

OUR TOMORROW STARTS WITH 2

MAKE TIVICAY▼ + LAMIVUDINE
THEIR FIRST HIV REGIMEN

POWERFUL EFFICACY

non-inferior to a traditional
3-drug regimen in adults¹

0 RESISTANCE

up to 48 weeks¹

A COMPLETE REGIMEN

with 2 ARVs¹

GEMINI-1 AND GEMINI-2 48-WEEK DATA
(DTG + 3TC: n=716; DTG + TDF/FTC: n=717)¹



TIVICAY + lamivudine was studied in HBV-negative adult patients with screening viral loads up to 500,000 copies/mL. Suitable for patients with no known or suspected viral resistance to integrase inhibitors or lamivudine.

Reference: 1. Cahn P et al. Published online November 9, 2018. *Lancet*. doi:10.1016/S0140-6736(18)32462-0.

[CLICK HERE FOR PRESCRIBING AND ADVERSE
EVENT REPORTING INFORMATION](#)



TIVICAY is owned by or licensed to the ViiV Healthcare group of companies.
©2019 ViiV Healthcare group of companies or its licensor.

Date of preparation: April 2019 PM-GBL-DLM-WCNT-190005

Paediatric European Network for Treatment of AIDS Treatment Guideline 2016 update: antiretroviral therapy recommended for all children living with HIV

C Foster,¹ A Bamford,² A Turkova,³ S Welch⁴ and N Klein^{2,5} On behalf of the PENTA Guidelines Writing Group and PENTA steering committee

¹*The Family Clinic, Imperial College NHS Trust, London, UK,* ²*Paediatric Infectious Diseases, Great Ormond Street Hospital, London, UK,* ³*MRC Clinical Trials Unit, London, UK,* ⁴*Paediatrics, Birmingham Heartlands Hospital, Birmingham, UK* and ⁵*Institute of Child Health, London, UK*

The PENTA Steering committee now recommends antiretroviral therapy (ART) for all children and adolescents living with HIV. Priority should be given to infants and children under 3 years of age, to adolescents, and to children with symptoms and/or low age-specific CD4 counts.

The 2015 PENTA guideline recommended considering ART for all children diagnosed before their third birthday, with CD4 count guided thresholds for older children [1]. Following the results of the START - Strategic Timing of AntiRetroviral Treatment study, World Health Organization (WHO), US and European guidelines now recommend treatment for all HIV-infected adults and adolescents irrespective of CD4 count. Such recommendations take into account the benefits of universal treatment in reducing onward transmission, including mother-to-child transmission. WHO paediatric guidelines recommend treatment for all children, with prioritization of children under 5 years old and those with symptoms or low CD4 counts.

The Children with HIV Early Antiretroviral Therapy (CHER) study provided strong randomized controlled trial (RCT) evidence for early treatment of all infants. RCT evidence for the benefit of ART for children aged 1–10 years with good CD4 counts is lacking. Previous PENTA guidelines extended the recommendation for all children under 3 years because of the potential for rapid disease progression at higher CD4 counts [1]. Universal

treatment for all adolescents (WHO definition 10–19 years) can now be recommended based on extrapolation of adult START data and in prevention of onward transmission to partners as this population becomes sexually active. There is no equivalent to START data on short- to medium-term benefits of early ART in younger children, where there is no additional benefit of prevention of onward transmission.

We recognize that, in the absence of RCT data, there are potential concerns about the earlier start of lifelong ART in children, with insufficient data on cumulative toxicity and concerns regarding adherence because of poor palatability and limited combination paediatric formulations. However, there is increasing evidence of the longer term benefits of early ART, including reduced mortality in low- and middle-income countries, improved neurodevelopmental, growth and pubertal outcomes, improved immune reconstitution and reduced inflammation and latent reservoir cohort data also demonstrate a reduced risk of virological failure when ART is started in childhood compared with adolescence [2–5].

On this basis, we now also conclude that all children should be started on ART. For children with good CD4 counts, time can be taken to address adherence and psychosocial issues, but discussion on starting treatment should be initiated soon after the diagnosis, and children not on ART closely monitored.

While concern about the additional cost of providing ART to all children in low- and middle-income settings may require individual countries to analyse the financial impact when changing national guidelines, in European cohorts more than 90% of diagnosed children are already on ART.

The potential benefits of ART outweigh the potential problems for children of all ages living with HIV. The time is now right to recommend ART for all children with HIV infection.

Correspondence: Caroline Foster, The Family Clinic, Imperial College NHS Trust, London, UK. Tel: 0207 8866349; fax: 020 7886 2045; e-mail: caroline.foster@imperial.nhs.uk

The copyright line for this article was changed on 01 September 2016 after original online publication.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

Appendix 1: PENTA guidelines writing group

Jintanat Anworanich, Alasdair Bamford, Diane Bastiaans, Stefania Bernardi, Rosa Bologna, David Burger, Alexandra Compagnucci, Elena Chiappini, Polly Clayden, Marinella Della Negra, Katja Doerholt, Catherine Dolfus, Albert Faye, Caroline Foster, Vania Giacomet, Marc Hainaut, Nigel Klein, Mark Lallemand, Hermione Lyall, Laura Marques, Diane Melvin, Eleni Nastouli, Tim Niehues, Ton Noguera, Jolanta Popielska, Filipa Prata, Pablo Rojo, Henriette Scherpbier, Delane Shingadia, Gareth Tudor-Williams, Anna Turkova, Steve Welch.

References

- 1 Bamford A, Turkova A, Lyall EGH, Foster C, Klein N, Welch S. on behalf of PENTA. Paediatric European Network for Treatment of AIDS (PENTA) guidelines for treatment of paediatric HIV-1 infection 2015: optimizing health in preparation for adult life. *HIV Med.* 2015 Feb 3. doi: 10.1111/hiv.12217. [Epub ahead of print].
- 2 Lewis J, Walker AS, Castro H *et al.* Age and CD4 count at initiation of antiretroviral therapy in HIV-infected children: effects on long-term T-cell reconstitution. *J Infect Dis* 2012; **205** : 548–556.
- 3 Schomaker M, Davies MA, Malateste K *et al.* Growth and mortality outcomes for different antiretroviral therapy initiation criteria in children aged 1–5 years: a causal modelling analysis. *Epidemiology* 2016 Mar; **27**: 237–246.
- 4 Montagnani C, Chiappini E, Bonsignori F *et al.* Long-term effect of highly active antiretroviral therapy on immunologic features in children. *Pediatr Infect Dis J* 2015; **34** (5 Suppl 1): S3–S6.
- 5 Goodall RL, Collins IJ, Child T *et al.* Durability of first-line antiretroviral therapy (ART) in children in the European Pregnancy and Paediatric HIV cohort collaboration (EPPICC). *8th IAS Conference on HIV Pathogenesis, Treatment and Prevention.* Vancouver, Canada, 19–22 July 2015 [Abstract TUPEB 304].