

Mini-Lecture Series

Evaluation and Management of Latent Tuberculosis Infection (LTBI): Recent Updates

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Latent TB Update: Outline

- Background
- New Preferred LTBI Regimens
- Alternative LTBI Regimens
- Summary





LTBI and HIV: Background



When should you screen for LTBI in people with HIV?



When to Screen Persons with HIV for LTBI

- Screen all persons at the time of HIV diagnosis
- If LTBI (-) and CD4 count <200, rescreen when CD4 count ≥200
- Screen annually if high risk for repeated or ongoing exposure*

*(e.g., during incarceration, travel to a high-TB incidence country, homelessness, living in a congregate setting).



How to screen for LTBI in people with HIV?

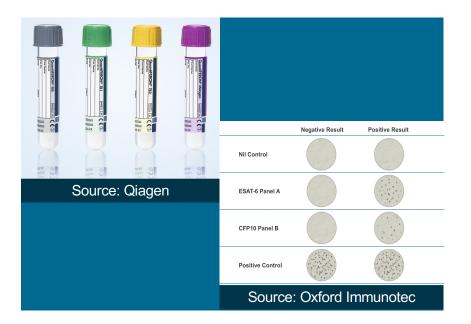


Screening for LTBI in Persons with HIV

Tuberculin Skin Test



Interferon-Gamma Release Assay





When should you treat LTBI in people with HIV?



Indication for Treating LTBI in People with HIV

• Positive LTBI screening test (TST or IGRA) AND

- -No evidence of active TB disease
- -No prior treatment for active disease or latent TB infection

Significant Exposure

 Recent exposure or close contact with a person with infectious TB, regardless of screening test result





LTBI Treatment in people with HIV: New Preferred Regimens



Preferred Treatment of LTBI in Persons with HIV

Old Recommendation	NEW Recommendation
 6H (Isoniazid* x 6 months) 9H (Isoniazid* x 9 months) 	 3HP (Isoniazid* + Rifapentine x 3 months) 3HR (Isoniazid* + Rifampin x 3 months)

*Pyridoxine is given with Isoniazid to prevent isoniazid-related neuropathy



Preferred Therapy for LTBI in Persons with HIV

3HP: Weekly Isoniazid* plus Rifapentine for 3 Months

- Dosing is weight-based.
- Recommended <u>only</u> if virally-suppressed <u>and</u> receiving ART regimen that has one of the following anchor drugs — efavirenz, raltegravir, or once daily dolutegravir.
- Tenofovir alafenamide with rifapentine is not recommended

• 3HR: Daily Isoniazid* plus Rifampin for 3 Months

 When using rifampin for LTBI treatment, either dose adjustment or substitution of antiretroviral medications may be needed

*Pyridoxine is given with isoniazid to prevent isoniazid-related neuropathy



STUDIES SUMMARY

- ^{1,2} Clinical trials of 3HP in persons with HIV, have demonstrated:
 - Equal efficacy and better tolerability compared to daily INH monotherapy
 - Better adherence and treatment completion compared to daily INH
- ³⁻⁵ Clinical trials of 3HR in persons with and without HIV, have demonstrated:
 - Comparable decreased risk of developing active TB compared to daily INH
 - Lower rates of hepatotoxicity compared to daily INH

Source:

- 1. Sterling TR, et al. AIDS. 2016;30:1607-15.
- 2. Churchyard G, Cárdenas V, Chihota V, et al. Ann Intern Med. 2021;174:1367-76.
- 3. Ena J, Valls V. Clin Infect Dis. 2005;40:670-6.
- 4. Rivero A, Lopez-Cortes L, Castillo R, et al. Enferm Infecc Microbiol Clin. 2007;25:305-10.
- 5. Whalen CC, Johnson JL, Okwera A, et al. N Engl J Med. 1997;337:801-8.





LTBI Treatment in people with HIV: Alternative Regimens



Alternative Therapy for LTBI in Persons with HIV

6H/9H: Daily Isoniazid* for 6 to 9 Months

- Fewer drug interactions with antiretroviral drugs compared to the rifamycins

• 4R: Daily Rifampin for 4 Months

 When using rifampin for LTBI treatment, either dose adjustment or substitution of antiretroviral medications may be needed

• 1HP: Daily Isoniazid* plus Rifapentine for 1 Month

- Rifapentine dosing is weight-based.
- Recommended <u>only</u> with ART regimen consisting of efavirenz combined with either tenofovir disoproxil fumarate-emtricitabine or abacavir-lamivudine

*Pyridoxine is given with isoniazid to prevent isoniazid-related neuropathy



LTBI: Summary

- All individuals with HIV should be screened for LTBI
- LTBI treatment is indicated for those with positive LTBI screening tests and/or recent exposure to active tuberculosis case
- Two newly recommended <u>preferred</u> regimens for LTBI treatment in persons with HIV:
 - 3HP: Weekly isoniazid plus pyridoxine plus rifapentine for 3 months
 - 3HR: Daily isoniazid plus pyridoxine plus rifampin for 3 months
- There are 3 alternative LTBI treatment regimens, if preferred regimens are not feasible
- When selecting LTBI treatment, consider drug interactions between the LTBI drugs, rifapentine and rifampin, with antiretroviral medications



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