2023 ART Clinical Guidelines
for the Management of HIV in Adults, Pregnancy and Breastfeeding, Adolescents, Children, Infants and Neonates

April 2023
Republic of South Africa National Department of Health
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South Africa is committed to attaining the UNAIDS 95-95-95 targets to control the HIV epidemic by providing quality healthcare services using highly effective antiretroviral treatment (ART). The principal goal of ART is to attain and maintain viral suppression, which will prevent new HIV infections, increase life expectancy, decrease morbidity and mortality as well as improve the quality of lives of all South Africans, thus contributing to realising the vision of A LONG AND HEALTHY LIFE FOR ALL.

The “Test and Treat All” approach has allowed people living with HIV (PLHIV) to access ART timeously.

South is committed to using available technology and evidence to continue the fight against HIV. The 2019 guidelines have been revised to include more optimised treatment regimens for all clients, including pregnant and breastfeeding women and children. The National Health Council (NHC) has adopted the new World Health Organization (WHO) recommended first, second and third-line regimens that include Dolutegravir (DTG) as the preferred antiretroviral drug.

I am introducing the 2023 ART guideline, which introduces simplified ART provision and harmonised methods of management of children, adolescents and adults, as well as pregnant women living with HIV/AIDS, TB and other common opportunistic infections. The guidelines also provide guidance on the use of Dolutegravir (DTG) dispersible tablets for children from 3kg and 4 weeks old.

These guidelines have been revised with the Differentiated Models of Care SOPs to ensure simultaneous consideration and alignment of clinical, adherence and service delivery updates. The Differentiated Models of Care SOPs form part of this guidance to enable optimal use of decentralised and integrated service delivery to promote a patient-centred approach. Effective implementation of these guidelines will increase access to ART services, advance South Africa’s ability to control the epidemic and help to achieve the 2030 SDG goals.

I urge all clinicians at PHC clinics, community health centres and hospitals across the board to use these guidelines diligently to offer quality, comprehensive services to the public.

I would like to sincerely thank all the internal and external stakeholders who actively contributed to developing these guidelines.

Dr SSS Buthelezi
Director-General: Health
Date: 24-04-2023
What is New in this Guideline?

<table>
<thead>
<tr>
<th>Terminology</th>
<th>TLD 1 (or ALD 1 in children)</th>
<th>TLD 2 (or ALD 2 in children)</th>
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<tbody>
<tr>
<td></td>
<td>Clients on a DTG-containing regimen, who have <strong>never failed</strong> any other regimen (previous “first-line” terminology)</td>
<td>Clients on a DTG-containing regimen, who have <strong>failed</strong> an earlier regimen (previous “second-line” terminology)</td>
</tr>
</tbody>
</table>

**Dispensing cycle:**
A dispensing cycle (DC) is defined as the number of days for which a client would have treatment if a single standard “monthly” quantity of tablets were dispensed. The term DC is preferred to the previously used term ‘month’ due to the potential discrepancy that may arise between the days of treatment dispensed (if 28-day pack sizes are used) and the days in a month (on average, 30 days).

**ART Regimens**

All adult and adolescent clients > 30 kg and > 10 years of age, including pregnant and breastfeeding women

- The preferred first-line ART regimen is **tenofovir disoproxil fumarate-lamivudine-dolutegravir (TLD)** for those adult and adolescent clients initiating ART.
- TDF weight-related eligibility criteria decreased from **35 kg to 30 kg**
- All clients already on ART and not on dolutegravir (DTG), whether on first-line or second-line regimens, should be evaluated for a switch to a dolutegravir-containing regimen.

**New formulations**
- DTG 10 mg dispersible tablets for children from ≥ 3kg and ≥ 4 weeks of age
- DTG-containing fixed-dose combination: Abacavir (ABC) 600 mg + lamivudine (3TC) 300 mg + DTG 50 mg (ALD FDC). ALD FDC can be prescribed for clients ≥ 25 kg

Children ≥ 3 kg and ≥ 4 weeks of age until 29,9 kg or 9 years of age

- The preferred first-line ART regimen is **abacavir-lamivudine-dolutegravir (ALD)**.
- All paediatric clients already on ART and not on dolutegravir (DTG), whether on first-line or second-line regimens, should be evaluated for a switch to a dolutegravir-containing regimen.

**Other antiretrovirals**
- **Abacavir** is the preferred alternative agent if TDF cannot be used
- Zidovudine (AZT) no longer part of any standard ART regimen. AZT will be reserved only for cases with **both renal failure** and **ABC hypersensitivity**
- **Atazanavir/r** replaces lopinavir/r as the preferred protease inhibitor except when on TB treatment

**Monitoring on ART**

**VL monitoring**
First VL after ART initiation to be done after 3 dispensing cycles
- Allows for earlier detection of factors influencing viral suppression
- Allows for earlier decanting for suppressed clients to minimise visits and promote continued engagement in care

**Creatinine and eGFR**
eGFR previously done at ‘month’ 6 moves to ‘month’ 3 (i.e. after 3 dispensing cycles) to align with the new VL monitoring schedule

**Virological Failure**

- **Definition:** two or more VLs ≥ 1000 c/mL taken two or more years after starting a DTG/PI-containing regimen and adherence > 80%
- **Focus on improved adherence:** Resistance to DTG is very uncommon. If other reasons for an unsuppressed VL (including drug interactions) have been addressed or excluded, suboptimal adherence remains the most probable cause for non-suppression. The highest probability of improving adherence would be to remain on a once-daily, well-tolerated, fixed-dose combination regimen (TLD) while identifying and addressing the underlying root causes of non-adherence.
- **No regimen changes without a resistance test:** Switching off a DTG-containing regimen should only happen if InSTI resistance has been confirmed by a resistance test
- Resistance testing can only be authorised by a member of the National Third-line committee, one of the helpline consultants, or a nominated provincial expert

**Other updates**
The following sections have been added/updated/enhanced
- Visit Schedule for Integrated Care for the Mother-baby Pair Living with HIV
- Visit Schedule for Integrated Care for Clients on ART and TB Rx
- Disclosure Counselling
- Enhanced Adherence Counselling
- Mental Health Assessment
Overview

This ART Clinical Guideline is intended to serve as a quick reference guide for antiretroviral treatment (ART) in adults, pregnant and breastfeeding women, adolescents and paediatric clients, and as a job aide for healthcare workers and implementing partners. This document is not intended to be exhaustive; for more information or details on any recommendations, or on the prevention of vertical transmission, please refer to the comprehensive Consolidated HIV Guidelines document and the Guideline for Family-Centred Transmission Prevention of Communicable Infections (HIV, Hepatitis, Listeriosis, Malaria, Syphilis and TB) 2023.

These guidelines have been revised with the Differentiated Models of Care (DMOC) Standard Operating Procedures (SOPs) to ensure simultaneous consideration and alignment of clinical, adherence and service delivery updates. The DMOC SOPs form part of this guidance to enable optimal use of decentralised and integrated service delivery and should be read concurrently with this clinical guideline.

The objectives of this document are to:
- Provide guidance on initiation of ART in antiretroviral-naïve clients as well as those returning to care in the era of dolutegravir (DTG)
- Provide guidance for switching of clients already on ART to DTG-containing regimens
- Provide guidance on routine management of clients on ART to promote viral suppression
- Highlight critical areas for provision of integrated ART, TB, and family planning services, and the use of differentiated models of care

The preferred first-line ART regimen is tenofovir disoproxil fumarate-lamivudine-dolutegravir (TLD) for those adult and adolescent clients initiating ART, and abacavir-lamivudine-dolutegravir (ALD) in children. All clients already on ART and not on dolutegravir (DTG), whether on first-line or second-line regimens, should be evaluated for switch to a dolutegravir-containing regimen.

In the new ART era of dolutegravir, TLD will be used as a first-line and a second-line ART regimen, and as part of certain third-line regimens with other medicines. This has necessitated a change of the previous “first-line” and “second-line” terminology to the following:

- **TLD1**: Clients on a DTG-containing regimen, having never failed a previous regimen (old “first-line” terminology)
- **TLD2**: Clients on a DTG-containing regimen, who have failed a previous regimen (old “second-line” terminology)

The safety of DTG in women of childbearing-potential has been firmly established and neural tube defects are no longer a concern that influences regimen choice in women. However, the integration of family planning and ART services remain of paramount importance, and issues of family planning and contraception should be discussed at every clinical interaction to understand the client’s current fertility desires and healthcare needs.

All people either currently on ART, or newly initiated on ART, should be screened for TB and assessed for TB preventive therapy (TPT) as indicated. All individuals should be assessed for advanced HIV disease (AHD) and provided with a comprehensive package of care, including cotrimoxazole prophylaxis, as needed.

The guideline broadly follows the process of care, namely:
1) ART eligibility and determining the timeframe for ART initiation
2) ART initiation
3) Management of the client on ART
4) Supporting adherence, sustained viral suppression and retention in care

The Goals of ART

- **ART Eligibility and Determining the Timeframe for ART Initiation**
  - Who is eligible?
  - Reasons to defer ART

- **ART Initiation**
  - Baseline clinical evaluation
  - Baseline laboratory evaluation
  - Dolutegravir
  - Reduce new infections by using treatment as prevention (U=U)
  - First-line ART regimens
  - Dual treatment for HIV and TB

- **Management of the Client on ART**
  - Switching clients on ART to optimised first-line regimens
  - Monitoring a client on ART
  - Management of VL results
  - Providing an integrated care package
  - Optimising clinic visit schedules to promote continued engagement in care

- **Supporting adherence and retention in care**

- **Supporting adherence and retention in care**

**The Goals of ART**

- **Achieve and Maintain Virological Suppression**
  - With the aim to:
    - Decrease opportunistic infections and other HIV-related conditions
    - Minimise the development of treatment resistance
    - Improve quality of life
    - Reduce new infections by using treatment as prevention (U=U)
    - Decrease the morbidity and mortality from HIV/AIDS
**ART Eligibility**

All people living with HIV (PLHIV) are eligible to start ART regardless of age, CD4 cell count and clinical stage. For all clients without contra-indications, ART should be initiated within 7 days, and on the same day if possible. Pregnant women, infants and children under five years, and clients with advanced HIV disease should be prioritised for rapid initiation. Many clients (including pregnant women) may be able to initiate ART on the same day as their HIV diagnosis, provided that they are clinically well, and are motivated to start ART. While rapid, and same-day ART initiation is encouraged where possible, all clients, particularly those with advanced HIV disease, should be carefully assessed for opportunistic infections (OIs) that may necessitate ART deferral.

**Medical Indications to Defer ART**

<table>
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<tr>
<th>Indication</th>
<th>Action</th>
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<td>TB symptoms (cough, night sweats, fever, recent weight loss)</td>
<td>Investigate symptomatic clients for TB before initiating ART. If TB is excluded, proceed with ART initiation and TB preventive therapy (after excluding contra-indications to TPT). If TB is diagnosed, initiate TB treatment and defer ART. The timing of ART initiation will be determined by the site of TB infection and the client’s CD4 cell count</td>
</tr>
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</table>
| Diagnosis of drug-sensitive (DS) TB at a non-neurological site (e.g. pulmonary TB, abdominal TB, or TB lymphadenitis) | Defer ART initiation as follows:  
  - If CD4 < 50 cells/µL – initiate ART within 2 weeks of starting TB treatment, when the client’s symptoms are improving, and TB treatment is tolerated  
  - If CD4 ≥ 50 cells/µL – initiate ART 8 weeks after starting TB treatment  
  - In pregnant and breastfeeding women (PBFW) initiate ART within 2 weeks of starting TB treatment, when the client’s symptoms are improving, and TB treatment is tolerated. Defer ART for 4-6 weeks if symptoms of meningitis are present. For further details, refer to the Family-Centered Transmission Prevention Guideline 2023 |
| Diagnosis of drug-resistant (DR) TB at a non-neurological site (e.g. pulmonary TB, abdominal TB, or TB lymphadenitis) | Initiate ART after 2 weeks of TB treatment, when the client’s symptoms are improving, and TB treatment is tolerated |
| Diagnosis of DS-TB or DR-TB at a neurological site (e.g. TB meningitis or tuberculoma) | Defer ART until 4-8 weeks after start of TB treatment |
| Signs and symptoms of meningitis                                           | Investigate for meningitis before starting ART |
| Cryptococcal antigen (CrAg) positive in the absence of symptoms or signs of meningitis and if lumbar puncture is (LP) negative for cryptococcal meningitis (CM) | Defer ART until the first 2 weeks of fluconazole prophylaxis has been completed |
| Confirmed cryptococcal meningitis                                          | Defer ART until 4-6 weeks of antifungal treatment has been completed |
| Other acute illnesses e.g. *Pneumocystis jirovecii* pneumonia (PJP) or bacterial pneumonia | Defer ART for 1-2 weeks after commencing treatment for the infection |
| Clinical symptoms or signs of liver disease                               | Confirm liver injury using ALT and total bilirubin levels. ALT elevations > 120 IU/L with symptoms of hepatitis, and/or total serum bilirubin concentrations > 40 µmol/L are significant. Investigate and manage possible causes including TB, hepatitis B, drug-induced liver injury (DILI), or alcohol abuse |

**Note:** Clients who are already on ART should NOT have their treatment interrupted upon diagnosis of the above conditions.
A clinical assessment and laboratory baseline investigations should be done in order to initiate ART. However, laboratory results do not need to be available to start clients on ART on the same day, provided they have no clinical evidence of TB, meningitis or renal disease. In addition, all clients, and caregivers of paediatric clients, must receive counselling on how to administer medication, monitor side-effects and deal with challenges to adherence.

**Baseline Clinical Evaluation for Adults and Adolescents, Pregnant Women, and Children < 10 Years**

The baseline clinical evaluation of a client about to start ART requires a thorough history and clinical examination. The minimum components of the baseline clinical evaluation are outlined in the table below.

<table>
<thead>
<tr>
<th>Component of the Baseline Clinical Evaluation</th>
<th>Purpose</th>
<th>Further Action Required</th>
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<tbody>
<tr>
<td>Recognise the client with respiratory, neurological, or abdominal danger signs needing urgent care</td>
<td>To identify opportunistic infections and conditions needing urgent care or referral See also the section on &quot;Advanced HIV Disease in the 2023 Consolidated ART Guideline&quot;</td>
<td>Identify respiratory, neurological, or abdominal danger signs as outlined in Adult Primary Care (APC) guideline</td>
</tr>
<tr>
<td>Nutritional Assessment</td>
<td>To identify recent weight loss that may indicate an active opportunistic infection (OI) or other pathology. To identify underweight/obese clients requiring nutritional and lifestyle support</td>
<td>Measure weight and height and determine BMI (kg/m²): &lt; 18.5 = underweight; 18.5 to 25 = normal; &gt; 25 to &lt; 30 = overweight; ≥30 = obese</td>
</tr>
<tr>
<td>Screen for TB</td>
<td>To identify clients with a positive TB screen who require further investigations for TB To identify clients with a negative TB screen who may be eligible for TPT see &quot;TB Preventive Therapy&quot; on page 9</td>
<td>At enrolment into care/ART start: • TB symptom screen (identify symptoms of cough, night sweats, fever, recent weight loss as outlined in the TB screening tool) • Routine MTB/Rif Ultra (Xpert) on all PLHIV at enrolment into ART care (regardless of TB symptoms)</td>
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**Interventions to support adherence to ART**

ART literacy education and fast-track initiation counselling (FTIC) empower clients to adhere to treatment, and positively influence clinical outcomes. Adherence counselling at ART initiation and first follow-up visit should focus on:

- providing the client with an understanding of HIV, ART, and the importance of VL suppression
- providing the client with practical skills to adhere to ART
- identifying any potential risk factors for adherence in the future
- An individualized adherence plan should be developed with clear treatment milestones, including an undetectable viral load
<table>
<thead>
<tr>
<th>Component of the Baseline Clinical Evaluation continued</th>
<th>Purpose</th>
<th>Adolescents (10-19 years) and Adults</th>
<th>Pregnant Women</th>
<th>Children (&lt; 10 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Screen for symptoms of meningitis</strong></td>
<td>To diagnose and treat clients with cryptococcal and other forms of meningitis and reduce associated morbidity and mortality</td>
<td><strong>Identify symptoms of headache, confusion or visual disturbances.</strong> With cryptococcal meningitis, clients may only present with a recurrent headache. Other symptoms may include fever, neck stiffness or coma. Do/refer the client for a lumbar puncture. Defer ART if meningitis is confirmed as outlined in &quot;Medical Indications to Defer ART&quot; on page 4</td>
<td>Screen for symptoms of depression, psychosis, and substance abuse</td>
<td>Screen for symptoms of depression in older children</td>
</tr>
<tr>
<td><strong>Screen for active depression, other mental health issues or substance abuse</strong></td>
<td>Mental health conditions and substance use can affect adherence and the client's quality of life. In general, ART can be initiated, and cautiously monitored see also &quot;Mental Health Assessment&quot; on page 31</td>
<td>Screen for symptoms of depression, psychosis, and substance abuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Screen for major chronic non-communicable diseases (NCDs) (diabetes, hypertension, epilepsy)</strong></td>
<td>To identify and manage clients with major chronic NCDs and/or comorbidities. To identify and prevent potential drug interactions with ART e.g. metformin and anti-epileptic medications</td>
<td>Do blood pressure (BP), and urine dipstix for proteinuria and glucose. Identify other risk factors (smoking, increased waist circumference, age) and determine cardiovascular (CVS) risk. Manage NCDs and CVS risk factors as outlined in the PHC EML</td>
<td>Do blood pressure (BP), and urine dipstix for proteinuria and glucose</td>
<td>Identify the child with epilepsy and be aware of potential drug interactions of anti-epileptic treatment and ART</td>
</tr>
<tr>
<td><strong>Screen for pregnancy and ask if planning to conceive</strong></td>
<td>To identify pregnancy and facilitate early referral for antenatal care (ANC) and measures to prevent vertical transmission. To assess fertility intentions and contraceptive needs if not pregnant.</td>
<td>Ask if the client is currently using contraception and if her last menstrual period occurred at the expected time. If she answered “no” to either question, do a urine pregnancy test</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Symptom screen for sexually transmitted infections (STIs)</strong></td>
<td>To identify and treat STIs in sexually active clients</td>
<td>STI screening should include the following three questions: “Do you have any genital discharge?” “Do you have any genital ulcers?” “Has/have your partner(s) been treated for an STI in the last 8 weeks?”</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Neurodevelopmental screen</strong></td>
<td>To identify children with neurodevelopmental delay requiring intervention/referral and follow-up</td>
<td>N/A</td>
<td>N/A</td>
<td>Screen for developmental delays as outlined in the child’s Road to Health Booklet (RTHB)</td>
</tr>
<tr>
<td><strong>WHO clinical stage</strong></td>
<td>After the baseline clinical evaluation has been completed by means of a thorough history and clinical examination, the client's WHO clinical stage can be determined: <strong>At ART initiation</strong>, WHO clinical stage helps us to: Understand the severity of the client's clinical condition and the associated risk of mortality Determine the urgency and timing of ART initiation Determine if cotrimoxazole prophylaxis (CPT) is indicated see &quot;Indications for Starting and Stopping Cotrimoxazole Preventive Therapy&quot; on page 8</td>
<td></td>
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<td></td>
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Baseline Laboratory Evaluation for Adults and Adolescents, Pregnant Women, and Children includes the following:

The following baseline laboratory investigations should be performed routinely before a client initiates ART. Clients are not required to wait for the results of the baseline investigations prior to starting ART, but results should be checked at the next visit.

<table>
<thead>
<tr>
<th>Laboratory evaluation</th>
<th>Purpose</th>
<th>Adolescents (10-19 years) and Adults</th>
<th>Pregnant Women</th>
<th>Children (&lt; 10 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm HIV test result</td>
<td>To confirm HIV status for those without documented HIV status</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CD4 cell count/ %</td>
<td>To identify eligibility for CPT</td>
<td>See &quot;Indications for Starting and Stopping Cotrimoxazole Preventive Therapy&quot; on page 8</td>
<td>A reflex CrAg test will be done automatically by the laboratory on all CD4 counts &lt; 100 cells/μL</td>
<td>N/A</td>
</tr>
<tr>
<td>Creatinine and eGFR if TDF used</td>
<td>To assess renal insufficiency</td>
<td>See table titled &quot;Assessing Renal Function&quot; on page 8</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Haemoglobin (Hb)</td>
<td>To identify and manage anaemia; to determine eligibility for zidovudine (AZT) where necessary</td>
<td>If Hb is low, do a full blood count (FBC). Characterise according to mean corpuscular volume (MCV) as either microcytic, normocytic, or macrocytic and manage accordingly¹</td>
<td>Treat with ferrous sulphate tds if Hb &lt; 10 g/dL. Refer if &lt; 8 g/dL and symptoms, if anaemia diagnosed at 36 weeks gestation or later, or if no response to treatment</td>
<td>Children &lt; 5 years: Treat with iron supplements and deworm the child; Children ≥ 5 years: Do FBC. Characterise according to MCV and manage accordingly¹</td>
</tr>
</tbody>
</table>
| GeneXpert (MTB/Rif Ultra) | To diagnose TB | For any client with a positive TB symptom screen | For people living with HIV, regardless of TB symptoms:  
- At the time of HIV diagnosis  
- On enrolment in antenatal care for pregnant women | Only for those with a positive TB symptom screen |
| Cryptococcal antigen test (CrAg) if CD4 < 100 cells/μL | To identify asymptomatic clients who need pre-emptive fluconazole treatment | A reflex CrAg test will be done automatically by the laboratory on all CD4 counts < 100 cells/μL. If CrAg-negative, no fluconazole is required. If CrAg-positive, the client will require treatment of the infection. All CrAg-positive clients should be referred for a lumbar puncture, regardless of symptoms. | All pregnant women with a positive CrAg should be referred for a lumbar puncture, regardless of symptoms. The results of the lumbar puncture and further management should be discussed with an expert, or one of the "Helplines" on page 21 | N/A |
| Cervical cancer screening | To identify women with cervical lesions and manage appropriately | All HIV-positive women should be screened for cervical cancer at diagnosis and subsequently every 3 years if the screening test is negative. If the cervical screening results suggest a possible abnormality of the cervical cells, then a clear plan for further investigation and treatment (e.g., colposcopy and LLETZ procedure) should be determined according to the local referral guidelines. | Pregnancy does not preclude screening for cervical cancer and it can be performed up to 20 weeks of gestation. If the cervical screening results suggest a possible abnormality of the cervical cells, then a clear plan for further investigation (e.g., colposcopy) should be determined according to the local referral guidelines | N/A |
| HBsAg | To identify those co-infected with hepatitis B (HBV) | If positive, exercise caution in stopping TDF-containing regimens, to prevent hepatitis flares | N/A |

¹ As outlined in the PHC EML 2020
Assessing Renal Function

<table>
<thead>
<tr>
<th>Age/pregnancy Status</th>
<th>What must be measured?</th>
<th>Acceptable level for TDF use</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 10 and &lt; 16 years of age</td>
<td>eGFR using Counahan Barratt formula</td>
<td>&gt; 80 mL/min/1.73 m²</td>
</tr>
<tr>
<td>Adults and adolescents ≥ 16 years</td>
<td>eGFR using MDRD equation¹</td>
<td>&gt; 50 mL/min/1.73 m²</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>Absolute serum creatinine level</td>
<td>&lt; 85 μmol/L</td>
</tr>
</tbody>
</table>

Counahan Barratt formula

eGFR (mL/min/1.73 m²)

\[
\text{eGFR} = \frac{\text{height [cm]} \times 40}{\text{creatinine [μmol/L]}}
\]

DTG is known to decrease tubular secretion of creatinine without affecting glomerular filtration. Serum creatinine concentrations increase early in treatment (by less than 15%), remain stable throughout therapy, and are not an indication to stop DTG. A creatinine level that keeps on rising, is however a cause for concern and could indicate TDF toxicity or other underlying pathology.

¹ Modification of Diet in Renal Disease Study (MDRD) equation. The MDRD formula is automatically calculated by the laboratory for those 18 years and older. For assistance in manually calculating the eGFR for adolescents between 16 and 18 years of age, please contact one of the “Helplines” on page 21. Alternatively, use the calculator provided at https://www.mdcalc.com/mdrd-gfr-equation, or one of numerous smartphone applications available for this purpose. Ensure that the website/application uses the correct unit of measurement (i.e. μmol/L) for the creatinine level.

Indications for Starting and Stopping Cotrimoxazole Preventive Therapy (CPT)

<table>
<thead>
<tr>
<th>Age and HIV status</th>
<th>When to Start</th>
<th>When to Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-positive infant under 1 year of age</td>
<td>All children under 1 year should be on cotrimoxazole irrespective of CD4% or clinical stage</td>
<td></td>
</tr>
<tr>
<td>HIV-positive child 1-5 years of age</td>
<td>CD4% ≤ 25 %, WHO Stage 2, 3, and 4</td>
<td>Discontinue if CD4 count &gt; 25 %, regardless of clinical stage</td>
</tr>
<tr>
<td>HIV-positive child under 5 years of age with PJP infection</td>
<td>Start CPT after PJP treatment is completed</td>
<td>Continue CPT until 5 years of age and stop thereafter only if CD4 criteria in the older-than-five category are met</td>
</tr>
<tr>
<td>HIV-positive adults and children older than 5 years</td>
<td>CD4 count ≤ 200 cells/μL, WHO Stage 2, 3 and 4</td>
<td>Discontinue if CD4 count &gt; 200 cells/μL, regardless of clinical stage</td>
</tr>
</tbody>
</table>
**TB Preventive Therapy**

All clients starting ART, or already on ART, and who have not yet received TB Preventive Therapy (TPT), should be considered for TPT. Prior to initiating TPT, active TB should be ruled out by screening for TB symptoms and performing a TB GeneXpert where indicated. If the client is asymptomatic, TPT initiation need not be delayed if TB GeneXpert results are outstanding. TPT and ART can be initiated on the same day. A Tuberculin skin test (TST) is not required prior to starting TPT. TB testing strategies will vary by age as younger children cannot spontaneously expectorate sputum. In well children without symptoms, neither sputum testing nor CXR are therefore requirements to start TPT. Sputum testing should be attempted in children who can expectorate spontaneously (typically > 25kg), but if they are well (without symptoms) and unable to expectorate, they should start TPT, even if no CXR or sputum testing is available.

<table>
<thead>
<tr>
<th>Category of Client</th>
<th>Specific Eligibility Criteria</th>
<th>Treatment and Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult or adolescent ≥ 15 years</td>
<td>Any CD4 count. Exclude active liver disease, alcohol abuse, or known hypersensitivity to isoniazid</td>
<td>Isoniazid, oral, 300 mg daily for 12 months (12H) and pyridoxine 25 mg daily</td>
</tr>
<tr>
<td>(non-pregnant)</td>
<td></td>
<td>Rifapentine and isoniazid weekly (3HP) may be available in selected locations*</td>
</tr>
<tr>
<td>Children who are contacts of index</td>
<td>Children &lt; 5 years (regardless of HIV status), and children 5-14 years who are HIV-positive</td>
<td>Isoniazid, oral, 10 mg/kg/day for 6 months (maximum dose 300 mg daily) and pyridoxine daily</td>
</tr>
<tr>
<td>TB cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnant women</td>
<td>Eligible if CD4 count ≤ 350 cells/μL. If CD4 &gt; 350 cells/μL, defer TPT till 6 weeks after delivery**</td>
<td>Isoniazid, oral, 300 mg daily for 12 months and pyridoxine 25 mg daily</td>
</tr>
</tbody>
</table>

* Alternative TPT regimen for adults, adolescents and children ≥ 25 kg: Where available, 3HP (weekly isoniazid and rifapentine) can be used in clients on a DTG-containing regimen who have a VL < 1000 c/mL in the last 6 months. 3HP should NOT be used in new clients initiating a DTG-containing regimen. In these clients, 12H is still the preferred TPT regimen. Where 12H/3HP is prescribed for a client in an RPCs, no additional clinician review visits are required (the full 3 months 3HP supply/6 months of 12H can be scripted).

** The APPRISE randomised control trial found a higher incidence of adverse pregnancy outcomes in mothers who used TPT in pregnancy.

**Dolutegravir (DTG) Overview**

**Class of ARV:** Integrase Inhibitor (InSTI)

**Benefits:** DTG is a potent antiretroviral that provides rapid viral suppression, has a high genetic barrier to resistance, and has minimal side effects and drug interactions. It is well tolerated by clients and contributes positively to adherence and retention on ART.

**Formulations:**
- Fixed-dose combination: tenofovir (TDF) 300 mg + lamivudine (3TC) 300 mg + DTG 50 mg (TLD). TLD can be prescribed for clients ≥ 30 kg and ≥ 10 years of age
- Abacavir (ABC) 600 mg + lamivudine (3TC) 300 mg + DTG 50 mg (ALD). ALD can be prescribed for clients ≥ 25 kg
- DTG 50 mg tablet
- DTG 10 mg dispersible tablet
- Please note that the adult film coated 50 mg tablet and the paediatric dispersible 10 mg tablet are not bioequivalent. The 50mg film coated tablet is the equivalent of 30mg of the dispersible tablets.

**Standard Dose:**
- Children ≥ 20 kg; adolescents and adults: DTG 50 mg daily
- Children > 4 weeks of age and 3-19 kg: As per "Drug Dosing Chart" on page 34

**DTG dose with concomitant rifampicin-containing TB treatment:** Increase DTG dose to 50 mg 12-hourly. If on TLD or ALD FDC, add DTG 50 mg 12 hours after TLD or ALD dose. If on paediatric DTG, follow "Drug Dosing Chart" on page 34 for DTG and concomitant rifampicin-TB treatment

**Side-effects:** Usually mild and self-limiting. Side-effects include insomnia, headache, central nervous system (CNS) effects, and gastrointestinal effects. DTG can be taken in the evening or the morning as per the client’s preference. However, if the client develops insomnia, TLD should be taken in the morning.

Contrary to initial speculation that the integrase inhibitor class may be causing weight gain, the association now appears not to be causal. Instead, the association may be the result of comparatively less metabolic toxicity than alternative older ART regimens (that mitigate weight gain through toxicity) combined with an initial return-to-health phenomenon, and an obesogenic environment. Dolutegravir-based ART regimens have numerous advantages over comparators and are still recommended first-line agents for people living with HIV. There is no role for switching from dolutegravir-containing regimens in patients gaining weight.
# Drug Interactions with Dolutegravir

Drug interactions can result in suboptimal drug concentrations which can cause:
- an elevated HIV viral load
- drug resistance, due to replicating virus in the presence of subtherapeutic drug concentrations
- For interactions with paediatric regimens see "Drug Interactions with DTG and Rifampicin-containing TB Treatment" on page 13

<table>
<thead>
<tr>
<th>Interacting Drug</th>
<th>Effect of Co-Administration</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rifampicin</td>
<td>Decrease DTG concentrations if taken together on an empty stomach. To prevent this, DTG and rifampicin can be taken at the same time if taken with food. It is safe to dissolve the DTG dispersible tablets in breast milk.</td>
<td>Increase DTG dose to 50 mg 12-hourly. If on TLD FDC, add DTG 50 mg 12 hours after TLD dose. For interactions with paediatric regimens see &quot;Drug Interactions with DTG and Rifampicin-containing TB Treatment&quot; on page 13</td>
</tr>
<tr>
<td>Polyvalent cations (Mg(^{2+}), Fe(^{2+}), Ca(^{2+}), Al(^{3+}), Zn(^{2+})) e.g. antacids, sucralfate, multivitamin and nutritional supplements*</td>
<td>Decrease DTG concentrations if taken together on an empty stomach. To prevent this, DTG and calcium supplements can be taken at the same time if taken with food. It is safe to dissolve the DTG dispersible tablets in breast milk. Iron supplements decrease DTG concentrations if taken together on an empty stomach. To prevent this, DTG and iron supplements can be taken at the same time if taken with food. However, calcium and iron supplements must be taken at least 4 hours apart. Magnesium/aluminium containing antacids decrease DTG concentrations regardless of food intake and should be taken a minimum of 2 hours after or 6 hours before DTG</td>
<td>Calcium supplements decrease DTG concentrations if taken together on an empty stomach. To prevent this, DTG and calcium supplements can be taken at the same time if taken with food. It is safe to dissolve the DTG dispersible tablets in breast milk. Iron supplements decrease DTG concentrations if taken together on an empty stomach. To prevent this, DTG and iron supplements can be taken at the same time if taken with food. However, calcium and iron supplements must be taken at least 4 hours apart. Magnesium/aluminium containing antacids decrease DTG concentrations regardless of food intake and should be taken a minimum of 2 hours after or 6 hours before DTG</td>
</tr>
<tr>
<td>Anticonvulsants: • Carbamazepine • Phenobarbital • Phenytoin</td>
<td>Avoid coadministration if possible. Alternative agents that do not interact with DTG include valproate, lamotrigine, levetiracetam, and topiramate. Remember that valproate is contra-indicated during pregnancy. Double DTG dose to 50 mg 12-hourly for carbamazepine, phenytoin, or phenobarbital if an alternative anticonvulsant cannot be used</td>
<td>Avoid coadministration if possible. Alternative agents that do not interact with DTG include valproate, lamotrigine, levetiracetam, and topiramate. Remember that valproate is contra-indicated during pregnancy. Double DTG dose to 50 mg 12-hourly for carbamazepine, phenytoin, or phenobarbital if an alternative anticonvulsant cannot be used</td>
</tr>
<tr>
<td>Metformin/DTG</td>
<td>Increase metformin concentrations. Maximum metformin dose 500 mg 12-hourly</td>
<td>DTG increases metformin concentrations. Maximum metformin dose 500 mg 12-hourly</td>
</tr>
</tbody>
</table>

* Many over the counter (OTC) medications contain polyvalent cations. Clinicians should regularly ask clients about OTC medication use and advise about possible interactions

---

1. This table includes some of the most important drug interactions with DTG. For more information, please refer to the following resources: [www.hiv-druginteractions.org/checker](http://www.hiv-druginteractions.org/checker), the Liverpool HIV iChart application for smart phones, or any of the "Helplines" on page 21
Neonates, Infants and Children 0 to < 10 years of Age

- **2.0 kg** Birth to < 4 weeks of age
- **3 kg** and ≥ 4 wks of age, to < 10 years of age
- **30 kg** and ≥ 10 years of age

**Neonates**
- AZT + 3TC + NVP

**Infants and Children**
- ABC + 3TC + DTG

**Adults and Adolescents**
- TDF + 3TC + DTG (TLD)

Transition does not require a VL before switching.

For further details on initiating ART for Neonates see "ART for the Term Neonate" on page 28 and "ART for the Preterm Neonate" on page 29.

For further detail on transitioning between regimens, see "Switching existing clients to DTG-containing regimens" on page 14.

1. For neonates with severe anaemia, obtain advice from an expert or through one of the "Helplines" on page 21.
2. Before switching to TDF, ensure adequate renal function by checking eGFR/creatinine as outlined in table "Assessing Renal Function" on page 8.

**ART Initiation in Women and Adolescent Girls Diagnosed with HIV during Labour**

During labour, give a stat single fixed-dose combination tablet of TLD and a stat single dose of nevirapine (NVP).

Lifelong ART should be initiated the following day. TLD and a contraceptive method is recommended. Provide her with a choice of contraceptive options as desired.

Appropriate ART literacy education should be given to the woman before she leaves the facility. Also provide her with information on infant feeding, infant HIV prophylaxis, and follow-up infant HIV testing. Provide a 2-month supply of her ART regimen at discharge from labour ward (see DMOC SOP 4).

Concerns regarding neural tubes defects (NTDs) on DTG in previous years created an important focus on the integration of family planning into ART services. Although evidence has shown that there is no increased risk for NTDs on DTG-containing regimens, family planning services should continue to be offered with ART and child health services in an integrated and patient-centred manner. This is especially urgent if the women’s VL is not suppressed.

Women should be provided a choice of contraceptive options, which includes condoms, oral contraceptives, implants, injectables, and intra-uterine contraceptive devices (IUCDs). Dual methods are recommended, and consist of a hormonal method or IUCD to prevent pregnancy, and a barrier method (male/female condoms) to prevent STIs and HIV transmission.

Contraceptive choices need to respect and fulfill human rights and enable clients to make informed choices for themselves. Client contraceptive choices, however, are often influenced directly or indirectly by social, economic and cultural factors. It is in this context that clients should be given comprehensive, scientifically accurate information in order to assist them to make an informed, voluntary choice of a contraceptive method. A woman’s choice of contraceptive method may be influenced by her ART service delivery model to allow for better visit alignment. See also the "Visit Schedule for Integrated Care for Clients on ART and Drug-Sensitive TB Treatment" on page 26.

Should a woman desire pregnancy, counsel her regarding optimal timing for a healthy pregnancy. Recommend that ART is established, viral suppression is attained, and that she has no current OIs before she tries to become pregnant.

FEMALE CONTRACEPTIVE METHODS

Issues of family planning and contraception should be discussed at every clinical interaction. Where feasible, every attempt should be made to provide ART and family planning from the same service delivery point.
Re-initiating ART in Non-pregnant Clients who have Interrupted Treatment

**Missed appointment ≤ 28 days** + self-identifies as well, and not on TB treatment

- **Routine care**
  - Presents at:
    - RPCs model (EX-PUP, FAC-PUP, Club)
    - Facility
      - Continue routine care. Assess, offer and enrol in RPCs, if eligible

  - Continue care in RPCs

**Person returning to care after missed scheduled appointment date**

- **Routine care**
  - Presents clinically unwell, or with a prior high VL before treatment interruption, or has TB/HIV co-infection
    - Continue ART (see "Switching existing clients to DTG-containing regimens" on page 14)
      - Assess for, offer, and enrol/re-enrol in RPCs

- Perform VL monitoring as per "Routine HIV VL Monitoring on ART" on page 18

**Missed appointment > 28 days** or self-identifies as unwell, or on TB treatment

- **Re-engagement**
  - Presents clinically unwell, or with a prior high VL before treatment interruption, or has TB/HIV co-infection
    - Follow the HIV/ART and TB clinical guidelines as relevant

**Missed appointment > 90 days (LTF)**

- Missed appointment > 90 days (LTF)
  - Presents clinically unwell, or with a prior high VL before treatment interruption, or has TB/HIV co-infection
    - Follow the HIV/ART and TB clinical guidelines as relevant

**Missed appointment > 90 days**

- Missed appointment > 90 days (LTF)
  - Unless there is a clinical indication to defer ART, restart ART on the same day (switch to TLD**, as outlined on "Switching existing clients to DTG-containing regimens" on page 14
    - Do a CD4 count to identify AHD

**RPCs** model (EX-PUP, FAC-PUP, Club)

- Continue routine care.
  - Assess, offer and enrol in RPCs, if eligible

**Facility**

- Continue care in RPCs

**Person returning to care after missed scheduled appointment date**

- **RPCs** model (EX-PUP, FAC-PUP, Club)
- **Facility**

- Continue routine care.
  - Assess, offer and enrol in RPCs, if eligible

**Perform VL monitoring as per "Routine HIV VL Monitoring on ART" on page 18**

**AHD** = Advanced HIV Disease
**EX-PUP** = External pick-up point
**FAC-PUP** = Facility pick-up point
**RPCs** = Repeat Prescription Collection Strategies
**Co-treatment of HIV and Active TB in Neonates, Infants, Children, Adolescents and Adults**

TB/HIV co-infection impacts on ART in a number of ways. It affects:

1. **The timing of ART initiation**
   - See "Medical Indications to Defer ART" on page 4

2. **Drug selection**
   - In clients who are not yet on ART when TB treatment is initiated

3. **Drug levels, due to significant drug interactions that reduce ART concentrations in the blood**

4. **Adherence, due to increased pill burden**

5. **Side-effects due to overlapping toxicities, e.g., hepatic toxicity**

**Clinicians should provide integrated TB and ART management at clinical consultation visits. Failure to combine care leads to increased visits and significantly increases the risk of disengagement.**

See also "Integrated Visit Schedule for Clients on ART and Drug-Sensitive TB Treatment" on page 26.

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**Drug Interactions with DTG and Rifampicin-containing TB Treatment**

Rifampicin-containing TB treatment has significant drug interactions with all paediatric ART regimens, as well as with adult/adolescent regimens containing DTG:

**ART Regimen**
- **Neonates**
  - AZT + 3TC + NVP

**Significant drug interaction**
- Rifampicin + NVP

**Measures to counteract drug interactions with rifampicin**
- Seek expert advice

**Booster of DTG required**
- In adults and adolescents, the dosing frequency of DTG should be increased to 50 mg 12-hourly. If on TLD FDC, then add DTG 50 mg 12 hours after TLD dose.

**Continue boosting the ART regimen until 2 weeks after stopping rifampicin**

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**Drug Interactions with Protease Inhibitors, e.g., Lopinavir/ritonavir**

Every effort should be made to switch clients to DTG-containing regimens. However, during the transition process, some clients may still be on PI-containing regimens and may also require TB treatment. Rifampicin cannot be given with ATV/r or DRV/r. Significant drug interactions between LPV/r and rifampicin should be managed as follows:

**LPV/r tablets:** Double-dose LPV/r tablets in adults, adolescents and children able to swallow whole LPV/r tablets. See "Drug Dosing Chart" on page 34. Tablet must not be crushed, broken or chewed. If the client is unable to tolerate LPV/r at double doses, consult one of the "Helplines" on page 21.

**LPV/r solution or pellets or 4 in 1 (ABC/3TC/LPV/r):** Super-boosting with additional ritonavir powder: maintain standard LPV/r dose but add additional ritonavir twice daily as per "Drug Dosing Chart" on page 34. If no powder is available, consult an expert for a suitable alternative. Ritonavir powder has a shelf-life of 36 months. Note that ritonavir 100 mg tablets must not be crushed, broken or chewed.

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**Side-effects due to overlapping toxicities, e.g., hepatic toxicity**

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2023 ART Clinical Guidelines
### Non VL-dependent regimen switches

Regimens where the VL result will not influence nor delay the decision to switch to a DTG-containing regimen

<table>
<thead>
<tr>
<th>VL considerations</th>
<th>Current Regimen</th>
<th>Criteria for switch</th>
<th>Regimen if change indicated</th>
</tr>
</thead>
</table>
| Switching regardless of VL result | TEE | **Switch all to a DTG-containing regimen, regardless of VL result**  
Review VL in last 12 months. If VL in last 12 months was not suppressed, continue to switch same day, but do ABCDE assessment and provide enhanced adherence counseling (EAC) if needed. If VL was not done in last 12 months, do it at this visit, but do not wait for the result to switch | TLD  
provided no renal dysfunction and age ≥ 10 yrs and weight ≥ 30 kg  
If client does not qualify for TDF ABC/DTG  
If client does not qualify for TDF and has ABC hypersensitivity AZT/3TC/DTG |
| | ABC/3TC/EFV (or NVP*) | | |
| | AZT/3TC/EFV (or NVP*) | | |
| | AZT/3TC/DTG | | |
| | Any LPV/r or ATV/r regimen for less than 2 years | | |

* There should no longer be any client (older than one month and > 3 kg) using a NVP-containing treatment regimen. Clients who previously used NVP as an alternative to EFV for psychiatric reasons, should be switched to DTG as a matter of urgency.

Be sure to check for possible drug interactions when switching to DTG and manage as per "Drug Interactions with DTG and Rifampicin-containing TB Treatment" on page 13.

Clients on TEE and receiving treatment through an RPCs can be switched to TLD at their next re-scripting visit and can remain in their RPCs, provided they have a VL < 50 c/mL in the last 12 months. No additional facility visits are required (see DMOC SOP 6).

Any client in an RPCs with a VL ≥ 50 c/mL in the last 12 months, should be recalled to the facility for further clinical management. If the client is on TEE, continue to switch same day to TLD, but do an ABCDE assessment and provide enhanced adherence counseling (EAC) if indicated. If clinically well, 3MMD can be provided by the facility until the repeat VL assessment (see DMOC SOP 4) in 3 months, as per "VL Monitoring for Clients on TLD" on page 19. Review the repeat VL result. If suppressed again, re-enrol in RPCs. If the VL remains unsuppressed, manage as per the "VL Monitoring for Clients on TLD" on page 19. Clients with clinician confirmed low-level viraemia can be re-enrolled in RPCs.

1. If clients are not eligible to use TDF and they had an ABC hypersensitivity reaction, use AZT/3TC/DTG.
**Switching Existing Clients to DTG-containing Regimens**  
*(Adults, adolescents or children who have never used a DTG-containing regimen in the past)*

<table>
<thead>
<tr>
<th>VL considerations</th>
<th>Current Regimen</th>
<th>Criteria for switch</th>
<th>Regimen if change indicated</th>
</tr>
</thead>
</table>
| **VL < 1000 c/mL** | Any LPV/r or ATV/r regimen for more than 2 years | **Switch all to a DTG-containing regimen**  
If VL in last 12 months was ≥ 50 c/mL, continue to switch same day, but do ABCDE assessment, provide EAC if needed, and repeat the VL after 3 months as per "The VL non-suppression algorithm" on page 19 | TLD provided no renal dysfunction and age ≥ 10 yrs and weight ≥ 30 kg  
If clients does not qualify for TDF ABC/3TC/DTG |
| **Two or more VLs ≥ 1000 c/mL taken two or more years after starting PI regimen** | Adult or adolescent on any LPV/r or ATV/r regimen and adherence less than 80%³ | **Switch all to a DTG-containing regimen**  
**Do not do a resistance test**  
These clients are unlikely to have PI resistance mutations. Rather switch to a more tolerable once daily FDC regimen which is likely to support adherence. Manage as per "The VL non-suppression algorithm" on page 19 | TLD provided no renal dysfunction and age ≥ 10 yrs and weight ≥ 30 kg  
If clients does not qualify for TDF ABC/3TC/DTG |
| | Adult or adolescent on any LPV/r or ATV/r regimen and adherence more than 80%³ | Clients who meet the definition of confirmed virological failure and have confirmed adherence more than 80% may need a resistance test.  
**These clients do not qualify for a same-day switch.**  
Discuss with an HIV expert⁴ to authorise and interpret a resistance test.  
Provide individualised regimen as recommended by HIV expert.  
Repeat VL 3 months after the regimen change to confirm re-suppression, as per "Management of Confirmed Virological Failure on TLD" on page 21 | |
| | Child < 10 years, or weight < 30 kg on any LPV/r or ATV/r regimen | These clients do not yet qualify for TLD and may require a resistance test.  
Refer to algorithm "Switching children on PI-containing regimens to DTG-containing regimens" on page 16 | |

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1. If clients are not eligible to use TDF and they have ABC hypersensitivity, use AZT/3TC/DTG  
2. Confirmed virological failure is defined as two or more VLs ≥ 1000 c/mL taken two or more years after starting a DTG or PI containing regimen, despite adherence > 80% by objective measurement. A patient who has only 1 VL > 1000 after 2 years on a PI-based regimen should have an ABCDE assessment, EAC if applicable, and their VL repeated in 3 months. The result of the repeat VL will allow the patient to be grouped into one of the categories in the table above and will inform the further course of action  
3. Objective measures of good adherence include at least one of:  
   - Pharmacy refills > 80% in the last 6-12 months (if this is known)  
   - Attendance of > 80% of scheduled clinic visits in the last 6-12 months (if this is known)  
   - Detection of current antiretroviral drug/s in the client’s blood or urine, if available [e.g. TFV urine lateral flow assay (LFA) for presence of TDF in urine, TFV diphosphate (detects TDF on dried blood spot samples), DTG plasma levels]  
  
**Note:** Self-reported adherence is not considered a reliable measure of good adherence!  
4. For advice from an HIV expert, approach an HIV Hotline, an infectious disease specialist, or the Third Line ART committee
Switching Children on PI-containing Regimens to DTG-containing Regimens

Child (< 10 years, or weight < 30 kg) on a PI-containing regimen (who have never used a DTG-containing regimen in the past)

On PI for at least 2 years

Two or more VLs ≥ 1000 c/mL taken two or more years after starting PI regimen

Adherence > 80%¹

VL ≥ 1000 c/mL

Discuss with an HIV expert³ to authorise and interpret a resistance test

Individualised regimen as recommended by HIV expert

Adherence < 80%¹

For children on LPV/r solution or pellets, consider switch to 4-in-1 ABC/3TC/LPV/r capsules to improve tolerance/adherence & repeat VL after 2-3 months

Children on LPV/r tablets

VL < 1000 c/mL

ABC + 3TC + DTG

On PI for less than 2 years, irrespective of VL

VL ≥ 1000 c/mL

If the most recent VL before their regimen change was ≥ 50 c/mL, repeat VL 3 months after starting the new regimen to confirm viral re-suppression

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1. Although objective measures of poor adherence include pharmacy refills or attendance of scheduled clinic visits in the previous 6-12 months of <80%, adherence difficulties in young children are often linked to poor tolerability of unpalatable formulations, particularly LPV/r solution. It is important to ask the caregiver about how the child tolerates the medication e.g., does the child refuse to swallow the medicine or spit out or vomit the medicine, and whether the caregiver has been able to overcome this. Considering these limitations, objective measures of good adherence could include one of the following:
   a. Pharmacy refills > 80% in the last 6-12 months (if this is known)
   b. Attendance of > 80% of scheduled clinic visits in the last 6-12 months (if this is known)
   c. Detection of current antiretroviral drug/s in the client’s blood or urine, if available

2. If a switch to the 4-in1 capsules does not improve adherence, or is not available, continue to switch to ABC + 3TC + DTG as for non-adherent children on LPV/r tablets

3. The following would qualify as HIV experts: the HIV Helplines, a paediatric infectious disease specialist or the paediatric Third line ART committee
Managing the Client on ART

Monitoring on ART

Providing quality care at the follow-up visit is essential to promote adherence, achieve and sustain viral suppression, minimise side-effects and toxicities, and promote quality of life. A client on ART should be monitored to:

1. Determine clinical response to ART
2. Determine the virological and immunological response to ART
3. Detect and manage any side-effects and toxicities

The following components should be included in the clinical assessment:

- **Viral load** should be measured to timeously detect problems with adherence or treatment failure.
- **Side-effects and ART toxicities** can affect adherence and endanger the client’s health:
  - **Drug side-effects**: Ask about side-effects at each visit (e.g. sleep or gastrointestinal disturbances).
  - **TDF-induced nephrotoxicity**: If on TDF, do creatinine and eGFR* at months 3 and 10 (aligned with VL monitoring schedule). Thereafter, repeat every 12 months. See also "Assessing Renal Function" on page 8.
  - **Dyslipidaemia**: If on a PI-based regimen, do total cholesterol and triglycerides (TGs) at month 3. If above acceptable range, do fasting cholesterol and TGs and if still above acceptable range, obtain expert advice.
  - **Anaemia and neutropaenia**: If on AZT, do a full blood count and differential white cell count at months 1 and 3. Thereafter, repeat if clinically indicated.

Screen for TB (see below *) and other OIs:
- To diagnose and provide treatment;
- To adjust ART regimen if required;
- To provide a package of care for AHD if required;
- To determine if TB preventive therapy is required.

**Remember to increase the ART dosage as weight increases!**

**Screen for pregnancy and ask if planning to conceive** as outlined in the table for "Baseline Clinical Evaluation" on page 5.

**WHO clinical staging** to determine response to ART, and CPT eligibility.

**Screen for TB** (see below *) and other OIs:
- To diagnose and provide treatment;
- To adjust ART regimen if required;
- To provide a package of care for AHD if required;
- To determine if TB preventive therapy is required.

**Remember to increase the ART dosage as weight increases!**

**The CD4 count** monitors susceptibility to opportunistic infections, identifies clients with advanced HIV disease and informs eligibility for OI prophylaxis.

Monitor routinely after 10 months/DCs on ART (aligned with VL). Thereafter, stop CD4 monitoring unless:
- CD4 still ≤ 200 cells/mm³: repeat every 6 months until CD4 > 200
- VL ≥ 1000 c/mL: repeat CD4 every 6 months until VL < 1000 c/mL
- A clinical indication arises, such as a new WHO Stage 3 or 4 condition in a previously well client.

Repeat CD4 for clients returning > 90 days after missing a scheduled appointment (see "re-engagement algorithm" on page 12).

**At every routine follow-up visit:**
- Do a TB symptom screen.
- If symptomatic, do a MTB/Rif Ultra (Xpert).

**At every 12-monthly clinical review on ART** (aligned with 12-monthly VL):
- Routine MTB/Rif Ultra (Xpert) (regardless of TB symptoms).

**For symptomatic PLHIV admitted to hospital** (in addition to the MTB/Rif Ultra (Xpert)):
- Do a U-LAM test.

**For symptomatic PLHIV seen in an outpatient setting** (in addition to the MTB/Rif Ultra (Xpert)):
- Do a U-LAM test if:
  - CD4 count <200 within the last 6 months, or
  - advanced HIV disease, or
  - current serious illness.

**Remember to check adherence at every clinical follow-up visit, in a non-judgemental way. Ask open ended questions e.g. “Is there anything that makes it difficult for you to take your treatment?”** See also the ‘Adherence’ section of the “ABCD assessment of an Elevated Viral Load” on page 20.

When monitoring on ART, also integrate monitoring for other chronic conditions (HPT, DM, and mental health) and routinely offer reliable contraception and cervical cancer screening to female clients.

---

* Screening for TB at follow-up Visits

For more information on the package of care for AHD and the management of specific OIs, please refer to the Consolidated ART guideline.
### Routine HIV VL Monitoring on ART

A dispensing cycle is defined as the number of days for which a client would have treatment if a single standard “monthly” quantity of tablets was dispensed. The term ‘dispensing cycle (DC)’ is preferred to the previously used term ‘month’ due to the potential discrepancy that may arise between the days of treatment dispensed (if 28 day pack sizes are used) and the days in a month (on average, 30 days). However, the term dispensing cycle can be applied to single pack sizes of 28 tablets (1DC) or larger pack sizes of 90 tablets (3 DCs).

<table>
<thead>
<tr>
<th>Routine VL monitoring</th>
<th>Intervention</th>
<th>EAC indicated?</th>
</tr>
</thead>
<tbody>
<tr>
<td>First VL after ART initiation</td>
<td>Do 1st VL after 3 dispensing cycles</td>
<td>✗</td>
</tr>
<tr>
<td>Second routine VL after ART initiation (in clients who remain virally suppressed)</td>
<td>This VL can be done from 10 dispensing cycles but should be aligned with the clients scripting cycle</td>
<td>✗</td>
</tr>
<tr>
<td>Third routine VL after ART initiation (in clients who remain virally suppressed)</td>
<td>This VL can be done from 22 dispensing cycles, but should be aligned with the clients scripting cycle</td>
<td>✗</td>
</tr>
<tr>
<td>Fourth and all subsequent VLs</td>
<td>VLs will be taken at intervals of 12 dispensing cycles for all clients who remain virally suppressed</td>
<td>✗</td>
</tr>
</tbody>
</table>

The timing of dispensing cycles, follow-up visits, and VL monitoring is illustrated in the diagram below.

- For the 1st VL taken after 3 dispensing cycles, clients should be requested to return to the facility one DC later to review results and so that the client can be assessed for RPCs eligibility.
- For all subsequent VL monitoring (and other routine monitoring investigation) in clinically well clients: Clients should be rescripted at the same visit that their VL is taken. Clients should not be required to come back to the facility the following month for VL result review prior to rescript. Rather, recall to the facility only those clients with an elevated VL or other abnormal result.
- Facilities should ensure that results management processes are in place to ensure that results are reviewed by a clinician, that abnormal results are identified, and the client is appropriately actioned. The NHLS Results for Action (RfA) reports are a useful tool to facilitate the review of results.
VL Monitoring for Clients on TLD
(Also applicable to ALD and other DTG-containing regimens)

Routine VL monitoring for virally suppressed clients as outlined in the algorithm
“Routine HIV VL Monitoring on ART” on page 18

VL < 50 c/mL

- Do a thorough assessment of the cause of an elevated VL. Consider the possibility of:
  A. Adherence problems (see “Enhanced Adherence Support” on page 20)
  B. Bugs (Intercurrent infections)
  C. Incorrect ART dosage (see Annexure 5 “Drug Dosing Chart” on page 34)
  D. Drug Interactions (see “Drug Interactions with DTG and Rifampicin-containing TB Treatment” on page 13)
  E. Resistance (if > 2 years on treatment)

VL unsuppressed (VL ≥ 50 c/mL)
(This includes previous VL level of 50-999 and VL > 1000 c/mL)

- Implement interventions to re-suppress the VL, including Enhanced Adherence Support if indicated
  (See Annexure 3 Enhanced Adherence Counselling)
  Recommend condom use and contraception as appropriate

Repeat VL after 3 months

Repeat VL unsuppressed 1 (VL > 50 c/mL)

Re-assess and resolve adherence issues! 2
(See “ABCDE assessment of an Elevated Viral Load” on page 20 and Annexure 3 “Enhanced Adherence Support” on page 20)

On TLD for at least 2 years

If Adherence > 80% 4, and Two or more VLs ≥ 1000 c/mL
taken two or more years after starting TLD regimen
or at least one VL ≥ 1000 c/mL and either
CD4 < 200 cells/mm3 or an opportunistic infection

Go to the algorithm for “Management of Confirmed Virological Failure on TLD” on page 21

On TLD less than 2 years 3

If adherence still suboptimal 4, or persistent low-level viraemia
(2 or more consecutive VLs between 50 and 999 c/mL)

Repeat VL at next scheduled routine VL
(i.e., in 6 months’ time)
Intensify efforts to resolve adherence issues 2

1. Due to their high genetic barrier, resistance to a first-line DTG-containing (TLD1) regimen is extremely rare. If other reasons for an unsuppressed VL have been addressed or excluded, e.g., drug interactions, and the client remains unsuppressed at their repeat VL, suboptimal adherence remains the most probable cause for non-suppression. The highest probability of improving adherence would be to remain on a once-daily, well-tolerated, fixed-dose combination regimen (TLD) while identifying and addressing the underlying root causes of non-adherence. 99.9% of these clients will re-suppress on TLD if adherent!

2. Repeat ABCDE assessment as outlined on “ABCDE assessment of an Elevated Viral Load” on page 20. Remember to ask about treatment side-effects, the potential cost of transport or loss of income related to clinic visits, non-disclosure, gender-based violence (GBV), and current or prior drug interactions. Current or previous drug interactions with rifampicin, carbamazepine, phenytoin, phenobarbital, or the polyvalent cations may have resulted in the development of resistance.

3. Drug interactions may also warrant an expert discussion and authorisation of a resistance test earlier than 2 years on the regimen. If necessary, discuss with an expert

4. Objective measures of good adherence include at least one of:
   a. Pharmacy refills > 80% in the last 6-12 months (if this is known)
   b. Attendance of > 80% of scheduled clinic visits in the last 6-12 months (if this is known)
   c. Detection of current antiretroviral drug/s in the client’s blood or urine, if available

   Note: Self-reported adherence is not considered a measure of good adherence!

ART, Antiretroviral therapy; DTG, Dolutegravir; LLV, Low-level viraemia; SOP, Standard operating procedure; TL, Third-line; TLD, fixed-dose combination of tenofovir, lamivudine, DTG; VL, Viral load.
2023 ART Clinical Guidelines

Assessing of an Elevated Viral Load

A thorough assessment is essential for any client with a viral load measuring ≥ 50 c/ml

<table>
<thead>
<tr>
<th>Adherence</th>
<th>Tips</th>
<th>EAC indicated?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty getting to facility to collect treatment</td>
<td>Ask open ended questions e.g. “What makes it difficult for you to collect or take your treatment?”, and “How many doses have you missed this week?”</td>
<td>No need for EAC</td>
</tr>
<tr>
<td>Drug side effects or unpalatability impacting adherence?</td>
<td>Statements like “we all miss a dose now and again” can encourage a client to be more open.</td>
<td>No need for EAC</td>
</tr>
<tr>
<td>Challenges with taking/remembering to take treatment</td>
<td>Create a safe and non-judgemental space for your client to discuss challenges.</td>
<td>Provide EAC</td>
</tr>
</tbody>
</table>

Bugs

Check for symptoms and signs of infection. Do a TB and STI screen. Remember that immune compromised, malnourished, and pregnant clients may not exhibit overt symptoms of TB. If in doubt, do a TB GXP.

Correct Dose

Is the client on the correct dose for their weight? This is especially applicable to growing children, or clients with deteriorating renal function or previous renal impairment.

Drug

Are there any potential drug interactions? Consider:
- Other prescribed treatment e.g. rifampicin, anti-epilepsy drugs and pregnancy supplements (iron, calcium)
- Over the counter treatment e.g., antacids, multivitamins
- Other supplements and herbal/traditional medications e.g. St John’s Wort

See also "Drug Interactions with DTG and Rifampicin-containing TB Treatment" on page 13
If in any doubt, call the HIV Hotline 0800 212 506 or one of the “Helplines” on page 21

Resistance

Consider HIV drug resistance if other causes of virological failure have been excluded and the client is adherent to their medication by an objective measure.

Refer to the algorithm "Management of Confirmed Virological Failure on TLD" on page 21

Clinician considerations for providing Enhanced Adherence Counselling (EAC)

<table>
<thead>
<tr>
<th>Barrier to adherence</th>
<th>Intervention</th>
<th>EAC indicated?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty getting to facility to collect treatment</td>
<td>Reduce unnecessary visits through enrolling client in a RPCs model or providing multi-month dispensing (MMD)</td>
<td>No need for EAC</td>
</tr>
<tr>
<td>Drug side effects or unpalatability impacting adherence?</td>
<td>Change to more palatable regimen</td>
<td>No need for EAC</td>
</tr>
<tr>
<td>Challenges with taking/remembering to take treatment</td>
<td>Provide EAC</td>
<td></td>
</tr>
</tbody>
</table>

Enhanced Adherence Support

Enhanced Adherence Counselling (EAC) is aimed at non-stable clients presenting with adherence issues or poor treatment response and/or signs of treatment failure. Enhance Adherence Counselling focuses on:
- Providing education on the outcome of their latest clinical assessment and VL results
- Understanding what the client already knows or doesn’t know regarding their treatment and the importance of VL suppression
- Doing a mental health screen
- Correcting any misconceptions and allowing flexibility around the most common barriers to adherence (such as alcohol/ drug consumption, forgetting doses due to a rigid schedule, etc.).
- Assessing and understanding the barriers that affect the client’s adherence
- Developing adherence strategies to overcome these

‘better late than never’: clients should be counselled they can take their ARVs up to several hours late if they miss their chosen time

To support the above processes, the following useful tools extracted from the Differentiated Care Models Standard Operating Procedures 2023 included in the annexures:
- SOP 2 Enhanced Adherence Counselling (Annexure 3)
- Mental Health Screen (Annexure 4)
- Child and adolescent disclosure counseling for children living with HIV (Annexure 7)
Management of Confirmed Virological Failure on TLD

(Also applicable to ALD and other DTG-containing regimens)

Two or more VLS ≥ 1000 c/mL

1. Objective measures of good adherence include at least one of:
   - Pharmacy refills > 80% in the last 6-12 months (if this is known)
   - Attendance of > 80% of scheduled clinic visits in the last 6-12 months (if this is known)
   - Detection of current antiretroviral drug/s in the client's blood or urine, if available
   - Note: Self-reported adherence is not considered a measure of good adherence!

2. Due to their high genetic barrier, resistance to a first-line DTG-containing regimen (TLD1) is extremely rare. If other reasons for an unsuppressed VL have been addressed or excluded, e.g., drug interactions and the client remains unsuppressed at their repeat VL, suboptimal adherence remains the most probable cause for non-suppression. The highest probability of improving adherence would be to remain on a once-daily, well-tolerated, fixed-dose combination regimen (TLD) while identifying and addressing the underlying root causes of non-adherence. 99.9% of these clients will re-suppress on TLD if adherent!

3. Repeat the ABCDE assessment as outlined on “ABCDE assessment of an Elevated Viral Load” on page 20. Remember to ask about treatment side-effects, the potential cost of transport or loss of income related to clinic visits, mental health conditions, non-disclosure, poor social support, or substance abuse. If necessary, discuss with an expert or refer to other multidisciplinary team members, if available.

4. Special circumstances that may warrant a resistance test for clients on TLD1 include:
   - Incorrect classification as TLD1 (clients who declare themselves as never having had ART before, but who have actually been exposed to ART and may have failed a regimen in the past)
   - Perinatally infected adolescents: Unless a clearly documented drug history is available, perinatally infected adolescents should be classified as TLD2 due to the high likelihood of ART exposure and virological failure in the past.
   - Current or previous drug interactions with rifampicin, carbamazepine, phenytoin, phenobarbital, or the polyvalent cations may have resulted in the development of resistance. Drug interactions may also warrant an expert discussion and authorisation of a resistance test earlier than 2 years on the regimen.

   Note: Self-reported adherence is not considered a measure of good adherence!

5. For advice from an HIV expert, approach an HIV Hotline, an infectious disease specialist, or the Third Line ART committee.

If in doubt about any aspect of viral load management or switching to second-line, contact one of the following resources:

- National HIV & TB Health Care Worker Hotline: 0800 212 506
- Right to Care Paediatric, Adolescent and Adult HIV Helpline: 082 352 6642
- KZN Paediatric Hotline: 0800 006 063

ART, Antiretroviral therapy; DTG, Dolutegravir; LLV, Low-level viraemia; TL, Third-line; TLD, fixed-dose combination of tenofovir, lamivudine, DTG; VL, Viral load.
Summary of the Care Continuum for Clients 5 years of age and older on ART

Clients on ART can be differentiated into those who are 1) clinically well and adherent on ART and 2) those who are clinically non-stable and/or struggling with adherence. Clients that are clinically well at their first clinical review one month after starting ART, only need to be seen again 2 months later for clinical review and their first viral load and serum creatinine. After that, taking treatment and clinical follow-up should be made as convenient as possible for the client. Therefore, they may continue to receive ART using a differentiated care approach, provided they meet the eligibility criteria of 1) having a suppressed VL, 2) being clinically well with no opportunistic infections (OIs), 3) not having any other uncontrolled chronic conditions that require clinical review more frequently than 6-monthly, and 4) not being pregnant.

The diagram "Visit Schedule for Adults, Adolescents and Children 5 Years and Older on ART“ on page 23 provides a summary of the components of care at different visits for clinically well and adherent clients during the first year on ART. Clients who are enrolled in repeat prescription collection strategies (RPCs) should be rescripted for RPCs at their comprehensive clinical review at which a further VL will be taken. Clients should not be required to come back the following month for VL result review prior to rescript. Rather, recall to the facility only those clients with elevated VL. For more detail on repeat prescription strategies (RPCs), see the DMOC standard operating procedure (SOP) 5 (facility-pick-up points, adherence clubs and external pick-up points).

! If a patient comes from a different facility, it is critical that the patient be provided with treatment on the day of presentation to limit any further treatment interruption and its impact on viral suppression. While referral letters are helpful, a patient cannot be required to leave the facility without treatment to first obtain a referral/transfer letter.

Women with contraceptive needs should have contraceptive method options explained, specifically how each method impacts all required return visits' location (facility or outside of the facility) and visit frequency:

- Long-acting reversible contraception (LARC) removes any increased visit frequency or alignment concerns.
- The combined oral contraceptive pill (COCP) can be repeated 3-monthly, aligns well with ART and well-baby visit schedules (if applicable), and can be scripted through her preferred RPCs.
- The DMPA 3-monthly injection must be administered by a clinician but aligns with ART and well-baby visit schedules.
- The NET-EN 2-monthly injection also needs to be administered by a clinician, but will require additional visits by the mother.
- Where a woman chooses to continue clinician administered short-acting injectable contraception (e.g., DMPA or NET-EN), a facility-based pick-up point (FAC-PUP) or facility-based adherence club may be the preferred option provided visit alignment can be ensured.

See also "Visit Schedule for Integrated Care for Clients on ART and Drug-Sensitive TB Treatment“ on page 26 and "Visit Schedule for Integrated Care for the Mother-baby Pair Living with HIV“ on page 24

HELPLINES

If in doubt about any aspect of viral load management or switching to second-line, contact one of the following resources:

National HIV & TB Health Care Worker Hotline: 0800 212 506
Right to Care Paediatric, Adolescent and Adult HIV Helpline: 082 352 6642
KZN Paediatric Hotline: 0800 006 603
## Visit Schedule for Adults, Adolescents and Children 5 Years and Older on ART

<table>
<thead>
<tr>
<th>DC/ Months* on ART</th>
<th>Routine monitoring tests</th>
<th>Overview of Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Baseline clinical and lab assessment as outlined on pages 4 to 6 ART initiation and session 1 of fast track initiation counselling</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Review test results</td>
<td>- Session 2 of fast track initiation counselling including planning for travel and VL education - Clinical assessment and routine monitoring as outlined on page 17 - Integrated services for family planning and NCDs - 2 months ART dispensed (2MMD) - DMOC SOP 4</td>
</tr>
<tr>
<td>3</td>
<td>3-month* VL sCR and eGFR</td>
<td>- Clinical assessment including VL and any other routine monitoring bloods as outlined on page 17 - Integrated services for family planning and NCDs</td>
</tr>
<tr>
<td>4</td>
<td>Review test results</td>
<td>- Clinical assessment and review of VL and any other monitoring results - Integrated services for family planning and NCDs - Assess eligibility for Repeat Prescription Collection strategies (RPCs) (South Africa’s differentiated models of care for stable patients) - VL &lt; 50 c/mL - Clinically well - No OIs, including TB - Not pregnant</td>
</tr>
</tbody>
</table>

### Repeat Prescription Collection strategies (DMOC for stable patients)

- **Facility Pick-up Point (FAC-PUP) (DMOC SOP 5.1)**
- **Adherence Clubs (AC) Facility or community-based support groups (DMOC SOP 5.2)**
- **External Pick-up point (EX-PUP) (DMOC SOP 5.3)**

- Renew prescription for next 6 months, with first 3 month’s supply issued today from the facility
- If not eligible for RPCs or refused RPCs: Assess eligibility for facility provided multi-month dispensing (MMD) – DMOC SOP 4

| 7                 | Collect medication from preferred RPCs |
| 10                | 10-month* VL sCR and eGFR CD4 count | - Clinical assessment including VL and any other monitoring bloods as per "Monitoring on ART" on page 17 - Integrated services for family planning and NCDs - Check TPT eligibility - Renew prescription for next 6 months - Do not require clients to return to the facility in 1 month to review the VL results, unless other clinical indications exist that require review. Rather, recall to the facility only those clients with elevated VLs |
| 11+               | 12-monthly clinical assessment and family planning review as per "Monitoring on ART" on page 17 - 12-monthly routine monitoring of VL, sCR and eGFR - Check that chosen RPCs option is still suitable - Collect medication from preferred RPCs |

### Non-stable clients

If at any stage the client becomes clinically non-stable and/or non-adherent i.e. a client who has:
- missed a scheduled appointment by more than 28 days (including in an RPCs) (see also re-engagement algorithm on page 12)
- a VL ≥ 50 c/mL
- possible signs or symptoms of clinical failure, e.g. if the client is acutely unwell, or develops a new OI such as TB

A clinician should:
- If in an RPCs, return the client to regular care to ensure more frequent clinical follow-up until they are stable again.
- Provide appropriate clinical management
- If clinically well and struggling with visit frequency: provide multi-month dispensing (DMOC SOP 4)
- If experiencing side effects or the child cannot tolerate their medication: switch drugs/formulation
- If struggling to take ART as prescribed: enhanced adherence counselling (See Annexure 3)

Clients on TEE and receiving treatment through RPCs can be switched to TLD and remain in their RPCs if they have a VL < 50 c/mL in the last 12 months.

---

* The term dispensing cycle (DC) is defined as the number of days for which a client would have treatment if a single standard “monthly” quantity of tablets was dispensed (usually 28 days). Although it is understood that the time frame for a month and a DC are not necessarily the same, for ease of reading, the term ‘DC’ and ‘month’ are used interchangeably in this table, and should be considered synonymous.
HIV can be diagnosed at any age, and the date of ART initiation and timing of VL monitoring will depend on the date of diagnosis. The example below is for an infant with a positive birth PCR and illustrates an ART visit schedule that aligns with the well-baby visit schedule in the RTHB. However, the principles applied here also apply to children with a positive 10-week HIV PCR or a positive 6-month HIV PCR (and HIV tests done at any other time).

The principles are as follows:

1. Wherever possible, try to align the child’s ART follow-up visits with the routine well-baby visit schedule in the RTHB.
2. Wherever possible, try to align the mother’s ART, VL monitoring, and family planning visits with that of the child’s visit schedule so the mother-baby pair need only attend the facility once for both consultations on the same day.
3. Wherever possible, allow the mother and baby to receive ART at the same facility.

### Visit Schedule for Integrated Care for the Mother-baby Pair Living with HIV

<table>
<thead>
<tr>
<th>Age group</th>
<th>ART Follow-up for mother</th>
<th>ART Follow-up for baby</th>
<th>Immunizations</th>
<th>Feeding advice</th>
<th>Growth monitoring</th>
<th>Development</th>
<th>Head circumference</th>
<th>Vision</th>
<th>ORAL Health</th>
<th>TB Screen</th>
<th>Mother’s Family Planning (FP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonate (birth PCR positive)</td>
<td>3-6 weeks postnatal visit for mother and baby</td>
<td>3-6 days postnatal visit for mother and baby</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>Clinical review and VL results review</td>
</tr>
<tr>
<td>1-3 weeks</td>
<td>6 weeks</td>
<td>6 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>12 weeks</td>
<td>Clinical review and VL results review</td>
</tr>
<tr>
<td>2-6 months</td>
<td>14 weeks</td>
<td>14 weeks</td>
<td>24 weeks</td>
<td>24 weeks</td>
<td>24 weeks</td>
<td>24 weeks</td>
<td>24 weeks</td>
<td>24 weeks</td>
<td>24 weeks</td>
<td>24 weeks</td>
<td>Clinical review and VL results review</td>
</tr>
<tr>
<td>6 months</td>
<td>26 weeks</td>
<td>26 weeks</td>
<td>36 weeks</td>
<td>36 weeks</td>
<td>36 weeks</td>
<td>36 weeks</td>
<td>36 weeks</td>
<td>36 weeks</td>
<td>36 weeks</td>
<td>36 weeks</td>
<td>Clinical review and VL results review</td>
</tr>
</tbody>
</table>

*At week 4, switch to DTG if eligible and dispense treatment for the full dispensing cycle (28 days). Review and repeat script at 6 weeks (rather than 8 weeks) to align with the RTHB visit schedule.

**The additional 2 weeks treatment that the mother-baby pair will have in reserve will allow for alignment with the 6-month RTHB appointment which usually happens around week 26 (compared to 6 DCs of treatment which will only provide enough treatment for 24 weeks). The principles applied here also apply to children with a positive 10-week HIV PCR or a positive 6-month HIV PCR (and HIV tests done at any other time).

***As per WHO recommendations, the repeat DMPA injection can be given up to 4 weeks late without requiring additional contraceptive protection. The repeat NET-EN injection can be given up to 2 weeks late without requiring additional contraceptive protection.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>ART Follow-up for Baby</th>
<th>ART Follow-up for Mother</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 months</td>
<td>6-12 months</td>
<td>3 monthly follow-up</td>
</tr>
<tr>
<td></td>
<td>10 months</td>
<td>3 months</td>
</tr>
<tr>
<td></td>
<td>12 months</td>
<td>3 months</td>
</tr>
<tr>
<td></td>
<td>18 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>24 months</td>
<td>6 months</td>
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<tr>
<td></td>
<td>30 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>36 months</td>
<td>6 months</td>
</tr>
<tr>
<td>6-12 months</td>
<td>12 months</td>
<td>3 months</td>
</tr>
<tr>
<td></td>
<td>18 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>24 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>30 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>36 months</td>
<td>6 months</td>
</tr>
<tr>
<td>12-24 months</td>
<td>24 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>30 months</td>
<td>6 months</td>
</tr>
<tr>
<td></td>
<td>36 months</td>
<td>6 months</td>
</tr>
</tbody>
</table>

**Immunisations**
- 6-12 months: 3 monthly follow-up
- 12-24 months: 6 months follow-up
- 24 months onwards: 12 months follow-up

**Routine Visits as per RTHB**
- At 6 months and thereafter: 6 monthly
- At 2 years and thereafter: 6 monthly
- At 3 years and thereafter: 6 monthly

**Follow-up visits (DC)**
- 6 months: 6 monthly
- 1 year: 6 monthly
- 2 years: 6 monthly
- 3 years: 6 monthly

**3D cycle (if 3MMD)**
- 6 months: 6 monthly
- 1 year: 6 monthly
- 2 years: 6 monthly
- 3 years: 6 monthly

**At 2 years**
- 6 monthly

**Up to 2 years**
- 6 monthly
Visit Schedule for Integrated Care for Clients on ART and Drug-Sensitive TB Treatment

**GENERAL PRINCIPLES**
- Clinicians should provide integrated TB management at clinical consultation visits. Failure to combine care leads to increased visit schedules and significantly increases the risk of disengagement and loss-to-follow-up (LTF).
- This schedule is for a standard DS-TB treatment (Rx) regimen consisting of 2 months of intensive phase Rx (IP) and 4 months of continuation phase (CP) Rx after a negative smear at the end of the IP.

---

**OVERVIEW OF PRINCIPLES FOR TB MANAGEMENT IN PLHIV WHO ARE RECEIVING ART THROUGH AN RPCS MODEL**
- If an RPCs client screens positive for TB symptoms at their RPCs clinical review visit but is not acutely unwell, the clinician will script for RPCs.
- If the patient is not diagnosed with TB (and their VL was suppressed), the patient will continue in RPCs.
- If results (TB investigations and VL) should be reviewed in 5-7 days, or sooner if possible.
- If the patient is diagnosed with TB and/or their VL is ≥ 50c/mL, the patient will return to regular clinician-managed care and should be re-assessed for RPCs enrolment when TB Rx is completed and/or their VL is < 50 c/mL again.

---

**Integrated visit schedule for a client on ART who develops DS-TB (not in RPCs)**

<table>
<thead>
<tr>
<th>Months (M) on TB Treatment (Rx)</th>
<th>Intensive Phase (IP) (months 1-2)</th>
<th>Continuation Phase (CP) (months 3-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB M0</td>
<td>7 wks</td>
<td>Confirm TB Rx completion</td>
</tr>
<tr>
<td>TB M1</td>
<td>4 completed weeks</td>
<td>Smear review result</td>
</tr>
<tr>
<td>TB M2</td>
<td>8 completed weeks</td>
<td>Review end-of-Rx result</td>
</tr>
<tr>
<td>TB M3</td>
<td>(16 completed weeks)</td>
<td></td>
</tr>
<tr>
<td>TB M4</td>
<td>(24 completed weeks)</td>
<td></td>
</tr>
<tr>
<td>TB M5</td>
<td>23 wks</td>
<td></td>
</tr>
<tr>
<td>TB M6</td>
<td>24 wks</td>
<td></td>
</tr>
</tbody>
</table>

**Investigations**
- TB screening as part of routine care
- Art/TB script
- Script: ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART

**ART-TB drug supply dispensed by facility**
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review.
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review.
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review.
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review.

---

**Visit Schedule Table**

<table>
<thead>
<tr>
<th>Months (M) on TB Treatment (Rx)</th>
<th>Intensive Phase (IP) (months 1-2)</th>
<th>Continuation Phase (CP) (months 3-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB M0</td>
<td>7 wks</td>
<td>Confirm TB Rx completion</td>
</tr>
<tr>
<td>TB M1</td>
<td>4 completed weeks</td>
<td>Smear review result</td>
</tr>
<tr>
<td>TB M2</td>
<td>8 completed weeks</td>
<td>Review end-of-Rx result</td>
</tr>
<tr>
<td>TB M3</td>
<td>(16 completed weeks)</td>
<td></td>
</tr>
<tr>
<td>TB M4</td>
<td>(24 completed weeks)</td>
<td></td>
</tr>
<tr>
<td>TB M5</td>
<td>23 wks</td>
<td></td>
</tr>
<tr>
<td>TB M6</td>
<td>24 wks</td>
<td></td>
</tr>
</tbody>
</table>

**Integrated TB/ART clinical consult**
- TB screening as part of routine care
- Art/TB script
- Script: ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART

**Investigations**
- TB screening as part of routine care
- Art/TB script
- Script: ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART
- Dispense ART for 1 month of IP TB Rx and ART

**ART-TB drug supply dispensed by facility**
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review.
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review.
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review.
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review.
## Integrated visit schedule for a client in RPCs who develops DS-TB

<table>
<thead>
<tr>
<th>Months (M) on TB Treatment (Rx)</th>
<th>Intensive Phase (IP) (months 1-2)</th>
<th>Continuation Phase (CP) (months 3-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TB M0 (Rx initiation)</td>
<td>TB M4 (16 completed weeks)</td>
</tr>
<tr>
<td></td>
<td>TB M1 (4 completed weeks)</td>
<td>23 wks</td>
</tr>
<tr>
<td></td>
<td>TB M2 (8 completed weeks)</td>
<td>TB M6 (24 completed weeks)</td>
</tr>
</tbody>
</table>

### Integrated TB/ART clinical consult
- RPCs clinical visit with clinician consultation
- TB diagnosis and TB Rx initiation
- De-register from RPCs and continue care at a facility
- Clinician-managed care at facility
- Assess smear conversion and transition to CP of TB Rx, if smear result is negative
- Confirm TB Rx completion
- Assess for RPCs
- If eligible for RPCs: Re-enrol in RPCs

### Investigations
- VL, eGFR, TB symptom screen and routine TB GeneXpert
- Any other investigations as clinically indicated
- Review result
- Smear
- Review result
- Smear
- Review end-of-Rx result

### ART/TB script
- Repeat 6 month ART script for RPCs
- Script 1 month of IP TB Rx
- Script 1 month of IP TB Rx
- Combined script for 2 months** of CP TB Rx and ART
- Combined script for 2 months** of CP TB Rx and ART
- If eligible for RPCs: RPCs ART script for 6 months

### ART-TB drug supply dispensed by facility
- Dispense first 3 months of ART supply from facility***
- Dispense 1 month of IP TB Rx
- Dispense 1 month of IP TB Rx
- Dispense 2 months of CP TB Rx and 2 months of ART
- Dispense 2 months of CP TB Rx and 2 months of ART
- Dispense 3 months of ART

### Ask client to return:
- If client has TB symptoms or is unwell, ask client to return in 5-7 days for review*
- After 4 weeks for clinical review
- After 3 weeks for sputum smear
- After 1 week for smear results
- After 8 weeks for clinical review
- After 7 weeks for end of Rx smear
- After 1 week for smear results
- If eligible and enrolled in RPCs: return for next ART supply at RPCs pick-up point after 3 months

---

* If the facility does not have a reliable results management and/or recall system in place, it will require the patient to return to the facility within 5-7 days for a combined review of their TB and VL results. If the facility has an effective result management and recall system in place, it may recall only those clients with a positive TB diagnosis and/or a VL ≥ 50 c/mL.

** For TB with longer continuation phases, a 3-month supply can be considered (see DMOC SOP 4) to align TB/ART Rx supply length between clinical consultations.

*** Clients in RPCs who screen positive for TB remain in RPCs until their TB diagnosis is confirmed. After a positive TB screen, the client will continue to be scripted for RPCs with the facility providing the first 3 months ART supply and the RPCs providing the second three month ART supply. Where a facility has an ART stock shortage concern, the script can be adjusted to the facility providing the first 2 months ART supply and the RPCs providing the second 4 months ART supply (4MMD). If the client is subsequently diagnosed with TB, the client will be returned to facility-based care. As they have already received a 3-month supply of ART, they will have enough ART on hand to cover their intensive phase, and will only require ART to be dispensed again at TB M2 (i.e. after 2 completed months of TB treatment). However, where the patient only received a 2-month ART supply because of facility stock shortages, the ART supply on hand will not be sufficient for the full intensive phase of TB treatment, as the ART would have been dispensed a number of days before TB treatment was initiated. ART will need to be topped up at TB M1 to ensure sufficient supply to TB M2. The table accounts for when ART will need to be supplied again with TB treatment based on the patient having received a 3 month ART supply.
**Baseline Assessment**
- Clinical review
- Bloods: confirmatory HIV PCR (or HIV VL), CD4 count, FBC +/- HIV drug resistance test if mother failing treatment on TLD2 or a protease inhibitor regimen
- Counsel parent / caregiver
- Ensure the mother is on ART, and advise that breastfeeding is recommended for all infants living with HIV.

**Review after 1 week then 1-2 weekly**
- Clinical review and counselling
- Check baseline blood results
- If indeterminate / negative confirmatory HIV PCR test result, refer to Guideline for Family-Centered Transmission Prevention of Communicable Infections

**Review when 4 weeks of age**
- Clinical review and counselling
- If <3 kg, assess reasons for poor weight gain & manage appropriately, continue ART with AZT (12 mg/kg/ dose twice daily) + 3TC (4 mg/kg/ dose twice daily) + NVP (6 mg/kg/dose twice daily) until ≥3.0 kg
- If ≥3 kg, switch ART to ABC + 3TC + DTG (refer to ARV dosing chart for doses)
- Continue monitoring as per “Monitoring on ART” on page 17

### ART for the Term Neonate

<table>
<thead>
<tr>
<th>Weight (kg) at birth</th>
<th>Zidovudine (AZT)</th>
<th>Lamivudine (3TC)</th>
<th>Nevirapine (NVP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Available formulation</strong></td>
<td>Solution 10 mg/mL</td>
<td>Solution 10 mg/mL</td>
<td>Solution 10 mg/mL</td>
</tr>
<tr>
<td><strong>Dose</strong></td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
</tr>
<tr>
<td>≥2.0 – &lt;3.0</td>
<td>10 mg (1 mL)</td>
<td>10 mg (1 mL)</td>
<td>5 mg (0.5 mL)</td>
</tr>
<tr>
<td>≥3.0 – &lt;4.0</td>
<td>15 mg (1.5 mL)</td>
<td>15 mg (1.5 mL)</td>
<td>8 mg (0.8 mL)</td>
</tr>
<tr>
<td>≥4.0 – &lt;5.0</td>
<td>20 mg (2 mL)</td>
<td>20 mg (2 mL)</td>
<td>10 mg (1 mL)</td>
</tr>
</tbody>
</table>
### ART for the Preterm Neonate

**Baseline Assessment**
- Clinical review
- Bloods: confirmatory HIV PCR (or HIV VL), CD4 count, FBC +/- HIV drug resistance test if mother failing treatment on TLD2 or a protease inhibitor regimen
- Counsel parent / caregiver
- Ensure the mother is on ART, and advise that breastfeeding is recommended for all infants living with HIV

**Review after 1 week then 1-2 weekly**
- Clinical review and counselling
- Check baseline blood results
- If indeterminate / negative confirmatory HIV PCR test result, refer to Guideline for Family-Centered Transmission Prevention of Communicable Infections
- Monitor weight gain and adjust ARV doses

**Review when ≥4 weeks of age**
- Clinical review and counselling
- If <3 kg, continue AZT + 3TC + NVP
- If ≥3 kg, switch to ABC + 3TC + DTG (refer to ARV dosing chart for doses)
- Continue monitoring and evaluations as per "Monitoring on ART" on page 17

### ARV Dosing Chart

<table>
<thead>
<tr>
<th>Gestational age at birth</th>
<th>Chronological age</th>
<th>Zidovudine (AZT)</th>
<th>Lamivudine (3TC)</th>
<th>Nevirapine (NVP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30 weeks</td>
<td>Birth - &lt; 4 weeks</td>
<td>2 mg/kg/dose twice daily</td>
<td>2 mg/kg/dose twice daily</td>
<td>2 mg/kg/dose twice daily</td>
</tr>
<tr>
<td></td>
<td>≥ 4 weeks - &lt; 8 weeks</td>
<td>3 mg/kg/dose twice daily</td>
<td>4 mg/kg/dose twice daily</td>
<td>4 mg/kg/dose twice daily</td>
</tr>
<tr>
<td></td>
<td>≥ 8 weeks - &lt; 10 weeks</td>
<td>12 mg/kg/dose twice daily</td>
<td>6 mg/kg/dose twice daily</td>
<td>6 mg/kg/dose twice daily</td>
</tr>
<tr>
<td>≥ 30 - &lt; 35 weeks</td>
<td>Birth - &lt; 2 weeks</td>
<td>2 mg/kg/dose twice daily</td>
<td>2 mg/kg/dose twice daily</td>
<td>2 mg/kg/dose twice daily</td>
</tr>
<tr>
<td></td>
<td>≥ 2 - &lt; 4 weeks</td>
<td>3 mg/kg/dose twice daily</td>
<td>4 mg/kg/dose twice daily</td>
<td>4 mg/kg/dose twice daily</td>
</tr>
<tr>
<td></td>
<td>≥ 4 - &lt; 6 weeks</td>
<td>4 mg/kg/dose twice daily</td>
<td>6 mg/kg/dose twice daily</td>
<td>6 mg/kg/dose twice daily</td>
</tr>
<tr>
<td></td>
<td>≥ 6 - &lt; 8 weeks</td>
<td>12 mg/kg/dose twice daily</td>
<td>12 mg/kg/dose twice daily</td>
<td>12 mg/kg/dose twice daily</td>
</tr>
</tbody>
</table>

When weight is ≥2 kg and ≥35 weeks corrected gestational age, review ARVs and refer to table "ART for the Term Neonate" on page 28.
ENHANCED ADHERENCE COUNSELLING SESSIONS

There are two sessions:
Session 1: Initial enhanced adherence counselling for patients struggling with adherence.
Session 2: Enhanced adherence counselling for persistent non-adherent patients (covered in DMOC SOP 2).

SESSION 1

1. Explain the purpose of your session, define terms:
   - Determine possible reasons for abnormal assessment results.
   - Assess and address any reported barriers to adherence and discuss effective strategies to overcome.
   - Update or develop an adherence plan with the patient.

2. Education on the assessment result
   - Assess patient for mental health using the Mental Health Assessment tool in Annexure II.
   - Find out what treatment education the patient has received. Recap the benefits of VL suppression as outlined in the box above.
   - Find out what the patient knows about the treatment they are taking and check the treatment regimen has been understood correctly i.e. when each medicine is taken.
   - Explain in a supportive way that the most common reason for such result is a problem with taking medication correctly.
   - Find out if the patient received education on the assessment to check adherence and effective treatment (VL/BP/HbA1c) and its meaning. If not, provide this information (see SOP 1: FTIC session 2).

3. Flexibility on treatment
   - Clear any myths and misconceptions around taking treatment and explain that there is some flexibility.
   - Emphasize the importance of patients choosing their own suitable time for taking medication as prescribed.
   - Explain what to do with late or missed doses depending on the treatment.
   - Explain what to do in case of alcohol use while on treatment. If patient cannot control their use of alcohol, they should make sure that they take their treatment anyway.
   - Explain to patient that it is better not to use traditional medicines that could interfere with the treatment. If they take traditional medicine, they should make a plan with the clinician to still take their treatment.

4. Patient’s experiences
   Ask: What makes it difficult for you to take the treatment sometimes? Encourage the patient to be honest about personal issues that may affect their adherence and help them to address issues such as alcohol or other substance intake as they can lead to forgetting medication.
   - Explain that medication should be taken even without food and what they can do if food insecurity is an issue. Inform and assist patient on how to access government support programmes, if necessary.
   - Consider patient’s religious and traditional beliefs that may contribute to non-adherence to treatment.

5. Identify strategies to ensure good adherence
   Ask: What could help you to remember to take the treatment?
   Discuss treatment reminders and adherence options including the advantages and disadvantages of each for the specific patient:
   - Treatment buddy to remind the patient to take treatment
   - Setting phone alarm
   - Support by a family member
   - Pill counts
   - Marking a calendar or using a pill box
   - Linking medication to meals times or other daily routine such as brushing teeth
   - Storing medication somewhere accessible if unable to disclose to others in the home
   - Carrying/keeping spare medication to take at work in case dosing at home was forgotten or client late returning home
   - Modified Direct Observed Therapy such as treatment supporter (this is also applicable to children)
   Ask: Who could support you to take the treatment every day?
   Discuss sources of social support for the client. Emphasise the importance of support structures in coping and adherence such as family, friends, peer support groups, faith-based group and work-based support.
   - Encourage sharing of feelings and emotions regarding the illness.
   - Empower the patient in making a plan that is adapted to the barriers expressed. Be aware not to create dependency, but to find their own solutions, with the help of the healthcare worker or lay counsellor.

6. Inform the patient about pathway ahead
   - Explain further assessments (tests) to check adherence and effective treatment as per disease specific guidelines (for HIV: a further viral load will be taken in 3 months, for hypertension: a BP will be taken at every visit for the next 3 months, for diabetes: a further HbA1c test will be done in 3 months)
   - Explain that if the next assessment is normal, it will become easier to collect treatment. The patient can ask and the clinician should offer and enroll the patient into a simpler treatment supply collection system of their choice with longer treatment supply based on what is available at the facility (FAC-PUP/Adherence Club/EX-PUP).

Benefits of Viral Suppression:
- Undetectable VL means the virus is untransmittable to HIV negative partners (U=U)
- CD4/immune function recovery
- Less chance of illness
- Reduced visits to clinic through access to MMD/RPC

Source: Differentiated Care Models Standard Operating Procedures 2023

Benefits of Viral Suppression:
• Undetectable VL means the virus is untransmittable to HIV negative partners (U=U)
• CD4/immune function recovery
• Less chance of illness
• Reduced visits to clinic through access to MMD/RPC
As mental health disorders can impact adherence negatively, it is recommended that screening is provided for mental health disorders while treating HIV, TB and NCDs.

Basic screening should assess:

1. **What is the patient’s appearance?**
   - Is he/she clean and looking after him or herself
   - Does the person look worried or sad?
   - Does the person seem agitated?
   - Does he/she seem suspicious, nervous or hostile?

2. **Assess the patient’s mood, asking:**
   - How have you been feeling over the last week?
   - Have you been feeling mostly normal, or sad or happy, or worried?
   - How do you feel today?
   - What are your feelings about the future?

3. **Assess the patient’s thoughts:**
   - Are you having negative thoughts?
   - Are you having strange thoughts?
   - Any unusual fears (such as being followed, spied on)?
   - Have you had any strange experiences (such as hearing voices/seeing visions other people cannot hear or see) or special abilities?

Negative thoughts can suggest depression, other strange thoughts or experiences could raise suspicion of psychosis.

4. **Assess patient’s cognition:**
   - Does thinking seem slow?
   - Is the person able to concentrate?
   - Does the memory seem impaired?

If you suspect a mental health disorder while asking the previous questions, try to answer the following questions:

- What is the main problem?
- How long has it been present?
- Does it affect the patient’s daily functioning?
- Can this be managed at this clinic?

If further assessment and treatment cannot be provided at the clinic, refer to a psychiatric nurse or service. Tools such as SRQ 20 recommended by the WHO can help to identify mental health disorder.

Provide the patient with education on mental health and provide them with advice that can help them overcome symptoms. Explain to the patient that the following signs could mean that they may need support to improve their mental health condition:

If they feel:
- constantly angry or very worried
- very sad for a very long time
- they are losing interest in things they used to enjoy doing
- they can not cope with work or daily activities
- their mind is controlled (such as by voices) or out of control
- they need to use alcohol or drugs
- Obsessively do things such as repeat washing hands, non-stop sport activity, eating too much, obsessive diet or other obsessive behaviours.
- Hurt themselves or other people or destroy things.
- Do irresponsible things that could harm them or others.
- Having problems sleeping or feeling tired and not having energy.
- Feeling anxious, looking or feeling ‘jumpy’ or upset, having panic attacks.
- Not wanting to spend time with people; spending too much time in bed.
- Hearing and seeing things that others do not see.
Other differences in the way the person sees what is happening around them, for example believing that someone is trying to harm you, or laughing at you.

⚠️ If the patients show signs of intense sadness, risk to harm themselves or others or hear or see things that others do not see they should directly be referred for psychiatric support.

If the patients experience some of the other symptoms, explain to them that they can identify some ways to help them cope with their situation by telling them that it might help to:

- Share your feelings and spend time with other people you trust.
- Get back to daily routine as much as possible (such as work, school, housework).
- Participate in religious or spiritual activities.
- Play sports or get regular exercise.
- Eat regular meals.
- Get adequate rest.
- Take a break and relax.
- Participate in enjoyable activities (such as singing, dancing, reading), even if at the moment it may be hard for you to enjoy them.
- Help other people talk about how they feel, but also respect if they choose not to talk about it.

Recommend that they avoid:

- Using alcohol or drugs to cope with the symptoms
- Withdrawing from family and friends
- Withdrawing from daily activities
- Overworking
- Blaming yourself or others
- Neglecting your health or self-care (such as sleep, hygiene, diet)

Explain that the patient may need to seek help from a psychiatric nurse, social worker, psychologist or counsellor if they want to talk with someone outside of their family or circle of friends or if their symptoms do not improve with coping strategies.
## Practical Advice on Administration of ARV Drugs

<table>
<thead>
<tr>
<th>ARV Drug</th>
<th>Formulations</th>
<th>Can tablets/capsules be split/crushed?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elvitegravir (EV)</strong></td>
<td>- FDC tablets: TEE 300/200/600 mg</td>
<td>YES</td>
<td>Best given at bedtime to reduce CNS side-effects, especially during first 2 weeks. Consideration should be given to reducing dose in children with EGFFR &lt;60 ml/min. May cause unconjugated hyperbilirubinaemia resulting from increased bilirubin production. May rarely cause bone marrow suppression.</td>
</tr>
<tr>
<td><strong>Dolutegravir (DTG)</strong></td>
<td>- Tablets: 50 mg, 100 mg, 200 mg; Film coated (FC): 50 mg, 100 mg, 200 mg</td>
<td>YES</td>
<td>DTG therapy may be associated with transient increases in transaminases and bilirubin, resolving with continuation of therapy. May cause unconjugated hyperbilirubinaemia. In children, may cause unconjugated hyperbilirubinaemia at a lower dose.</td>
</tr>
<tr>
<td><strong>Atazanavir (ATV)</strong></td>
<td>- Tablets: 100 mg; FDC tablets: ATV/RTV 300/100 mg</td>
<td>YES</td>
<td>EGFFR &lt;60 ml/min. Careful monitoring of renal function is recommended. May cause unconjugated hyperbilirubinaemia.</td>
</tr>
<tr>
<td><strong>Lopinavir/ritonavir (LPV/r)</strong></td>
<td>- Tablets: 100 mg, 300 mg; Capsules: 150 mg, 200 mg</td>
<td>YES</td>
<td>Pure red cell aplasia causing anaemia can occur but is very rare.</td>
</tr>
<tr>
<td><strong>Ritonavir (RTV)</strong></td>
<td>- Tablets: 100 mg, 300 mg</td>
<td>YES</td>
<td>Avoid or use with caution in infants or children with anaemia (Hb &lt;9 g/dl) due to potential for severe folate deficiency.</td>
</tr>
<tr>
<td><strong>Tenofovir (TDF)</strong></td>
<td>- Tablets: 100 mg, 300 mg; Capsules: 100 mg</td>
<td>YES</td>
<td>Noside toxicity is common in children. Symptoms typically worsen in the first 6 weeks of therapy, very uncommon in black African patients. Symptoms indicate the need for careful monitoring and potential discontinuation of therapy.</td>
</tr>
<tr>
<td><strong>Lamivudine (3TC)</strong></td>
<td>- Tablets: 150 mg; FDC tablets: ABC/3TC 120/60 mg</td>
<td>YES</td>
<td>May cause unconjugated hyperbilirubinaemia. May cause pure red cell aplasia causing anaemia.</td>
</tr>
<tr>
<td><strong>Zidovudine (AZT)</strong></td>
<td>- Tablets: 100 mg, 300 mg</td>
<td>YES</td>
<td>Careful monitoring of renal function is recommended. May cause unconjugated hyperbilirubinaemia.</td>
</tr>
<tr>
<td><strong>Abacavir (ABC)</strong></td>
<td>- Tablets: 300 mg; Capsules: Pellets 40/10 mg per capsule</td>
<td>NO</td>
<td>Hypersensitivity reaction (fever, rash, GIT &amp; respiratory symptoms) may occur during first 6 months of therapy.</td>
</tr>
<tr>
<td><strong>Lamivudine/tenofovir (FTC/TDF)</strong></td>
<td>- Tablets: 10/10 mg; FDC tablet: FTC/TDF/TDF</td>
<td>YES</td>
<td>FTC/TDF/TDF is a dispersible tablet. May be split/crushed. Care should be taken to avoid gastrointestinal reactions.</td>
</tr>
<tr>
<td><strong>Atazanavir/ritonavir (ATV/RTV)</strong></td>
<td>- Tablets: 300 mg; FDC tablets: ABC/3TC/RTV 120/60/10 mg</td>
<td>YES</td>
<td>Careful monitoring of renal function is recommended. May cause unconjugated hyperbilirubinaemia.</td>
</tr>
<tr>
<td><strong>Lopinavir/ritonavir (LPV/rt)</strong></td>
<td>- Tablets: 200 mg; ABC/3TC/LPV/r 30/15/40/10 mg</td>
<td>YES</td>
<td>Careful monitoring of renal function is recommended. May cause unconjugated hyperbilirubinaemia.</td>
</tr>
<tr>
<td><strong>Ritonavir/lopinavir (RTV/LPV)</strong></td>
<td>- Tablets: 120/60 mg; ABC/3TC/LPV/r 30/15/40/10 mg</td>
<td>YES</td>
<td>Careful monitoring of renal function is recommended. May cause unconjugated hyperbilirubinaemia.</td>
</tr>
</tbody>
</table>

**Dosing Chart**

- TEE = Tenofovir/Emtricitabine/Elvitegravir;
- GIT = gastrointestinal tract;
- eGFR = estimated glomerular filtration rate;
- ATI = Atazanavir/ritonavir;
- LPV/r = Lopinavir/ritonavir;
- ABC = Abacavir;
- 3TC = Lamivudine;
- RTV = Ritonavir;
- TDF = Tenofovir;
- FTC = Emtricitabine;
- EV = Elvitegravir;
- DTG = Dolutegravir;
- ATV = Atazanavir;
- ABC = Abacavir;
- RTV = Ritonavir;
- TDF = Tenofovir;
- FTC = Emtricitabine;
- EV = Elvitegravir;
- DTG = Dolutegravir;

**Notes**

- FDC = fixed dose combination;
- eGFR = estimated glomerular filtration rate;
- GIT = gastrointestinal tract;
- TEE = Tenofovir/Emtricitabine/Elvitegravir;
- TLD = Tenofovir/Lamivudine/Dolutegravir;
<table>
<thead>
<tr>
<th>Wt. (kg)</th>
<th>Available formulations</th>
<th>Target dose</th>
<th>Dispersible tablet</th>
<th>Dispersible (DT)</th>
<th>Dispersible (DT)</th>
<th>Sol. 20 mg</th>
<th>Sol. 10 mg/ml</th>
<th>Sol. 10 mg/ml</th>
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<tr>
<td>3 - 5.9</td>
<td>1 x 120/60 mg tab od</td>
<td>As for individual medicines ONCE daily</td>
<td>0.5 x 10 mg DT od</td>
<td>0.5 x 10 mg DT bd</td>
<td>By weight band ONCE daily</td>
<td>3 ml bd</td>
<td>OR 1 x 60 mg tab bd</td>
<td>3 ml bd</td>
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<tr>
<td>6 - 9.9</td>
<td>1.5 x 120/60 mg tabs od</td>
<td>By weight band TWICE DAILY</td>
<td>1.5 x 10 mg DT od</td>
<td>1.5 x 10 mg DT bd</td>
<td>By weight band TWICE DAILY</td>
<td>4 ml bd</td>
<td>OR 1.5 x 60 mg tab bd</td>
<td>4 ml bd</td>
</tr>
<tr>
<td>10 - 13.9</td>
<td>2 x 120/60 mg tabs od</td>
<td>10 - 13.9 kg</td>
<td>2 x 10 mg DT bd</td>
<td>2 x 10 mg DT bd</td>
<td>Once daily dosing &gt; 10 kg</td>
<td>4 x 60 mg tabs od</td>
<td>OR 12 ml od</td>
<td>12 ml od</td>
</tr>
<tr>
<td>14 - 19.9</td>
<td>2.5 x 120/60 mg tabs od</td>
<td>≥ 10 kg</td>
<td>2.5 x 10 mg DT od</td>
<td>2.5 x 10 mg DT bd</td>
<td>Once daily dosing &gt; 10 kg</td>
<td>5 x 60 mg tabs od</td>
<td>OR 12 ml bd</td>
<td>1 x 150 mg tab od</td>
</tr>
<tr>
<td>20 - 24.9</td>
<td>3 x 120/60 mg tabs od</td>
<td>≥ 10 kg</td>
<td>3 x 10 mg DT od</td>
<td>3 x 10 mg DT bd</td>
<td>≥ 10 kg</td>
<td>1 x 300 mg tab + 1 x 60 mg tab od</td>
<td>1 x 300 mg tab bd</td>
<td></td>
</tr>
<tr>
<td>25 - 29.9</td>
<td>1 x 600/300 mg tab od</td>
<td>≥ 10 kg</td>
<td>1 x 50 mg FC tab od</td>
<td>1 x 50 mg FC tab bd</td>
<td>OR FDC: ABC/3TC/DTG if eligible od</td>
<td>2 x 150 mg tabs od</td>
<td>1 x 300 mg tab bd</td>
<td></td>
</tr>
<tr>
<td>30 - 39.9</td>
<td>1 x 600/300 mg tab od</td>
<td>≥ 10 kg</td>
<td>1 x 50 mg FC tab od</td>
<td>1 x 50 mg FC tab bd</td>
<td>OR FDC: ABC/3TC/DTG if eligible od</td>
<td>2 x 150 mg tabs od</td>
<td>1 x 300 mg tab bd</td>
<td></td>
</tr>
<tr>
<td>≥ 40</td>
<td>≥ 10 kg</td>
<td>≥ 10 kg</td>
<td>1 x 50 mg FC tab od</td>
<td>1 x 50 mg FC tab bd</td>
<td>OR FDC: ABC/3TC/DTG if eligible od</td>
<td>2 x 150 mg tabs od</td>
<td>1 x 300 mg tab bd</td>
<td></td>
</tr>
</tbody>
</table>

* Avoid LPV/r solution in any full-term infant <14 days of age and any premature infant <42 weeks postconceptual age (corrected gestational age) or obtain expert advice.

* Children weighing 25-29.9 kg may also be dosed with LPV/r 200/50 mg adult tabs: 2 tabs am + 1 tab pm.

* Atazanavir + ritonavir should not be used in children/adolescents on treatment with Rifampicin, obtain expert advice. No dosage adjustments are required for children receiving treatment with Efavirenz and Rifampicin.

** Notes:**
- od = once a day;
- nocte = at night;
- bd = twice a day;
- am = in the morning;
- pm = in the evening;
- std = standard;
<table>
<thead>
<tr>
<th>Available formulations</th>
<th>Target dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablets FDC: ABC/3TC (600/300/50 mg) if ABC/3TC/DTG FDC</td>
<td>By weight band TWICE daily</td>
</tr>
<tr>
<td>Dispersible tablet</td>
<td>As for individual Lamivudine (ABC + 3TC) 600/300/50 mg 1 x 600/300 mg tab od</td>
</tr>
<tr>
<td>FDC: ABC/3TC</td>
<td>By weight band ONCE daily</td>
</tr>
<tr>
<td>ABC/3TC/DTG 600/300 mg</td>
<td>By weight band ONCE daily</td>
</tr>
</tbody>
</table>

Consult with a clinician experienced in paediatric ARV prescribing for neonates (< 28 days of age) and infants weighing < 3kg

Wt. (kg)

| * 1 ml bd OR 2 capsules bd | 3 - 5.9 |
| * 1.5 ml bd OR 3 capsules bd | 6 - 9.9 |
| 2 ml bd OR 4 capsules bd OR 2 x 100/25 mg paed tabs am + 1 x 100/25 mg paed tab pm | 10 - 13.9 |
| 2.5 ml bd OR 5 capsules bd OR 2 x 100/25 mg paed tabs bd OR 1 x 200/50 mg adult tab bd | 14 - 19.9 |
| 3 ml bd OR 6 capsules bd OR 2 x 100/25 mg paed tabs bd OR 1 x 200/50 mg adult tab bd | 20 - 24.9 |
| 3.5 ml bd OR 7 capsules bd OR 3 x 100/25 mg paed tabs bd OR 1 x 200/50 mg adult tab bd + 1 x 100/25 mg paed tab bd | 25 - 29.9 |
| 5 ml bd OR 10 capsules bd OR 4x100/25 mg paed tabs bd OR 2x200/50 mg adult tabs b | 30 - 39.9 |
| Not recommended | ≥ 40 |

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>3 - 5.9</th>
<th>6 - 13.9</th>
<th>14 - 24.9</th>
<th>≥ 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotrimoxazole Dose</td>
<td>2.5 ml od</td>
<td>5 ml or ½ tab od</td>
<td>10 ml or 1 tab od</td>
<td>2 tabs od</td>
</tr>
<tr>
<td>Multivitamin Dose</td>
<td>2.5 ml od</td>
<td>2.5 ml od</td>
<td>5 ml od</td>
<td>10 ml od</td>
</tr>
</tbody>
</table>

Notes:
- FC = film coated
- DT = dispersible tablet
- FDC = fixed dose combination;
- TLD = tenofovir/lamivudine/dolutegravir;
- TEE = tenofovir/emtricitabine/efavir

Table 23.3.1 Treatment of HIV-1 complicated by rifampicin

Compiled by Child and Adolescent Committee of SA HIV Clinicians Society in collaboration with the Department of Health
• Disclosure should ideally be a gradual process over many years, advancing from partial disclosure to full disclosure, post-disclosure, and ongoing support.
• Ideally full disclosure should take place between 10 and 14 years old if the child is of normal cognition and maturity, making sure that it is done before sexual debut.
• The parent or caregiver (PCG) should be prepared for disclosure and supported through each step by the healthcare worker (HCW). PCGs should decide what role the HCW should play.
• The HCW/PCG should make sure to use age-appropriate language, pictures where possible, excellent counselling skills, be aware of emotions, use a private space, and refer to psychologists and social workers when necessary.

### No disclosure yet (0 — 4 Years)

- Conduct the consultation with the child present (but do not mention the word HIV if the child can understand the conversation)
- The child is too young for direct information about HIV but explanations to the caregiver about how HIV can affect the child remain important.
- Provide ideas to help the caregiver support the child taking medicine. Congratulate the child on taking their medicines well.
- Address the caregiver’s anxieties and inform them that in time you will support them through the partial and full disclosure process as outlined below.
- Provide a safe and welcoming clinic and build a relationship with the child through play/singing.
- Warn the PCG that when the child starts asking questions about why they must take medicine, they should give the information described under partial disclosure below. They should try not to lie and name other illnesses as the reason for needing medication.

### Partial Disclosure (5-9 years)

- The child needs to learn about illness and why they must take medicine but not HIV by name yet.
- Introduce the concepts of good and bad health. Talk about how good health can be promoted by eating healthy food, keeping clean, exercising, looking after teeth etc. Explain that medicines help to keep a body healthy and strong.
- Introduce infections as ‘germs’ that can damage the body/make you sick and (white) blood cells as the part of the body that look for and kill germs.
- Explain that some germs hide, and you need to take medicines to help fight the germs or explain that they were born without enough white blood cells so they need to take medicine every day to make their white blood cells increase so that they can stay healthy and are able to fight the germs.
- Advise PCG that they can start teaching their child about HIV and other illnesses without telling them that they have HIV, so that the child learns correct information about HIV and not the negative myths (see the 5 points in the red box below).

### Before Full Disclosure:

- Assess the adolescent’s cognitive and emotional maturity (if they are passing school at the appropriate level for their age, they can be assumed to be of normal cognitive maturity)
- Prepare the PCG for full disclosure
- Get consent to disclose the adolescent’s (and PCG’s) HIV status. It is preferable to disclose the PCG’s status as well, but not essential if the PCG requests not to.
- Find out what the adolescent knows about HIV already before disclosing to them.
- Educate them about HIV and dispel the negative myths:

Children and adolescents living with HIV (C/ALWH) often learn negative myths about HIV from their community, their friends and school, such as “HIV kills”, “people with HIV are promiscuous or bad” and “people with HIV can’t live a normal life”. It is therefore extremely important to educate C/ALWH and dispel all of these myths before you tell them they have HIV. Different ways of educating them include teaching them about a few different illnesses, holding education sessions in the clinic or telling their parents to teach them about HIV at home from a young age. Five important things for them to understand include:

1. These days we have very good treatment for HIV, so people living with HIV (PLHIV) can remain perfectly healthy and never get AIDS.
2. PLHIV can live as long as people without HIV if they take their treatment every day.
3. Anyone can have HIV and it does not make them different/bad. Many people around you have HIV and you do not know because they are just as healthy as those without HIV.
4. PLHIV can have relationships and have children, and if they are taking their treatment and have a suppressed viral load, they will not transmit HIV to their sexual partner or children.
5. Living with HIV does not prevent people from living a completely normal life and following any career they want.

### Failure of full disclosure by early teenage years can lead to:

- Poor adherence
- Emotional difficulties
- Poor school performance
- HIV transmission if sexually active
- The adolescent finding out their HIV status through other mechanisms
- Psychological issues if disclosure is not sensitively done
Full disclosure:
Ensure they first understand points 1-5 in the box above before you explain that:
- They were born with a germ/virus called HIV, which can kill their white blood cells so they can’t protect their body from other germs.
- The medicine they receive works very well at making the HIV virus sleep so that it can’t kill white blood cells. That way the body is well protected from other germs and you won’t get sick.
- If you don’t take your medicines every day the HIV virus can get stronger and prevent the medicines from working
- They need to understand their responsibility for not transmitting HIV e.g. safer sex, U=U and family planning

Once the adolescent has been disclosed to it is very important to offer for them to join a support club, answer any questions they have, let them express their emotions, and make sure they understand the following things:
- Repeat the 5 points mentioned in the red box above, now relating to the adolescent themselves.
- It is not their mother’s fault that the adolescent got HIV. When their mother was pregnant we did not have such good medicine, so many babies got HIV from their mothers, but nowadays we have very good medicine so if an adolescent wants to have a baby one day the medicine will be able to prevent their baby from getting HIV.
- It is not their parents’ fault they have HIV: millions and millions of people in the world have HIV and they did nothing wrong and they are no different to anyone else. You can’t tell who has HIV by looking at them because they will be healthy when they are taking their medication.
- They are allowed to keep their HIV status a secret, and are allowed to lie about it if their friends or strangers ask, because some people don’t know enough about HIV and might treat them differently or think that it means they are going to be very sick. It is up to them and their PCG to decide who they think deserves to know.
- When they are ready to have a boyfriend/girlfriend or become sexually active they can come to the clinic to discuss how or when they would like to tell their partner about their HIV status.
- They should know how much their PCG loves them and be grateful for all the effort they put in over the years to make sure that they took their treatment every day to keep them healthy. This is a good opportunity for the child to thank the PCG and for them to tell each other how much they love them and give each other a hug.
- They must feel free to come into the clinic any time to ask any questions they have or discuss anything they are struggling with.

Post Disclosure (10-19 years)
- During follow up visits after full disclosure the information mentioned under “Full Disclosure” will need to be repeat many times as the C/ALHIV will not remember everything, might be in denial, might have since heard conflicting information, and will develop a deeper understanding of the information as they get older.
- They must feel free to ask any questions they might have.
- It is very important to assess their mental health and how they are coping with the information and with adolescence in general.
- Discuss whether they have or would like to disclose their status to friends or partners.
- Ask (privately) if they are sexually active or are thinking of becoming sexually active. Educate about safe sex, condom use, family planning, and U=U.
- Repeat information about the importance of taking medication every day to stay healthy and avoid development of drug-resistant HIV.

For more details on disclosure, please refer to the Differentiated Care Models Standard Operating Procedures 2023 SOP 3: Child and Adolescent Disclosure Counselling or contact the Right to Care Helpline on 082 352 6642
Other Resources and Important Information

Adverse Drug Reactions

Surveillance of all adverse drug reactions (ADRs) is fundamental. Healthcare professionals and consumers are urged to report any ADRs, adverse events following immunisation (AEFI), and product quality concerns to the SAHPRA pharmacovigilance office using one of the following reporting methods:

1. Form requests and submissions via e-mail: adr@sahpra.org.za
2. Online e-reporting portal: https://primaryreporting.who-umc.org/ZA

More information available from:
- The SAHPRA pharmacovigilance office - Tel: 012 501 0311
- SAHPRA’s Health Products Vigilance link: https://www.sahpra.org.za/health-products-vigilance/
- Information on AEFIs, including COVID-19 vaccines: https://aefi-reporting.sahpra.org.za/

Drug Stock-outs

To report drug stock-outs, or for assistance with drug stock-outs, please contact Stop Stockouts:
SMS/please call me/WhatsApp (084) 855-7867
Email: reports@stockouts.org

Resources for Clinical Management and Drug Interactions

National HIV & TB Health Care Worker Hotline: 0800 212506
Email pha-mic@uct.ac.za
SMS/please call me/WhatsApp (071) 840-1572

Right to Care Paediatric, Adolescent and Adult HIV Helpline (082) 352-6642
Right to Care Helpline can be contacted vial call/SMS/please call me/WhatsApp/missed call

KZN Paediatric Hotline: 0800 006 603

Disclaimer:
The information presented in these guidelines conforms to the current medical, nursing and pharmaceutical practice.
Contributors and editors cannot be held responsible for errors, individual responses to medicines, and other consequences.

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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
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<tr>
<td>3TC</td>
<td>Lamivudine</td>
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<td>ABC</td>
<td>Abacavir</td>
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<tr>
<td>AGL</td>
<td>Adherence Guideline</td>
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<td>AHD</td>
<td>Advanced HIV disease</td>
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<td>Alanine transaminase</td>
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<td>am</td>
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<td>Antiretroviral</td>
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<td>Atazanavir/ritonavir</td>
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<td>AZT</td>
<td>Zidovudine</td>
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<td>bd</td>
<td>Twice daily</td>
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<tr>
<td>BMI</td>
<td>Body mass index</td>
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<td>CM</td>
<td>Cryptococcal meningitis</td>
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<td>Central nervous system</td>
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<td>CPT</td>
<td>Cotrimoxazole preventive therapy</td>
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<td>CrAg</td>
<td>Cryptococcal Antigen</td>
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<td>Cardiovascular</td>
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<td>Drug-induced liver injury</td>
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<tr>
<td>DMOC</td>
<td>Differentiated Models of Care</td>
</tr>
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<td>DR</td>
<td>Drug-resistant</td>
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<tr>
<td>DS</td>
<td>Drug-sensitive</td>
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<tr>
<td>DT</td>
<td>Dispersible tablet</td>
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<tr>
<td>DTG</td>
<td>Dolutegravir</td>
</tr>
<tr>
<td>EAC</td>
<td>Enhanced Adherence Counselling</td>
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<tr>
<td>eGFR</td>
<td>Estimated glomerular filtration rate</td>
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<td>EX-PUP</td>
<td>External pick-up point</td>
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<td>FAC-PUP</td>
<td>Facility pick-up point</td>
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<td>Film coated</td>
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<td>Fixed-dose combination</td>
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<td>Gastrointestinal tract;</td>
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<td>Hepatitis B virus</td>
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<td>InStI</td>
<td>Integrase strand transfer inhibitor</td>
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<td>IRIS</td>
<td>Immune reconstitution inflammatory syndrome</td>
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<td>Opportunistic infection</td>
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<td>Pregnant and breastfeeding women</td>
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<td>in the evening</td>
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<td>Repeat prescription collection strategies</td>
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<td>Resistance test</td>
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<td>sCR</td>
<td>Serum creatinine</td>
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<tr>
<td>std</td>
<td>Standard</td>
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<td>STIs</td>
<td>Sexually transmitted infections</td>
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<td>Tuberculosis</td>
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<tr>
<td>TDF</td>
<td>Tenofovir disoproxil fumarate</td>
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<tr>
<td>TEE</td>
<td>Tenofovir + emtricitabine + efavirenz</td>
</tr>
<tr>
<td>TLD</td>
<td>Tenofovir + lamivudine + dolutegravir</td>
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<td>TPT</td>
<td>TB preventive treatment</td>
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<tr>
<td>VL</td>
<td>Viral load</td>
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<td>Vertical transmission</td>
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Acknowledgements

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GRAPHIC DESIGN

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