**Treatment initiation**

- ART should be initiated in all children, adolescents, pregnant and breastfeeding women and adults living with HIV, regardless of WHO clinical stage and at any CD4 cell count.
- As a priority, ART should be initiated in all children, adolescents and adults with severe or advanced HIV clinical disease and adults with a CD4 count ≤ 350 cells/mm$^3$ as well as children < 5 years of age with WHO clinical stage 3 or 4 or CD4 count ≤ 750 cells/mm$^3$.

**Treatment failure monitoring**

- Viral load is recommended as the preferred monitoring approach to diagnose and confirm treatment failure.
- If viral load testing is not routinely available, CD4 count and clinical monitoring should be used to diagnose treatment failure, with targeted viral load testing to confirm viral failure where possible.

**Stable patients**

- In settings where routine viral load monitoring is available, CD4 cell count monitoring can be stopped in individuals who are stable on ART and virally suppressed.

**ADVANCED HIV DISEASE DEFINITIONS**

- For children above five years of age, adolescents and adults, advanced HIV disease is defined as the presence of a CD4 cell count < 200 cells/mm$^3$ or a WHO clinical stage 3 or 4 event.
- All children < 5 years old with HIV infection are considered as having advanced HIV disease.
- A patient is considered stable on ART based on the following criteria: on ART for at least 1 year, no current illnesses, good understanding of lifelong adherence and evidence of treatment success (two consecutive viral load measurements below 1,000 copies/ml).
Viral load for monitoring treatment

- Viral load is recommended as the preferred monitoring approach to diagnose and confirm treatment failure.
- Routine viral load testing should be conducted at 6 and 12 months after ART initiation and every 12 months thereafter.
- Viral load testing gives clients a measure of understanding, control and motivation to adhere to treatment and understand their HIV infection. Adherence counseling needs to address the implications of a detectable or undetectable viral load.
- Dried blood spot specimens using venous or capillary whole blood can be used to determine the HIV viral load using a treatment failure threshold of 1,000 copies/ml. While plasma specimens are preferred, dried blood spot specimens can be used in settings where logistical, infrastructural or operational barriers prevent routine viral load monitoring using plasma specimens.

**Fig. Viral load testing strategy**

- **Test viral load**
  - **Viral load >1000 copies/ml**
    - **Evaluate for adherence concerns**
      - Repeat viral load testing after 3–6 months
    - **Viral load ≤1000 copies/ml**
      - **Maintain first-line therapy**
    - **Viral load >1000 copies/ml**
      - **Switch to second-line therapy**

### FAILURE

**Virological failure**
- Viral load above 1,000 copies/ml based on two consecutive viral load measurements in a 3-month interval, with adherence support following the first viral load test, after at least six months of starting a new ART regimen.

**Immunological failure**
- **Adults and adolescents**
  - CD4 count at or below 250 cells/mm³ following clinical failure or persistent CD4 levels below 100 cells/mm³
- **Children**
  - **Younger than 5 years**
    - Persistent CD4 levels below 200 cells/mm³
  - **Older than 5 years**
    - Persistent CD4 levels below 100 cells/mm³

**Clinical failure**
- **Adults and adolescents**
  - New or recurrent clinical event indicating severe immunodeficiency after 6 months of effective treatment
- **Children**
  - New or recurrent clinical event indicating advanced or severe immunodeficiency after 6 months of effective treatment

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