

## **RECOMMENDATIONS FOR INITIATION OF HAART IN RESOURCE-CONSTRAINED SETTINGS: WHO GUIDELINES**

WHO recommendations for initiation of HAART depend on the child's age and on the availability of virologic and CD4+ T cell testing. Where CD4+ T cell assays are available, the use of the CD4+ T cell percentage, rather than the absolute CD4+ T cell count, is recommended because the CD4+ T cell percentage varies less with age. The total lymphocyte count (TLC) also correlates with the risk of mortality in symptomatic HIV-infected children, and may be used instead of the CD4+ T cell count in these patients where CD4+ T cell testing is unavailable.

Despite cost constraints, the WHO recommends the development of tests applicable to resource-limited settings that would allow early diagnosis of HIV infection in infants. The availability of such tests is critical to the development of improved recommendations for therapy initiation in infants age eighteen months or younger.

The WHO guidelines for initiating HAART in resource-constrained settings are summarised in *Table 1a* and *Table 1b*.

**Table 1: WHO Guidelines for Initiation of HAART in Resource-Limited Settings<sup>1</sup>**

**Table 1a: Recommendations for Initiating HAART in Infants and Children if CD4+ T Cell Count Testing Is Available**

AGE	HIV DIAGNOSTIC TESTING	TREATMENT RECOMMENDATION
<18 months	HIV virologic testing not available but infant is HIV antibody-seropositive**	WHO Paediatric Stages II and III disease and CD4+ T cell count <20% <sup>a</sup>
	Positive HIV virologic test <sup>b</sup>	WHO Paediatric Stage III (e.g. AIDS) irrespective of CD4+ T cell percentage WHO Paediatric Stage II disease (with consideration of using CD4+ T cell count of <20% to assist in decision-making) <sup>a,c</sup> WHO Paediatric Stage I disease (e.g. asymptomatic) and CD4+ T cell count of <20% <sup>a,d</sup>
≥18 months	HIV antibody-seropositive	WHO Paediatric Stage III disease, irrespective of CD4+ T cell percentage WHO Paediatric Stage II disease (with consideration for using CD4+ T cell count of <15% to assist in decision-making) WHO Paediatric Stage I disease and CD4+ T cell count of <15%

**Table 1b: Recommendations for Initiating HAART in Infants and Children if CD4+ T Cell Count Testing Is Not Available**

AGE	HIV DIAGNOSTIC TESTING	TREATMENT RECOMMENDATION
<18 months	HIV virologic testing not available but infant is HIV antibody-seropositive	Treatment not recommended <sup>d,e</sup>
	Positive HIV virologic test <sup>b</sup>	WHO Paediatric Stage III, irrespective of TLC WHO Paediatric Stage II disease (with consideration for using the TLC of <2,500/mm <sup>3</sup> to assist in decision-making) <sup>f</sup>
≥18 months	HIV antibody-seropositive	WHO Paediatric Stage III, irrespective of TLC* WHO Paediatric Stage II disease (with consideration for using the TLC of <1,500/mm <sup>3</sup> to assist in decision-making) <sup>f</sup>

\*\*HIV serologic testing must be repeated at age eighteen months to obtain definitive diagnosis of HIV infection.

<sup>a</sup>A CD4+ T cell count of <20% corresponds to an absolute CD4+ T cell count of approximately <1,000/mm<sup>3</sup> for children age twelve months or younger and <750/mm<sup>3</sup> for children age twelve to eighteen months; a CD4+ T cell count of <15% corresponds to <500/mm<sup>3</sup> for children age one to five years and to <200/mm<sup>3</sup> for children age six years or younger.

<sup>b</sup>HIV DNA PCR or HIV RNA amplification assays or immune complex disassociated p24 antigen assays.

<sup>c</sup>A CD4+ T cell percentage is advisable to assist with determining the need for immediate therapy.

<sup>d</sup>If a child is asymptomatic and treatment is being initiated on a basis of CD4+ T cell count criteria, consideration should be given to performing a confirmatory CD4+ T cell assay if resources permit.

<sup>e</sup>Many of the clinical symptoms in WHO Paediatric Stage II and III disease classifications are not specific for HIV infection and significantly overlap with those seen in children without HIV infection in resource-limited settings; thus, in the absence of virological testing and CD4+ T cell count availability, symptomatic

seropositive infants age eighteen months or younger should only be considered for HAART in exceptional circumstances (e.g. a child with a classic AIDS-defining condition such as PCP or cryptococcal meningitis). If ARVs are given to a symptomatic HIV-positive infant in the absence of a definitive virological diagnosis, HIV antibody testing should be repeated at age eighteen months to confirm infection status; HAART should only be continued in infants with confirmed HIV infection.

<sup>f</sup> A total lymphocyte count of  $<2,500/\text{mm}^3$  for children age eighteen months or younger or  $<1,500/\text{mm}^3$  for children age eighteen months or older can be substituted for CD4+ T cell percentage when the latter is unavailable and HIV-related symptoms exist. Its utility in asymptomatic children is unknown. In the absence of CD4+ T cell testing, therefore, asymptomatic HIV-infected children (WHO Paediatric Stage I) should not be treated because no other reliable marker is currently available in severely resource-constrained settings.

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<sup>1</sup>World Health Organisation. Revised WHO guidelines for scaling up antiretroviral therapy in resource-limited settings. 2003 revision. Available at:  
[http://www.who.int/hiv/pub/prev\\_care/en/arvrevision2003en.pdf](http://www.who.int/hiv/pub/prev_care/en/arvrevision2003en.pdf).