

# UPDATE TRAINING ARV TREATMENT GUIDELINES

TRAINERS CASE STUDIES & ANSWER GUIDE



health

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Department:  
Health  
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## Contents

Group Work Instructions.....	2
PMTCT .....	3
Case Study 1: Unbooked Pregnant Women .....	3
Case Study 2: First ANC Visit.....	6
Case Study 3: Return Visit .....	9
Case Study 4: 6 days Postnatal Visit .....	12
<b>Case Study 5: TB and HIV .....</b>	<b>14</b>
Case Study 6: Failure to Thrive Baby .....	17
Paediatric.....	19
Case Study 1: Eligibility For Art.....	19
Case Study 2: Nancy: infant (<1yr) .....	21
Case Study 3: Thabo: Child (1-5Yrs).....	23
Case Study 4: Sara (Adolescent): case targeted at Drs.....	25
Case Study 5: Providing ART follow-up care.....	29
<b>Adult and Adolescent .....</b>	<b>29</b>
Case 1 .....	29
Case 2 .....	29
Case 3 .....	30
Case 4 .....	30
Case 5 .....	31
<u>Case 1 Answers.....</u>	<u>32</u>
<u>Case 2 Answers.....</u>	<u>32</u>
<u>Case 3 Answers.....</u>	<u>33</u>
<u>Case 4 Answers.....</u>	<u>33</u>
Case 5 Answers.....	34

## Group Work Instructions

- Ask participants to form a team of 4-5 persons
- Provide each team with a different case study to work on
- The purpose of the case studies is to apply the technical information to real life settings
- Each group will have 30 minutes to discuss the case study and answer the key questions.
  - One group member should be selected to facilitate the group discussion;
  - one to take notes on a flip chart (if available) and
  - one to present to the plenary.
- Each group will have 10 minutes to present

For each case the team members must answer **4 questions** :

1. How would you treat the patient today? (give a detailed account of clinical practice)
2. What follow-up treatment is required?
3. What referrals would you make for the patient?
4. What is the data element you would need to capture/ note in each case?

These questions must be applied to the woman and if she has a new born baby the questions will also apply to the baby

### Present Back to Plenary:

- Each group will have 10 minutes to present back to the plenary
- Discussion: 5 minutes per case study including clarifications (if any)

### Note to Trainer/Facilitator:

1. In case of more than one group discussing the same case study, allow all teams to complete their feedback on the particular case study and have discussion after all the teams have completed their presentations of the same case.
2. Proceed with the next case after these discussions should be completed before discussing the next set of cases.
3. Use the answer sheet to guide the discussion by asking prompt questions
4. Once all the case presentation and discussions are completed take the participants through the correct answers

## **PMTCT**

### **Case Study 1: Unbooked Pregnant Women**

Lebo has not had any antenatal care. She is 38 weeks pregnant and is starting to have contractions. She asks her mother to take her to the nearest health facility.

1. How would you treat the patient today? (give a detailed account of clinical practice)
2. What follow-up treatment is required?
3. What referrals would you make for the patient
4. What is the data element you would need to capture/ note in each case?

## Case study 1 Answers

Lebo has not had any antenatal care. She is 38 weeks pregnant and is starting to have contractions. She asks her mother to take her to the nearest health facility.

Mother	Baby
<ul style="list-style-type: none"> <li>• <i>It is important to Offer HIV counselling intrapartum for the benefit of mum and baby</i></li> <li>• <i>During counselling explain the benefit of HIV testing, conduct HIV testing using a rapid test.</i></li> <li>• <i>If the mom is positive, give her a stat dose of NVP and Truvada and AZT 3 hourly</i></li> <li>• <i>Ask the mom how she plans on feeding her infant. Encourage exclusive breast feeding</i></li> <li>• <i>If she wants to formula feed her baby, AFASS must be met.</i></li> <li>• <i>If she is planning on breastfeeding start her on FDC immediately</i></li> <li>• <i>Take bloods for CD4 and Creatinine</i></li> <li>• <i>TCB within 7 days for results</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>All HIV exposed infants must be given Nevirapine syrup for 6 weeks irrespective of feeding choice.</i></li> <li>• <i>The dosage depends on birth weight</i> <ul style="list-style-type: none"> <li>○ <i>Birth weight &gt;2500g: 1,5ml daily at the same time everyday</i></li> <li>○ <i>Birth weight &lt;2500g: 1ml daily at the same time everyday</i></li> </ul> </li> </ul>
<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• <i>Within 6 days of delivery, the mother should return to her nearest clinic for postnatal care.</i></li> <li>• <i>Discuss her infant feeding options and ensure that she is practicing exclusive feeding</i></li> <li>• <i>Results from bloods taken at delivery should be given to her at this time (CD4 and Creatinine).</i></li> <li>• <i>These results will determine her ART treatment going forward.</i> <ul style="list-style-type: none"> <li>○ <i>If <math>CD4 \leq 350</math> cells/mm<sup>3</sup>: she will be given lifelong ART</i></li> <li>○ <i>If <math>CD4 &gt; 350</math> cells/mm<sup>3</sup>: she should continue ART for the breast feeding period and FOR ONE WEEK AFTER cessation of breastfeeding</i></li> </ul> </li> <li>• <i>If she is not breastfeeding her CD4 count will determine whether she gets lifelong ART or should continue to be monitored.</i></li> <li>• <i>Screen for TB</i></li> </ul>	<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• <i>6 weeks HIV PCR test; immunizations and well-baby check</i></li> <li>• <i>If breastfed, repeat PCR test 6 weeks after cessation of breastfeeding</i></li> <li>• <i>18 month rapid HIV test for all HIV exposed babies that have not tested PCR positive</i></li> <li>• <i>Test at any age if symptomatic (with PCR testing if &lt; 18 months and with rapid testing if &gt; 18 months)</i></li> </ul>
<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• <i>Positive mother's support group or other community support group that she may</i></li> </ul>	<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• <i>Social services</i></li> </ul>

<p><i>be comfortable with</i></p> <ul style="list-style-type: none"> <li>• <i>Social Services (social grants)</i></li> </ul>	
<p><i>Data element:</i></p> <ol style="list-style-type: none"> <li>1. <i>ANC visit &gt; 20 weeks</i></li> <li>2. <i>HIV test at 32 weeks or later</i></li> <li>3. <i>HIV test positive at 32 weeks or later (if positive)</i></li> <li>4. <i>ANC CD4 testing</i></li> <li>5. <i>If mother is positive: ANC initiated on ART</i></li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Baby NVP within 72 hours after birth</i></li> <li>2. <i>Baby PCR test around 6 weeks</i></li> <li>3. <i>Baby PCR test positive around 6 weeks (if positive)</i></li> <li>4. <i>Baby cotrim prophylaxis around 6 weeks</i></li> <li>5. <i>Baby 18 month HIV test.</i></li> <li>6. <i>Baby 18 months HIV test positive (in case positive)</i></li> </ol>

## Case Study 2: First ANC Visit

Thandi is 18 weeks pregnant. She goes to her clinic for her first antenatal care visit. At this visit she is offered an HIV test and the result is positive.

1. How would you treat the patient today? (give a detailed account of clinical practice)
2. What follow-up treatment is required?
3. What referrals would you make for the patient
4. What is the data element you would need to capture/ note in each case?

## Case Study 2: First ANC Visit Answers

Thandi is 18 weeks pregnant. She goes to her clinic for her first antenatal care visit. At this visit she is offered an HIV test and the result is positive.

Mother	Baby
<ul style="list-style-type: none"> <li>• <i>Group HIV pre-test counselling</i></li> <li>• <i>Opt-out approach</i></li> <li>• <i>On Booking bloods should include RPR, Rh, Hb check and HIV</i></li> <li>• <i>For HIV: Individual testing with rapid test kit</i></li> <li>• <i>Individual post-test counselling</i></li> <li>• <i>Tetanus</i></li> <li>• <i>Iron, folic acid, vit C, Calcium</i></li> <li>• <i>Counsel about condom use and partner testing</i></li> <li>• <i>Confirme positive with 2<sup>nd</sup> rapid test kit</i></li> <li>• <i>Post-test counselling</i></li> <li>• <i>Baseline bloods (CD4, Creatinine)</i></li> <li>• <i>Initiate ART on the same day <b>regardless of CD4 cell count or gestational age.</b> Do not wait for blood results to initiate!</i></li> <li>• <i>Bring client back within 7 days for CD4 and Creatinine results</i></li> <li>• <i>In addition, discuss infant feeding options including exclusive breastfeeding and AFASS</i></li> <li>• <i>Discuss partner testing/status/treatment</i></li> <li>• <i>Discuss continued condom use and counsel about future contraception plan after delivery</i></li> <li>• <i>Discuss cervical screening 6/52 postpartum</i></li> <li>• <i>Discuss on-going adherence</i></li> <li>• <i>Screen for TB</i></li> <li>• <i>Counsel that EFV is safe in pregnancy (many clients will read the package insert and panic)</i></li> <li>• <i>Discuss common side effects: most self limiting or develop tolerance; somnolence/dizziness/strange dreams common, but usually improve; shift workers need reassurance that symptoms of somnolence/dizziness usually improve; client must be aware of potential renal toxicity but that this will be monitored; explain that FDC unlikely to cause rash and that she should seek attention at clinic/hospital immediately</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>All HIV exposed infants must be given Nevirapine syrup for 6 weeks irrespective of feeding choice</i></li> <li>• <i>Dosage depends on birth weight</i> <ul style="list-style-type: none"> <li>○ <i>Birth weight &gt;2500g: 1,5ml daily at the same time everyday</i></li> <li>○ <i>Birth weight &lt;2500g: 1ml daily at the same time everyday</i></li> </ul> </li> </ul>



<p><i>if there is a problem, but emphasise importance to continue treatment regardless</i></p>	
<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• <i>Additional ANC visits according to BANC</i></li> <li>• <i>After delivery, women should receive postnatal care within 6 days post delivery.</i></li> </ul>	<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• <i>6 weeks HIV PCR test; immunizations and well-baby check-ups according to EPI schedule</i></li> <li>• <i>If breastfed, repeat PCR test 6 weeks after cessation of breastfeeding</i></li> <li>• <i>18 month rapid HIV test</i></li> <li>• <i>Test at any age if symptomatic (with PCR testing if &lt; 18 months and with rapid testing if &gt; 18 months)</i></li> </ul>
<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• <i>Positive mother's support group or other community support group that she may be comfortable with</i></li> <li>• <i>Social Services (social grants)</i></li> </ul>	<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• <i>Social services</i></li> </ul>
<p><b>Data element:</b></p> <ol style="list-style-type: none"> <li>1. <i>ANC 1<sup>st</sup> visit &lt; 20 weeks</i></li> <li>2. <i>ANC 1<sup>st</sup> HIV test</i></li> <li>3. <i>ANC 1<sup>st</sup> HIV test positive</i></li> <li>4. <i>ANC CD4 testing</i></li> <li>5. <i>If mother is positive: ANC initiated on ART</i></li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Baby NVP within 72 hours after birth</i></li> <li>2. <i>Baby PCR test around 6 weeks</i></li> <li>3. <i>Baby PCR test positive around 6 weeks (if positive)</i></li> <li>4. <i>Baby cotrim prophylaxis around 6 weeks</i></li> <li>5. <i>Baby 18 month HIV test.</i></li> <li>6. <i>Baby 18 months HIV test positive (in case positive)</i></li> </ol>

### **Case Study 3: Return Visit**

Thandi has had two previous antenatal care visits. The first visit was at approximately 20 weeks and another visit at 28 weeks. At her first ANC visit she had an HIV test. At that time, she tested negative. She is now 34 weeks pregnant. Her partner has been very sick for the past 4 weeks but refuses to go to the doctor.

1. How would you treat the patient today? (give a detailed account of clinical practice)
2. What follow-up treatment is required?
3. What referrals would you make for the patient
4. What is the data element you would need to capture/ note in each case?

### Case Study 3: Return Visit Answers

Thandi has had two previous antenatal care visits. The first visit was at approximately 20 weeks and another visit at 28 weeks. At her first ANC visit she had an HIV test. At that time, she tested negative. She is now 34 weeks pregnant. Her partner has been very sick for the past 4 weeks but refuses to go to the doctor.

Mother	Baby
<ul style="list-style-type: none"> <li>• <i>Conduct repeat HIV test</i></li> <li>• <i>Counsel about condom use and partner testing</i></li> <li>• <i>If positive, confirm with 2<sup>nd</sup> rapid test kit</i></li> <li>• <i>Post-test counselling</i></li> <li>• <i>Baseline bloods (CD4, Creatinine)</i></li> <li>• <i>Initiate ART on the same day <b>regardless of CD4 cell count or gestational age.</b> Do not wait for blood results to initiate!</i></li> <li>• <i>Bring client back within 7 days for CD4 and Creatinine results</i></li> <li>• <i>In addition, discuss infant feeding options including exclusive breastfeeding and AFASS</i></li> <li>• <i>Discuss partner testing/status/treatment</i></li> <li>• <i>Discuss continued condom use and counsel about future contraception plan after delivery</i></li> <li>• <i>Discuss cervical screening 6/52 postpartum</i></li> <li>• <i>Discuss on-going adherence</i></li> <li>• <i>Screen for TB</i></li> <li>• <i>Screen for neuropsychiatric illness</i></li> <li>• <i>Screen for renal disease</i></li> <li>• <i>Counsel that EFV is safe in pregnancy (many clients will read the package insert and panic)</i></li> <li>• <i>Explain common side effects: most self limiting or develop tolerance; Somnolence/dizziness/strange dreams common, but usually improve; shift workers need reassurance that symptoms of somnolence/dizziness usually improve; client must be aware of potential renal toxicity but that this will be monitored; explain that FDC unlikely to cause rash; seek attention at clinic/hospital immediately if there is a problem, but emphasise importance to continue treatment regardless</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>All HIV exposed infants exposed to HIV must be given Nevirapine syrup for 6 weeks irrespective of feeding choice</i></li> <li>• <i>Dosage depends on birth weight</i> <ul style="list-style-type: none"> <li>○ <i>Birth weight &gt;2500g: 1,5ml daily at the same time everyday</i></li> <li>○ <i>Birth weight &lt;2500g: 1ml daily at the same time everyday</i></li> </ul> </li> </ul>
<b>FOLLOW UP CARE</b>	<b>FOLLOW UP CARE</b>

<ul style="list-style-type: none"> <li>• <i>When coming back for CD4 and creatinine results the results of her CD4 will determine her ART treatment going forward.</i> <ul style="list-style-type: none"> <li>○ <i>If CD4 ≤ 350 cells/mm<sup>3</sup>: she will be given lifelong ART</i></li> <li>○ <i>If CD4 &gt; 350 cells/mm<sup>3</sup>: she should continue ART for the breast feeding period and FOR ONE WEEK AFTER cessation of breastfeeding</i></li> </ul> </li> <li>• <i>Additional ANC visits according to BANC</i></li> <li>• <i>After delivery, women should receive postnatal care within 6 days post delivery.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>6 weeks HIV PCR test; immunizations and well-baby check</i></li> <li>• <i>If breastfed, repeat PCR 6 weeks after cessation of breastfeeding</i></li> <li>• <i>18 month ELISA</i></li> <li>• <i>Test at any age if symptomatic (with PCR testing if &lt; 18 months and with rapid testing if &gt; 18 months)</i></li> </ul>
<p><i>REFERRALS</i></p> <ul style="list-style-type: none"> <li>• <i>Positive mother's support group or other community support group that she may be comfortable with</i></li> <li>• <i>Social Services (social grants)</i></li> </ul>	<p><i>REFERRALS</i></p> <ul style="list-style-type: none"> <li>• <i>Social services</i></li> </ul>
<p><i>Data element:</i></p> <ol style="list-style-type: none"> <li><i>1. ANC visit &gt; 20 weeks</i></li> <li><i>2. HIV test at 32 weeks or later</i></li> <li><i>3. HIV test positive at 32 weeks or later (if positive)</i></li> <li><i>4. ANC CD4 testing</i></li> <li><i>5. If mother is positive: ANC initiated on ART</i></li> </ol>	<ol style="list-style-type: none"> <li><i>1. Baby NVP within 72 hours after birth</i></li> <li><i>2. Baby PCR test around 6 weeks</i></li> <li><i>3. Baby PCR test positive around 6 weeks (if positive)</i></li> <li><i>4. Baby cotrim prophylaxis around 6 weeks</i></li> <li><i>5. Baby 18 month HIV test.</i></li> <li><i>6. Baby 18 months HIV test positive (in case positive)</i></li> </ol>

#### **Case Study 4: 6 days Postnatal Visit**

Tsipwe's has been breastfeeding her baby since birth. She has brought her baby to the clinic for a checkup at 6 days. During pregnancy, Tsipwe was enrolled in the PMTCT programme

1. How would you treat the patient today? (give a detailed account of clinical practice)
2. What follow-up treatment is required?
3. What referrals would you make for the patient
4. What is the data element you would need to capture/ note in each case?

#### Case Study 4: 6 days Postnatal Visit Answers

Tsipwe's has been breastfeeding her baby since birth. She has brought her baby to the clinic for a checkup at 6 days. During pregnancy, Tsipwe was enrolled in the PMTCT programme

Mother	Baby
<ul style="list-style-type: none"> <li>• Check that she is adhering to her FDC regimen while breastfeeding</li> <li>• Check that she is breastfeeding her baby exclusively</li> </ul>	<ul style="list-style-type: none"> <li>• 6 weeks HIV PCR test; immunizations and well-baby check</li> </ul>
<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• At every subsequent post natal visit, check if she is adhering to the FDC regimen while breastfeeding</li> </ul>	<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• repeat PCR 6 weeks after cessation of breastfeeding</li> <li>• Test at any age if symptomatic (with PCR testing if &lt; 18 months and with rapid testing if &gt; 18 months)</li> <li>• 18 month rapid HIV test</li> </ul>
<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• Positive mother's support group or other community support group that she may be comfortable with</li> <li>• Social Services (social grants)</li> </ul>	<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• Social services</li> </ul>
<p><b>Data element:</b></p> <p>1. Postnatal care visit at 6 days after birth (mother)</p>	<p>1. Postnatal care visit at 6 days after birth for baby</p>

### **Case Study 5: TB and HIV**

Lerato is pregnant with her first baby. She is approximately 16 weeks pregnant, but has not had any antenatal care yet. She has not been feeling very well, she thinks it may be because she is pregnant. Her symptoms include a cough, fever, night sweats and weight loss despite being pregnant. She comes to the health facility for antenatal care.

1. How would you treat the patient today? (give a detailed account of clinical practice)
2. What follow-up treatment is required?
3. What referrals would you make for the patient
4. What is the data element you would need to capture/ note in each case?

## Case Study 5: TB and HIV Answers

Lerato is pregnant with her first baby. She is approximately 16 weeks pregnant, but has not had any antenatal care yet. She has not been feeling very well, she thinks it may be because she is pregnant. Her symptoms include a cough, fever, night sweats and weight loss despite being pregnant. She comes to the health facility for antenatal care.

Mother	Baby
<ul style="list-style-type: none"> <li>• <i>Group HIV pre-test counselling</i></li> <li>• <i>Opt-out approach</i></li> <li>• <i>Booking bloods should include RPR, Rh, Hb check and HIV</i></li> <li>• <i>For HIV: Individual testing with rapid test kit</i></li> <li>• <i>Individual post-test counselling</i></li> <li>• <i>Tetanus</i></li> <li>• <i>Iron, folic acid, vit C, Calcium</i></li> <li>• <i>If negative, repeat 12 weeks after first test or at 32 weeks gestation</i></li> <li>• <i>Counsel about condom use and partner testing</i></li> <li>• <i>If positive, confirm with 2<sup>nd</sup> rapid test kit</i></li> <li>• <i>Post-test counselling</i></li> <li>• <i>Baseline bloods (CD4, Creatinine)</i></li> <li>• <i>Initiate ART on the same day <b>regardless of CD4 cell count or gestational age.</b> Do not wait for blood results to initiate!</i></li> <li>• <i>Bring client back within 7 days for CD4 and Creatinine results</i></li> <li>• <i>In addition, discuss infant feeding options including exclusive breastfeeding and AFASS</i></li> <li>• <i>Discuss partner testing/status/treatment</i></li> <li>• <i>Discuss continued condom use and counsel about future contraception plan after delivery</i></li> <li>• <i>Discuss cervical screening 6/52 postpartum</i></li> <li>• <i>Discuss on-going adherence</i></li> <li>• <i>Screen for TB, based on her symptoms, it appears that she may have TB.</i></li> <li>• <i>A sputum specimen must be collected for GeneXpert testing, and the TB Xpert diagnostic algorithm followed.</i></li> <li>• <i>Although it is important to investigate patients for TB before starting ART, in most pregnant patients, initiation of ART prophylaxis or lifelong treatment should not be delayed for TB investigations.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>All HIV exposed infants would take Nevirapine syrup for 6 weeks after birth irrespective of feeding choice</i></li> <li>• <i>Birth weight &gt;2500g: 1,5ml daily at the same time everyday</i></li> <li>• <i>Birth weight &lt;2500g: 1ml daily at the same time everyday</i></li> </ul>



<ul style="list-style-type: none"> <li>• <i>Due to her symptoms listed she is eligible for isoniazid preventive therapy by performing a tuberculin skin test.</i></li> <li>• <i>Counsel that EFV is safe in pregnancy (many clients will read the package insert and panic)</i></li> <li>• <i>Discuss common side effects: most self limiting or develop tolerance; somnolence/dizziness/strange dreams common, but usually improve; shift workers need reassurance that symptoms of somnolence/dizziness usually improve; client must be aware of potential renal toxicity but that this will be monitored; explain that FDC unlikely to cause rash and that she should seek attention at clinic/hospital immediately if there is a problem, but emphasise importance to continue treatment regardless</i></li> </ul>	
<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• <i>Additional ANC visits according to BANC</i></li> <li>• <i>After delivery, women should receive postnatal care within 6 days post delivery.</i></li> </ul>	<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• <i>6 weeks HIV PCR test; immunizations and well-baby check</i></li> <li>• <i>If breastfed, repeat PCR 6 weeks after cessation of breastfeeding</i></li> <li>• <i>18 month rapid HIV test</i></li> <li>• <i>Test at any age if symptomatic (with PCR testing if &lt; 18 months and with rapid testing if &gt; 18 months)</i></li> </ul>
<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• <i>Positive mother's support group or other community support group that she may be comfortable with</i></li> <li>• <i>Social Services (social grants)</i></li> </ul>	<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• <i>Social services</i></li> </ul>
<p><b>Data element:</b></p> <ol style="list-style-type: none"> <li>1. <i>ANC 1<sup>st</sup> visit &lt; 20 weeks</i></li> <li>2. <i>ANC 1<sup>st</sup> HIV test</i></li> <li>3. <i>ANC 1<sup>st</sup> HIV test positive</i></li> </ol>	

### **Case Study 6: Failure to Thrive Baby**

Sesupo's baby is 8 weeks old. She has noticed that the baby is not gaining weight and appears to be sick. Sesupo was in the PMTCT programme during pregnancy, but because she has no help with the baby she has not taken the baby back to the facility for check-ups since birth. She takes her baby to the clinic.

1. How would you treat the patient today? (give a detailed account of clinical practice)
2. What follow-up treatment is required?
3. What referrals would you make for the patient?
4. What is the data element you would need to capture/ note in each case?

## Case Study 6: Failure to Thrive Baby Answers

Sesupo's baby is 8 weeks old. She has noticed that the baby is not gaining weight and appears to be sick. Sesupo was in the PMTCT programme during pregnancy, but because she has no help with the baby she has not taken the baby back to the facility for check-ups since birth. She takes her baby to the clinic.

Mother	Baby
<ul style="list-style-type: none"> <li>• <i>Check how the mom is doing</i></li> <li>• <i>Check how the mother has been feeding her infant and offer her counselling and support as needed</i></li> <li>• <i>Check that she is adhering to her FDC regimen while breastfeeding</i></li> <li>• <i>Check that she is breastfeeding her baby exclusively</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Check whether the infant has received and taken Nevirapine syrup for the first 6 weeks irrespective of feeding choice</i></li> <li>• <i>Conduct PCR test</i></li> <li>• <i>If PCR test positive, start ART within 7 days</i></li> <li>• <i>Conduct immunizations</i></li> <li>• <i>Conduct well-baby check</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>At every subsequent post natal visit, check if she is adhering to the FDC regimen while breastfeeding</i></li> </ul>	<p><b>FOLLOW UP CARE</b></p> <ul style="list-style-type: none"> <li>• <i>If breastfed, repeat PCR test 6 weeks after cessation of breastfeeding</i></li> <li>• <i>18 month rapid HIV test</i> <i>Test at any age if symptomatic (with PCR testing if &lt; 18 months and with rapid testing if &gt; 18 months)</i></li> </ul>
<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• <i>Positive mother's support group or other community support group that she may be comfortable with</i></li> <li>• <i>Social Services (social grants)</i></li> </ul>	<p><b>REFERRALS</b></p> <ul style="list-style-type: none"> <li>• <i>Social services</i></li> </ul>
<p><b>Data element</b></p>	<ol style="list-style-type: none"> <li>1. <i>Baby PCR test around 6 weeks</i></li> <li>2. <i>Baby PCR test positive around 6 weeks (if positive)</i></li> <li>3. <i>Baby cotrim prophylaxis around 6 weeks</i></li> <li>4. <i>Baby 18 month HIV test.</i></li> <li>5. <i>Baby 18 months HIV test positive (in case positive)</i></li> </ol>

## Paediatric

### Case Study 1: Eligibility For Art

Decide whether or not the following children are eligible to receive ART. Assume that age-appropriate HIV test has been done and HIV infection has been confirmed.

	AGE	STAGE	CD4 COUNT/PERCENTAGE	ANSWER
1.	4 years	1	900 cells/mm <sup>3</sup> or 40%	
2.	6 months	4	100 cells/mm <sup>3</sup> or 15%	
3.	9 months	1	950 cells/mm <sup>3</sup> or 45%	
4.	3 years	3	Not known	
5.	9 years	1	200 cells/mm <sup>3</sup>	
6.	12 years	4	900 cells/mm <sup>3</sup>	
7.	3 month	1	Not known	
8.	14 years	2	900 cells/mm <sup>3</sup>	
9.	18 months	1	830 cells/mm <sup>3</sup> or 20%	
10.	6 month old	2	1500 cells/mm <sup>3</sup>	

### Case Study 1: Eligibility For Art Answers

Decide whether or not the following children are eligible to receive ART. Assume that age-appropriate HIV test has been done and HIV infection has been confirmed.

	<b>AGE</b>	<b>STAGE</b>	<b>CD4 COUNT/PERCENTAGE</b>	<b>ANSWER</b>
11.	4 years	1	900 cells/mm <sup>3</sup> or 40%	<b>Yes</b>
12.	6 months	4	100 cells/mm <sup>3</sup> or 15%	<b>Yes</b>
13.	9 months	1	950 cells/mm <sup>3</sup> or 45%	<b>Yes</b>
14.	3 years	3	Not known	<b>Yes</b>
15.	9 years	1	200 cells/mm <sup>3</sup>	<b>Yes</b>
16.	12 years	4	900 cells/mm <sup>3</sup>	<b>Yes</b>
17.	3 month	1	Not known	<b>Yes</b>
18.	14 years	2	900 cells/mm <sup>3</sup>	<b>No</b>
19.	18 months	1	830 cells/mm <sup>3</sup> or 20%	<b>Yes</b>
20.	6 month old	2	1500 cells/mm <sup>3</sup>	<b>Yes</b>

### **Case Study 2: Nancy: infant (<1yr)**

Nancy is three months old and weighs 6 kg. Her mother was found to be HIV-infected during pregnancy. Nancy was tested for HIV at six weeks and PCR results are positive. A full blood count done at the same time, showed that her Hb is 11g/dL. She is breastfeeding and is generally well. Her length is 60 cm and her head circumference is 41 cm. Her temperature was recorded as 36.5<sup>0</sup>C. She lifts her head when her mother carries her with support, responds to sounds and follows close objects with both eyes.

Her mother has not disclosed her own or Nancy's HIV status to anyone at home, but is a regular member of the clinic support group. She has been counselled regarding adherence, and is available and committed in ensuring that Nancy receives HIV care and Support.

a) Is Nancy eligible for ART? List the eligibility criteria that you have considered.

b) If you decide that she is eligible for ART, provide clinical management.

### Case Study 2: Nancy: infant (<1yr)

Nancy is three months old and weighs 6 kg. Her mother was found to be HIV-infected during pregnancy. Nancy was tested for HIV at six weeks and PCR results are positive. A full blood count done at the same time, showed that her Hb is 11g/dL. She is breastfeeding and is generally well. Her length is 60 cm and her head circumference is 41 cm. Her temperature was recorded as 36.5<sup>0</sup>C. She lifts her head when her mother carries her with support, responds to sounds and follows close objects with both eyes.

Her mother has not disclosed her own or Nancy's HIV status to anyone at home, but is a regular member of the clinic support group. She has been counselled regarding adherence, and is available and committed in ensuring that Nancy receives HIV care and Support.

c) Is Nancy eligible for ART? List the eligibility criteria that you have considered.

- *Nancy is eligible for ART*
- *She has confirmed HIV infection*
- *She is less than 5 years and is therefore eligible for ART*
- *Her mother is willing to give her treatment. She has not disclosed to anyone at home, but is a regular member of a support group*

d) If you decide that she is eligible for ART, provide clinical management.

- Document: Weight: 6 kg, Height: 60 cm, HC: 41 cm, Hb 11g/dL. Development: developing well- lift head, respond to sounds and follow close object with both eyes.
- Screen for TB
- Start cotrimoxazole
- Routine child health care: Immunisation (14 weeks), Infant feeding counselling
- Take bloods for CD4 Count, VL, Cholesterol + triglyceride
- Initiate today (ABC+3TC+LPV/r)
- Follow-up visit in 1 month.

### **Case Study 3: Thabo: Child (1-5Yrs)**

Thabo is a 4 year old boy. He has severe oral thrush. His temperature is 36.7 °C and his weight now is 12.3 kg. For the past 3 months his weight was 9.8 kg – he has not received any treatment for poor weight gain. A rapid test was done which shows that he is HIV positive. The diagnosis is confirmed with a second rapid test which is also positive and his blood was sent to the laboratory for a CD4 count and Viral Load today.

Thabo's mother has been on ART for the past 4 years. She has been taking her medication every day and is very motivated to take care of herself and of Thabo. She is supported by her mother who know that she is HIV-infected and on treatment. She now asks that Thabo should also receive ART. Thabo lives with his mother. She runs a spaza shop from home and looks after Thabo as well.

a) Is Thabo eligible for ART? List the eligibility criteria that you have considered.

b) If you decide that he is eligible for ART, how are going to manage Thabo



### Case Study 3: Thabo: Child (1-5Yrs) Answers

Thabo is a 4 year old boy. He has severe oral thrush. His temperature is 36.7 °C and his weight now is 12.3 kg. For the past 3 months his weight was 9.8 kg – he has not received any treatment for poor weight gain. A rapid test was done which shows that he is HIV positive. The diagnosis is confirmed with a second rapid test which is also positive and his blood was sent to the laboratory for a CD4 count and Viral Load today.

Thabo's mother has been on ART for the past 4 years. She has been taking her medication every day and is very motivated to take care of herself and of Thabo. She is supported by her mother who know that she is HIV-infected and on treatment. She now asks that Thabo should also receive ART. Thabo lives with his mother. She runs a spaza shop from home and looks after Thabo as well.

c) Is Thabo eligible for ART? List the eligibility criteria that you have considered.

- *Thabo is eligible for ART*
- *He is less than 5 years and has confirmed HIV infection*
- *His mother has disclosed her HIV status to her mother and is willing to give ART to Thabo.*

d) If you decide that he is eligible for ART, how are going to manage Thabo

- *Document: weight: 12.3kg, Temp-36.7*
- *Do Hb or FBC-If less than 8g/dl Start ART and refer to specialist*
- *Do TB screening*
- *Routine child health care: Vit A 200 000ui, routine de-worming ( 500mg Mebendazole), nutrition care*
- *Start cotrimoxazole*
- *Initiate today (ABC+3TC+EFV)*
- *Follow-up care in 1 month.*

#### **Case Study 4: Sara (Adolescent): case targeted at Drs**

Sara is a **14 years** old girl in high school. She was born with HIV and has been on ARVs (ABC + 3TC+ EFV) for 7 years. Her mom who is also on ARVs reports that she (Sara) comes back home late this days-probably because she is at adolescent stage, she was no longer adhering to her treatment, and at times she missed clinic visits.

Three months ago her, VL was 1100 and today is 1 200, she looks sick and her mom is worried. Last month she has joined her mom in a support group and improvement on adherence has been noted.

#### **Case Study 4: Sara (Adolescent): case targeted at Drs Answers**

Sara is a **14 years** old girl in high school. She was born with HIV and has been on ARVs (ABC + 3TC+ EFV) for 7 years. Her mom who is also on ARVs reports that she (Sara) comes back home late this days-probably because she is at adolescent stage, she was no longer adhering to her treatment, and at times she missed clinic visits.

Three months ago her, VL was 1100 and today is 1 200, she looks sick and her mom is worried. Last month she has joined her mom in a support group and improvement on adherence has been noted.

#### *a) How are you going to manage Sara*

- *Consult with expert for advice*
- *Continue with step-up adherence package*
- *Offer Sexual and Reproductive Health Services*
- *Screen for TB*

### **Case Study 5: Providing ART follow-up care Answers**

Sipho is 23 months old boy, currently 18 months on ARVs (1<sup>st</sup> regimen), CD4 count, VL, Cholesterol + Triglycerides was done 12 months ago. He is responding well to treatment. No side effects ever reported by his mom. Today he came for his routine follow-up visit.

### Case Study 5: Providing ART follow-up care Answers

Sipho is 23 months old boy, currently 18 months on ARVs (1<sup>st</sup> regimen), CD4 count, VL, Cholesterol + Triglycerides was done 12 months ago. He is responding well to treatment. No side effects ever reported by his mom. Today he came for his routine follow-up visit.

a) Provide routine follow-up care to him

- *Monitor height, weight, head circumference and development*
- *Provide routine child health care services : Immunization, vit A, de-worming*
- *Clinical assessment*
- *Do VL*
- *Continue with same Treatment*
- *Follow-up VL result in 1month.*

### Case Study 5: Providing ART follow-up care

Sipho is 23 months old boy, currently 18 months on ARVs (1<sup>st</sup> regimen), CD4 count, VL, Cholesterol + Triglycerides was done 12 months ago. He is responding well to treatment. No side effects ever reported by his mom. Today he came for his routine follow-up visit.

b) Provide routine follow-up care to him

## Adult and Adolescent

### Case 1

A 47 year-old male presents at your clinic. He is HIV-infected. He weighs 62 kg, has CD4 count 170 cells/mm<sup>3</sup>. He does not have active TB or any other opportunistic infections at present. He is taking cotrimoxazole prophylaxis without any notable side effects.

Is this patient eligible for ART? Why or why not?

If the patient is eligible for ART, what regimen should he start? What is the appropriate dose of each medication?

What lab tests should be obtained at baseline and when should they be repeated?

### Case 2

A 26 year-old female presents at your clinic. She is HIV-infected. Her weight is 65 kg, who was treated for PCP 6 weeks ago. She is not currently pregnant and declines contraceptives. No active TB and no other opportunistic infections at present. She is taking cotrimoxazole prophylaxis without any apparent side effects.

Is this patient eligible for ART? Why or why not?

If the patient is eligible for ART, what regimen should they start? What is the appropriate dose of each medication?

What labs should be obtained at baseline and when should they be repeated?

### Case 3

A 35 year-old male presents at your clinic. He is HIV-infected. He weighs 70 kg and has no history of recent weight loss. He has a current CD4 count of 400 cells/mm<sup>3</sup>. He has a history of herpes zoster 2 years ago. No active TB at present or other opportunistic infections. He is taking cotrimoxazole with no apparent side effects.

Is this patient eligible for ART? Why or why not?

If the patient is eligible for ART, what regimen should they start? What is the appropriate dose of each medication?

What follow-up labs should be obtained?

### Case 4

A 30 year-old female presents at your clinic. She is HIV-infected. She weighs 55kg, with a CD4 of 156 cells/ mm<sup>3</sup>. She is on an injectable contraceptive. She was diagnosed with pulmonary TB and started on TB therapy a week ago. She does not appear to have any significant adverse events related to the medications.

1. Is this patient eligible for ART? Why or why not?

If the patient is eligible for ART, what regimen should they start? What is the appropriate dose of each medication?

What labs should be obtained at baseline and when should they be repeated?

### Case 5

A 26 year-old male presents with a history of ART for one year and one month. Current regimen: stavudine, lamivudine and efavirenz. He has no symptoms today and reluctantly reports missing “several doses” over the past several months.

**Vitals:** Temp: 37C, Respiratory Rate: 16, Pulse: 67, Blood Pressure: 110/75

**Exam:** Within Normal Limits

**Baseline** CD4/VL: 130 cells/mm<sup>3</sup>, 100,580 copies/mL

**6 month** CD4/VL: 250 cells/mm<sup>3</sup>, < 400 copies/mL

**1 year** CD4/VL: 175 cells/mm<sup>3</sup>, 10,890 copies /ML

What do you suspect is occurring?

Is there an indication for switching or stopping a regimen? Why or why not?

If so, what should take place next and if the regimen needs to be changed, what part of the regimen should be switched/ stopped?



## Case 1 Answers

A 47 year-old male presents at your clinic. He is HIV-infected. He weighs 62 kg, has CD4 count 170 cells/mm<sup>3</sup>. He does not have active TB or any other opportunistic infections at present. He is taking cotrimoxazole prophylaxis without any notable side effects.

Is this patient eligible for ART? Why or why not?

*Yes – he meets eligibility because his CD4 is < 350 cells/mm<sup>3</sup>.*

If the patient is eligible for ART, what regimen should he start? What is the appropriate dose of each medication?

*He has no apparent contraindications, pending a serum creatinine and creatinine clearance, to starting on the first-line regimen– tenofovir 300mg once daily, lamivudine 300 mg once daily (or emtricitabine 200 mg daily) and efavirenz 600 mg (FDC preferred)*

*Initiate IPT*

What lab tests should be obtained at baseline and when should they be repeated?

*Screening prior to ART initiation to check HIV result, CD4 count, Screening for TB and STI symptoms. Since he will be starting on tenofovir, he will require a serum creatinine and clearance to assess for renal insufficiency. Ideally this would be obtained prior to choosing a regimen.*

*Routine monitoring should include: Viral load at month 6, 1 year and then every 12 months. Creatinine clearance at month 3, 6 and every 12 months. CD4 at 12 months.*

## Case 2 Answers

A 26 year-old female presents at your clinic. She is HIV-infected. Her weight is 65 kg, who was treated for PCP 6 weeks ago. She is not currently pregnant and declines contraceptives. No active TB and no other opportunistic infections at present. She is taking cotrimoxazole prophylaxis without any apparent side effects.

Is this patient eligible for ART? Why or why not?

*Yes, she meets eligibility due to a WHO Stage IV infection, regardless of her CD4 count.*

If the patient is eligible for ART, what regimen should they start? What is the appropriate dose of each medication?

*tenofovir 300 mg daily, lamivudine 300 mg daily (or emtricitabine 200 mg daily), and efavirenz 600 mg(FDC preferred)*

*Initiate IPT*

What labs should be obtained at baseline and when should they be repeated?

*Screening prior to ART initiation to check HIV result, CD4 count, Screening for TB and STI symptoms, Hb or FBC, if available, to detect anaemia, conduct PAP and pregnancy test.*

*Since she will be starting on tenofovir, she will require a serum creatinine and clearance to assess for renal insufficiency.*

*Routine monitoring should include: Viral load at month 6, 1 year and then every 12 months. Creatinine clearance at month 3, 6 and every 12 months. CD4 at 12 months. Annual papsmear.*

### Case 3 Answers

A 35 year-old male presents at your clinic. He is HIV-infected. He weighs 70 kg and has no history of recent weight loss. He has a current CD4 count of 400 cells/mm<sup>3</sup>. He has a history of herpes zoster 2 years ago. No active TB at present or other opportunistic infections. He is taking cotrimoxazole with no apparent side effects.

Is this patient eligible for ART? Why or why not?

*He does not currently meet staging criteria based on WHO Staging as herpes zoster is Stage 2. His current CD4 count is > 350 cells/mm<sup>3</sup>, so he is not eligible according to current guidelines.*

If the patient is eligible for ART, what regimen should they start? What is the appropriate dose of each medication?

*Not eligible*

*Initiate IPT*

What follow-up labs should be obtained?

*CD4 at 6 months, WHO clinical staging at every visit, screen for TB and STI symptoms at every visit,*

### Case 4 Answers

A 30 year-old female presents at your clinic. She is HIV-infected. She weighs 55kg, with a CD4 of 156 cells/mm<sup>3</sup>. She is on an injectable contraceptive. She was diagnosed with pulmonary TB and started on TB therapy a week ago. She does not appear to have any significant adverse events related to the medications.

Is this patient eligible for ART? Why or why not?

*She meets ART eligibility criteria as TB/HIV co-infected patients are eligible irrespective of CD4. However, since she recently started TB treatment, she should wait until after she demonstrates the ability to tolerate her TB therapy, usually within 2-4 weeks; a maximum of 8 weeks.*

If the patient is eligible for ART, what regimen should they start? What is the appropriate dose of each medication?

*When she starts on ART, she should be started on tenofovir, lamivudine (or emtricitabine 200 mg if available) and efavirenz. It is important to note that she is on a reliable contraceptive, since she will be starting on efavirenz.*

*Tenofovir 300 mg daily, lamivudine 300 mg daily, and efavirenz 600 mg*

*Start on cotrimoxazole*

*Continue TB treatment*

What labs should be obtained at baseline and when should they be repeated?

*Screening prior to ART initiation to check HIV result, CD4 count, Screening for Pap smear and STI symptoms.*

*Since she will be starting on tenofovir, she will require a serum creatinine and clearance to assess for renal insufficiency. Ideally this would be obtained prior to choosing a regimen.*

*Routine monitoring should include: Viral load at month 6, 1 year and then every 12 months. Creatinine clearance at month 3, 6 and every 12 months. CD4 at 12 months.*

*Monitoring for TB drug side effects should take place as usual. It will be important to discuss adherence with this individual since they will be taking so many medications and more frequent visits may be necessary.*

## Case 5 Answers

A 26 year-old male presents with a history of ART for one year and one month. Current regimen: stavudine, lamivudine and efavirenz. He has no symptoms today and reluctantly reports missing "several doses" over the past several months.

Vitals: Temp: 37C, Respiratory Rate: 16, Pulse: 67, Blood Pressure: 110/75

Exam: Within Normal Limits

Baseline CD4/VL: 130 cells/mm<sup>3</sup>, 100,580 copies/mL

6 month CD4/VL: 250 cells/mm<sup>3</sup>, < 400 copies/mL

1 year CD4/VL: 175 cell/mm<sup>3</sup>, 10,890 copies/mL

**1. What do you suspect is occurring?**

*This patient may have antiretroviral failure – at present he is displaying both immunologic and virologic failure, although no clinical failure.*

**2. Is there an indication for switching or stopping a regimen? Why or why not?**

*At present, the best course is to continue to monitor/provide adherence counselling, check for compliance, tolerability and drug- drug interaction and assess psychological issues. It is important for the patient to realize that their best chance at an effective regimen will be their first regimen and that adherence is critical in order for it to be effective. However, at the same time, you want to be certain not to overlook the possibility of resistance and allow the patient to continue too long on an ineffective regimen. (This can lead to clinical signs and symptoms that are potentially fatal, as well as continued accumulation of resistance – leading to the possibility that other medications may not work, either.) There may be an indication for switching regimens if the current down trend in viral load and increase in CD4 continues.*

**3. If so, what should take place next and if the regimen needs to be changed, what part of the regimen should be switched/stopped?**

*The best course of action would be to provide this patient with adherence counselling and recheck the VL and CD4 at 2 months. Then reassess. If his VL is again >1,000 copies/mL and he has > 80% adherence, a switch to 2nd line (AZT, 3TC (or FTC) and LPV/r) should take place. Patient with anaemia and renal failure switch to ABC. Failing on a d4T -based regimen switch to TDF+3TC (or FTC) and LPV/r. Dyslipidaemia or diarrhoea associated with LPV/r switch to ATV/r*

*Remember, any of this decision making and switching should take place by or with close consultation with an expert.*