### MONITORING FOR ALL PATIENTS AT FIRST ANC VISIT

<table>
<thead>
<tr>
<th>TEST</th>
<th>PURPOSE</th>
<th>TIMING AND RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB screening and spuhot Gene Expert (GXP)*</td>
<td>To identify TB suspects and assess TPT eligibility</td>
<td>TB diagnosed: start TB Rx. If on ART, continue. If not yet on ART: see algorithm on centre spread.</td>
</tr>
<tr>
<td>3TC</td>
<td>To assess HBV status</td>
<td>If HBsAg-positive: include TDF in regimen. Provide post-exposure prophylaxis of hepatitis B for infant as per relevant guidelines.</td>
</tr>
<tr>
<td>CrAg (cerebrospinal fluid antigen), if CD4 ≤ 100</td>
<td>To treat or provide prophylaxis for cryptococcal meningitis</td>
<td>If CrAg-positive: refer for urgent LP and patient should be discussed with an expert. Fluconazole is teratogenic. Defer ART if ART-naive, but don’t stop ART if already on ART. If CrAg-negative: start or continue ART.</td>
</tr>
<tr>
<td>Screen for chronic diseases</td>
<td>To identify high risk pregnancy</td>
<td>Nutritional assessment: provide counselling for safer sex, post-natal contraception and partner testing.</td>
</tr>
<tr>
<td>Nutritional assessment</td>
<td>To detect deficiency and provide necessary nutritional support</td>
<td>Family planning:</td>
</tr>
<tr>
<td>To identify PNG women</td>
<td>If HBV status unknown, check HBsAg</td>
<td>If FBC, if on ART</td>
</tr>
<tr>
<td>Viral load, if on ART</td>
<td>To identify treatment failure</td>
<td>Treat according to relevant guidelines.</td>
</tr>
<tr>
<td>STI and syphilis screening (RPR)</td>
<td>To identify and treat STIs</td>
<td>Treat according to relevant guidelines.</td>
</tr>
<tr>
<td>Viral load</td>
<td>To confirm viral suppression or detect virological failure timeously</td>
<td>See algorithm on centre spread.</td>
</tr>
<tr>
<td>CD4 count</td>
<td>To assess immunological status, risk of OIs and need for prophylaxis</td>
<td>Be sure to check results and respond quickly!</td>
</tr>
<tr>
<td>TB symptom screening</td>
<td>To identify TB suspects and assess TPT eligibility</td>
<td>Treat according to relevant guidelines.</td>
</tr>
<tr>
<td>FBC, if on ART</td>
<td>To detect anaemia and/or neutropaenia</td>
<td>Treat according to relevant guidelines.</td>
</tr>
<tr>
<td>s-Creatinine*, if on TDF</td>
<td>To assess renal function and eligibility for TDF</td>
<td>Treat all women with a positive syphilis screening test irrespective of titre: refer to PMTCT guideline p11.</td>
</tr>
</tbody>
</table>

*If the client has recently had TB, the GXP may give a false-positive. Please call an expert or the hotline to discuss. If HBsAg-negative and not immune, provide Hep B vaccination as per National Viral Hepatitis guidelines. Hep B vaccination is not contraindicated in pregnancy. If high-risk status unknown at delivery, test.

### BREASTFEEDING

- Breastfeeding should be initiated within one hour of delivery
- Exclusive breastfeeding for first 6 months of life
- If mother is suppressed on ART, mixed feeding is not a reason to stop breastfeeding
- Introduction of age-appropriate solids from 6 months onwards
- Continue breastfeeding until 2 years of age or older
- Ensure mother is on ART, adherent and VL is suppressed
- It is recommended that women have a VL < 1000 c/mL on first-line ART continue to breastfeed. Infant prophylaxis should be extended/restarted while a concerted effort is made to re-suppress the mother’s VL.
- Stopping breastfeeding should be done slowly, over a month
- Breastfeeding should be avoided in mothers who are failing second- or third-line ARVs

### WHAT DOES EXCLUSIVE BREASTFEEDING MEAN?

For the first six months of life, the baby only gets mother’s milk and medication. This means no water, formula, other foods or supplements.

### SECOND-LINE ART FOR PREGNANT/BREASTFEEDING WOMEN IF HBV status unknown, check HBsAg

<table>
<thead>
<tr>
<th>Current failing regimen</th>
<th>HBSAg negative</th>
<th>HBSAg positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDF + 3TC/FTC + ETV/NTV</td>
<td>AZT + TDF</td>
<td>AZT + LTL</td>
</tr>
<tr>
<td>If DTG not suitable:</td>
<td>AZT + 3TC/FTC + LPV/r</td>
<td>AZT + TDF</td>
</tr>
<tr>
<td>TLD (&gt; 2 years)</td>
<td>TDF + 3TC/FTC + LPV/r</td>
<td>TDF + 3TC/FTC + LPV/r</td>
</tr>
</tbody>
</table>

**No PI resistance:** continue ART, address adherence. If intolerance to LPV/r is affecting discussion, discuss substitutions with hotline or expert.

**PI resistance:** refer to 3rd line committee

**DTG should not be used within the first 6 weeks of pregnancy. Women can make an informed choice to use or not use DTG.**

### RECOMMENDED REGIMENS

#### FIRST-LINE ART FOR PREGNANT AND BREASTFEEDING WOMAN (> 6 WEEKS OF PREGNANCY OR 4 WEEKS POST-CONCEPTION)

**Prefered regimen**

- **TLD** (refer to algorithm on next page)

**Women not on ART, who test HIV-positive in labour**

- **Stat dose of TLD + NVP. Start life-long ART the next day**

**Check s-Creatinine* and CD4. Review results at 3-6 day visit and adapt ART accordingly**

### UNBOOKED/PRESENTS IN LABOUR

- **TB diagnosed:** start TB Rx. If on ART, continue. If not yet on ART: see algorithm on centre spread. **Stop CD4 monitoring if client meets criteria to discontinue CPT**
- **If DTG not suitable:**
  - **AZT + 3TC/FTC + LPV/r**
  - **TDF + 3TC/FTC + LPV/r**
- **If DTG is not suitable**
  - **TDF + 3TC/FTC + FPV/r**

*Please note: calculated eGFR is not accurate during pregnancy. Serum creatinine and not eGFR should be used.

**TB diagnosed:** start TB Rx. If on ART, continue. If not yet on ART: see algorithm on centre spread.

**LTL:** long-term antiretroviral treatment; **TDF:** tenofovir; **AZT:** zidovudine; **3TC:** lamivudine; **FTC:** emtricitabine; **EFV:** efavirenz; **NNRTI:** non-nucleoside reverse transcriptase inhibitors; **RTV:** ritonavir; **PI:** protease inhibitors; **BCG:** bacille Calmette-Guérin; **GGM:** an increased risk of NTDs with DTG use around conception and within the first 6 weeks of pregnancy (6 weeks post-conception). They should be provided with their choice of contraception if not pregnant.

**TDF:** tenofovir disoproxil fumarate; **3TC:** lamivudine; **EFV:** efavirenz; **FTC:** emtricitabine; **LPV/r:** lopinavir/ritonavir; **NVP:** nevirapine; **AZT:** azidothymidine; **3TC:** lamivudine; **ABC:** abacavir; **TDF:** tenofovir; **NNRTI:** non-nucleoside reverse transcriptase inhibitors; **PI:** protease inhibitors; **PI resistance:** mutations in the PI gene affecting adherence, discuss substitutions with hotline or expert.

**No PI resistance:** continue ART, address adherence. If intolerance to LPV/r is affecting discussion, discuss substitutions with hotline or expert.
**ART INITIATION ALGORITHM**

Any pregnant or breastfeeding women with a new HIV diagnosis or any known HIV-positive woman (not currently on ART) with a new pregnancy diagnosis

**Take a history and do a clinical examination** (see Table on Monitoring for All Patients at First ANC Visit):
- Exclude contra-indications to starting ART on the same day (refer to 2019 Consolidated ART Guideline). Ask about TB symptoms, a history of renal disease, or current psychiatric symptoms.
- Determine the client’s WHO Clinical Stage. Start cotrimoxazole (CPT) if eligible.
- Do the following tests on ALL HIV-positive pregnant women, regardless of symptoms or history: CD4 count, s-Creatinine, sputum for TB Gene Expert (GXP), and urine dipstix

**TB Symptoms with danger signs:**
- If the woman appears very ill with any of the following signs, discuss with a doctor or refer for further assessment. Do not start ART until TB is excluded/
- Exclude contra-indications to starting ART on the same day (refer to 2019 Consolidated ART Guideline). Ask about TB symptoms, a history of renal disease, or current psychiatric symptoms.
- Determine the client’s WHO Clinical Stage. Start cotrimoxazole (CPT) if eligible.
- Do the following tests on ALL HIV-positive pregnant women, regardless of symptoms or history: CD4 count, s-Creatinine, sputum for TB Gene Expert (GXP), and urine dipstix

**Ensure a thorough evaluation for TB**
- TB GXP-negative, but still TB symptoms
  - Investigate with CXR, 2nd sputum for culture/line probe assay (LPA) +/- antibiotics as per National TB Guidelines. If CD4 <100, do a urine LAM
  - TB diagnosis confirmed
  - Initiate TB Rx

**TB Symptoms without danger signs**
- No abnormal history

**Initiate ART same day:** TLD preferred, see first page
  - (Refer to PMTCT guideline p17 for detailed DTG information)
  - if TDF contraindicated due to history of/suspected renal disease replace TDF with ABC.
  - Review results in 3-7 days

**TB GXP-negative (or unable to produce sputum), AND no TB symptoms**
- CD4 ≤ 100
- Continue ART:
  - TDF + 3TC/FTC + DTG
- Continue/adjust ART to ABC, 3TC and DTG.
  - Adjust dose of 3TC (and any other drugs) as needed.
  - Discuss with an expert/HIV hotline regarding further investigations and management

**TB GXP-positive**
- Reflex serum CrAg
  - Negative
    - Continue ART:
      - TPT in pregnancy
        - No TST necessary. Ensure that active TB has been excluded, and check for other contra-indications before starting TPT
        - CD4 > 350: defer until 6 weeks after delivery
        - CD4 < 350 and the client is tolerating ART: initiate TPT for 12 months
    - Positive
    - Refer urgently for LP

**TPT in pregnancy**
- No abnormal results and CD4 > 100
- Continue ART
- If CD4 ≥ 350, defer TPT until 6 weeks after delivery

**VL MONITORING**

<table>
<thead>
<tr>
<th>Established on ART</th>
<th>When to do VL</th>
<th>How to respond</th>
</tr>
</thead>
<tbody>
<tr>
<td>At first visit to ANC</td>
<td>If VL &lt; 50 c/mL, repeat at delivery</td>
<td>If on TEE and VL &lt; 50 c/mL, offer TLD*</td>
</tr>
<tr>
<td>If VL &lt; 50 c/mL, repeat at delivery</td>
<td>If VL &gt; 50 c/mL, see NSA algorithm</td>
<td></td>
</tr>
<tr>
<td>At 3 months on ART</td>
<td>If VL &lt; 50 c/mL, repeat at delivery</td>
<td>If VL &gt; 50 c/mL, see NSA algorithm</td>
</tr>
<tr>
<td>At 3 months after restart on DTG-regimen</td>
<td>Repeat at delivery</td>
<td></td>
</tr>
<tr>
<td>During breastfeeding</td>
<td>Every 6 months or when indicated clinically</td>
<td>If VL &gt; 50 c/mL, see NSA algorithm</td>
</tr>
</tbody>
</table>

**VL 50 - 999**
- Repeat VL in 8-10 weeks

**VL > 1000**
- Start, restart or extend infant high-risk prophylaxis. Repeat VL in 4-6 weeks

**VL 50 - 999**
- Determine if the client should switch to second-line, taking into account her current regimen and time she has been on ART. Refer to 2019 Consolidated ART Guideline or consult an expert/the hotline for further management

**VL < 50**
- Repeat VL as per VL Monitoring Table

**VIRAL LOAD NON-SUPPRESSION ALGORITHM (NSA)**

Do a thorough assessment of the cause of the elevated VL (Adherence; Bugs, Infections; Correct Dose; Drug Interactions; Reistance)

**VL ≥ 1000**
- Start, restart or extend infant high-risk prophylaxis. Repeat VL in 4-6 weeks

**VL dropped by > 1 log**
- Determine if the client should switch to second-line, taking into account her current regimen and time she has been on ART. Refer to 2019 Consolidated ART Guideline or consult an expert/the hotline for further management

**VL 50 - 999**
- Repeat VL in 8-10 weeks

**VL < 50**
- Repeat VL as per VL Monitoring Table

**VL 50 - 999**
- Determine if the client should switch to second-line, taking into account her current regimen and time she has been on ART. Refer to 2019 Consolidated ART Guideline or consult an expert/the hotline for further management