opportunistic infections according to IMCI guidelines	• Oral thrush (after the first six to eight weeks • Oral hairy leukoplakia • Unexplained and unresponsive to standard therapy – Diarrhoea >14 days – Fever >1 month (intermittent or constant, > 37.5 0 C) – Thrombocytopenia* (<50,000/mm3 for > 1 mo – Neutropenia* (< 5000/mm3 for 1 mo) – Anaemia for >1 month (Hb < 8 gm)* • Recurrent severe bacterial pneumonia • Pulmonary TB • TB Lymphadenopathy • Chronic HIV-associated lung disease, including bronchiectasis • Symptomatic LIP* • Acute necrotizing ulcerative gingivitis/periodontitis	• Oesophageal thrush • More than one month of herpes simplex infection • Severe recurrent bacterial infections > 2 episodes in a year (e.g. muscle, bone or joint infection, not including pneumonia) • Pneumocystis pneumonia (PCP)* • Kaposi's sarcoma • Extrapulmonary tuberculosis • Toxoplasma brain abscess* • Cryptococcal meningitis* • HIV encephalopathy*
Prophylaxis	• Cotrimoxazole prophylaxis • INH prophylaxis, after excluding active TB	• Cotrimoxazole prophylaxis • INH prophylaxis, after excluding active TB
ARV therapy	• Start ART irrespective of the CD4 count • TB infected start ART within 2-8 weeks of initiating TB treatment	Start ART irrespective of the CD4 count and should be started as soon as possible. • If HIV infection is NOT confirmed in infants<18 months, presumptive diagnosisof severe HIV disease can be made on the basis of **: HIV antibody positive AND one of the following: – AIDS defining condition OR – Symptomatic with two or more of: · Oral thrush · Severe pneumonia · Severe sepsis

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Paediatric ART Dosing by Formulation and Weight Range. Feb 2011

		3-5.9 Kg	6-9.9 Kg	10-13.9 Kg	14-19.9 Kg	20-24.9 Kg	25-29.9 Kg
Fixed-Dose Combination Tablets	AZT/3TC/NVP 60/30/50mg	1 BD	1.5 BD	2 BD	2.5 BD	3 BD	Use Adult
	AZT/3TC 60/30mg	1 BD	1.5 BD	2 BD	2.5 BD	3 BD	Use Adult
	ABC/3TC 60/30mg	1 BD	1.5 BD	2 BD	2.5 BD	3 BD	.5 Adult BD
	d4T/3TC/NVP 6/30/50mg (Baby)	1 BD	1.5 BD	2 BD	2.5 BD	3 BD	Use Adult
	d4T/3TC 6/30mg (Baby)	1 BD	1.5 BD	2 BD	2.5 BD	3 BD	Use Adult
	d4T/3TC/NVP 12/60/100mg (Junior)	0.5 BD	1 AM / 0.5 PM	1 BD	1.5 AM / 1 PM	1.5 BD	Use Adult
	d4T/3TC 12/60mg (Junior)	0.5 BD	1 AM / 0.5 PM	1 BD	1.5 AM / 1 PM	1.5 BD	Use Adult
Single-Dose Tablets/Capsules	AZT 300mg	nr	nr	nr	0.5 BD	1 AM / 0.5 PM	1 BD
	ABC 300mg	nr	nr	nr	0.5 BD	1 AM / 0.5 PM	1 BD
	ABC 60mg	1 BD	1.5 BD	2 BD	2.5 BD	3 BD	Use Adult
	3TC 150mg	nr	nr	nr	0.5 BD	1 AM / 0.5 PM	1 BD
	NVP 200mg	nr	nr	nr	1 AM / 0.5 PM	1 AM / 0.5 PM	1 BD
	NVP 50mg	1 BD	1.5 BD	2 BD	2.5 BD	3 BD	Use Adult
	EFV 200 - 100 - 50mg	nr	nr	200mg daily	300mg daily	300mg daily	400mg daily
	ddI 25mg (buffered)	3-4.9kg NR 5-5.9kg 2 BD	3 AM / 2 PM	3 BD	4 AM / 3 PM	4 BD	5 BD
	ddI 125 - 200 - 250mg (enteric-coated)	nr	nr	125mg: 1 daily	200mg: 1 daily	250mg: 1 daily	250mg: 1 daily
	LPV/r 100/25mg	nr	nr	2 AM / 1 PM	2 BD	2 BD	3 BD
	LPV/r 200/50mg	nr	nr	nr	1 BD	1 BD	2 AM / 1 PM
Oral Solutions	AZT 10mg/ml	6ml BD	9ml BD	12ml BD	nr	nr	nr
	d4T 1mg/ml	6ml BD	9ml BD	nr	nr	nr	nr
	3TC 10mg/ml	3ml BD	4ml BD	6ml BD	nr	nr	nr
	NVP 10mg/ml	5ml BD	8ml BD	10ml BD	nr	nr	nr
	ABC 20mg/ml	3ml BD	4ml BD	6ml BD	nr	nr	nr
	LPV/r 80/20 mg/ml	3-3.9kg: 1ml BD 4-5.9kg: 1.5ml BD	1.5ml BD	2ml BD	2.5ml BD	3ml BD	3.5ml BD

Cotrimoxazole Dosing by Formulation and Weight Range

		< 5 Kg	5-14.9 Kg	15-29.9 Kg	> 30 Kg
Cotrimoxazole	200+40mg/5ml (Oral Solution)	2.5ml daily	5ml daily	10ml daily	nr
	100+20mg (Tablet)	1 daily	2 daily	4 daily	nr
	400+80mg (Tablet)	0.25 daily	0.5 daily	1 daily	2 daily
	800+160mg (Tablet)	nr	nr	0.5 daily	1 daily

ADULT

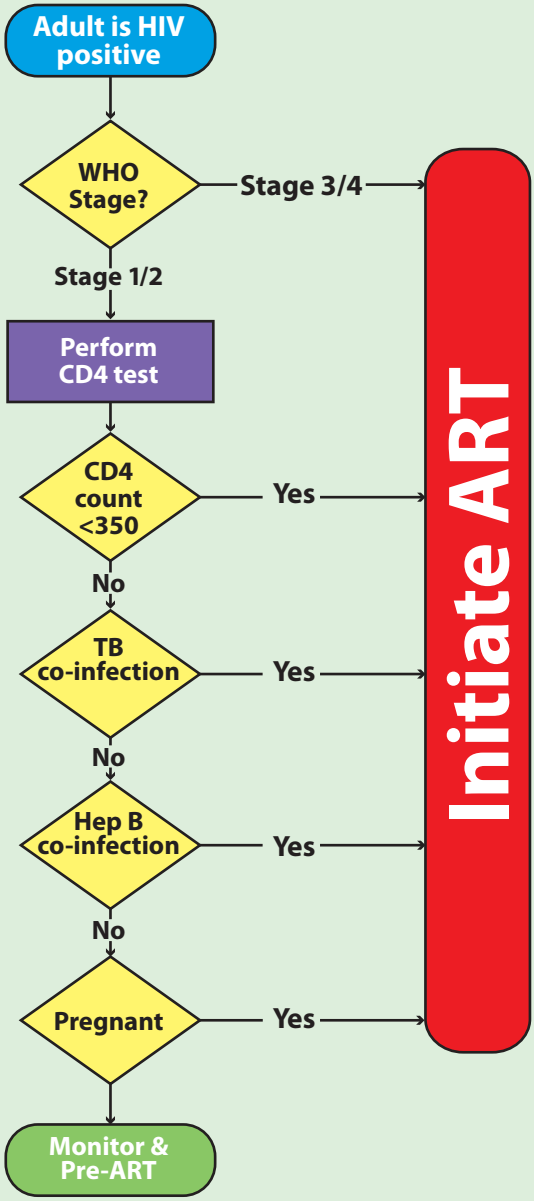
Guidelines for Adults & Adolescents (ADULT)

Contents

Positive living
everyday for life

ART Initiation Criteria for Adults

ART Eligibility - Adults



Guidelines:

- Always initiate if CD4 count is less than 350
- Always initiate patients who are WHO clinic stage 3 or 4
- Other exceptions for initiation:
  - Initiate if patients has TB co-infection
  - Initiate if patient has Hep B co-infection
  - Initiate on prophylaxis (PMTCT) if pregnant

ART Regimens for Adults & Adolesents

1st line ART Regimens for Adults

Preferred: TDF + 3TC + (NVP or EFV)

Alternative:
AZT + 3TC + (NVP or EFV)

Alternative for patients with poor renal function AND anaemic:
ABC + 3TC + (NVP or EFV)

If women has received SD NVP in the last 6 months:
- **Preferred:** TDF/3TC or FTC + ATV/r (or LPV/r)
- **Alternative:** AZT/3TC + ATV/r (or LPV/r)

Additional comments:

- **d4t** is **no longer recommended** as it may cause lipoatrophy & neuropathy
- **TDF + 3TC** is now the **preferred NRTI** backbone for the 1st line regimen
- **ddI** is **no longer recommended** due to low efficacy and high toxicity
- PI (ATV/r and LPV/r) should be reserved for 2nd Line
- EFV can be used for treatment of TB co-infected patients (not NVP)

Existing patients on AZT SHOULD NOT be switched. This could eliminate the patient's chances of being switched to 2nd line when needed.

1st and 2nd line ART Regimens for Adults

1st line regimen		Preferred 2nd line regimen
AZT + 3TC + (EFV or NVP) D4T + 3TC + (EFV or NVP)	→	TDF/3TC or FTC + ATV/r (or LPV/r)
TDF + 3TC or FTC + (EFV or NVP)	→	AZT + 3TC + ATV/r (or LPV/r)
For women who started with PI based regimens as their first line		
TDF/3TC (FTC) + ATV/r	→	AZT/3TC + LPV/r
AZT/3TC +ATV/r	→	TDF/3TC (FTC) + LPV/r

Other comments:

- ATV/r is now the **recommended PI.** Compared to LPV/r, ATV/r :

- Has lower pill burden:1 pill compared to 4: Can lead to increased adherence
- Is cheaper: Allows the National System to increase scale up with available monies

- LPV/r can be used by ATV/r experienced adults
- Existing patients can be **actively transitioned** from LPV/r to ATV/r
- Maintaining 3TC in 2nd line can improve effectiveness of AZT or TDF
- No **new** patients should be put on a ddI containing regimen

All NEW 2nd line adult patients should be put on ATV/r instead of LPV/r

TB-HIV Co-infection – INH Prophylaxis

TB-HIV Co-infection – INH Prophylaxis

INH prophylaxis in ADULTS

- All HIV-infected adults exposed to TB but without active disease should get IPT
- Test for TB is not required, can use symptoms: current cough, fever, night sweats and weight loss
- INH should be given at a dose of 300mg orally once a day for 12 months

Hepatitis B – HIV Co-infection

Hepatitis B – HIV Co-infection

Hep B/HIV Co-infected	1st Line	Preferred	TDF + 3TC + EFV
		Alternative	AZT + 3TC + NVP
	2nd Line	Preferred	TDF + AZT + 3TC + ATV/r
		Alternative	TDF + 3TC + ATV/r

- EFV is the preferred NNRTI option as the use of Nevirapine is not recommended for those with marked elevations of ALT live toxicity (grade 4 or higher)
- May occur as part of IRIS
- f it is not possible to distinguish a serious HBV flare from ART toxicity, all ARV drugs should be withheld until the clinical condition improves

MINISTRY OF HEALTH

WHO Adolescent & Adults

	WHO Clinical Stage 1 *Asymptomatic*	**WHO Clinical Stage 2** *Mild Disease*
Symptoms Treat common opportunistic infections. Consult/refer if required. See the IMAI Acute Care guidelines module. Follow the treatment plan from district clinic.	No symptom or only: Persistent generalised lymphadenopathy **Performance Scale 1:** Asymptomatic, normal activity	1. Moderate weight loss (less than 10% of presumed or measured body weight) 2. Minor mucocutaneous manifestations (seborrhoeic dermatitis, prurigo, fungal nail infections, recurrent oral ulcerations, angular stomatitis) 3. Herpes zoster within the last 5 years 4. Recurrent upper respiratory tract infections, e.g. bacterial sinusitis, tonsillitis, otitis media and pharyngitis **And/or Performance Scale 2:** Symptomatic but normal activity
Prophylaxis	Contrimoxazole	Contrimoxazole prophylaxis
ARV therapy	Only if CD4 ≤ 350	Only if CD4 ≤ 350

HIV Clinical Staging

World Health Organization

	WHO Clinical Stage 3 ***Advanced Disease***	**WHO Clinical Stage 4** ***Severe Disease (AIDS)***
Symptoms Treat common opportunistic infections. Consult/refer if required. See the IMAI Acute Care guidelines module. Follow the treatment plan from district clinic.	1. Moderate weight loss (less than 10% of presumed or measured body weight) 2. Minor mucocutaneous manifestations (seborrhoeic dermatitis, prurigo, fungal nail infections, recurrent oral ulcerations, angular stomatitis) 3. Herpes zoster within the last 5 years 4. Recurrent upper respiratory tract infections, e.g. bacterial sinusitis, tonsillitis, otitis media and pharyngitis **And/or Performance Scale 2:** Symptomatic but normal activity	1. HIV wasting syndrome – weight loss of more than 10% & either unexplained chronic diarrhoea for more than 1 month, or chronic weakness or unexplained prolonged fever for more than 1 month 2. Pneumocystis pneumonia (PCP) 3. Recurrent severe bacterial pneumonia 4. Toxoplasmosis of the brain 5. Cryptosporidiosis with diarrhoea for more than 1 month 6. Chronic isosporiasis 7. Extrapulmonary cryptococcosis including meningitis 8. Cytomegalovirus infection (retinitis or infection of other organs) 9. Herpes simplex virus (HSV) infection, mucocutaneous for more than 1 month, or visceral at any site 10. Progressive multifocal leukoencephalopathy (PML) 11. Any disseminated endemic mycosis such as histoplasmosis, coccidioidomycosis 12. Candidiasis of the oesophagus, trachea, bronchi or lungs 13. Atypical mycobacteriosis, disseminated 14. Recurrent non-typhoid salmonella septicaemia 15. Extrapulmonary tuberculosis 16. Lymphoma 17. Invasive cancer of the cervix 18. Kaposi's sarcoma 19. HIV encephalopathy 20. Atypical disseminated leishmaniasis 21. Symptomatic HIV-associated nephropathy or symptomatic HIV associated cardiomyopathy **And/or Performance Scale 4:** Bed-ridden for more than 50% of the day during the last month
	Contrimoxazole prophylaxis	Contrimoxazole prophylaxis
	All stage 3 are medically eligible for ART, irrespectiveof CD4 count	All stage 3 are medically eligible for ART, irrespectiveof CD4 count