

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 \geq 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











Source: CDC

Interferon-Gamma Release Assay



Source: Qiagen



	Negative Result	Positive Result
Nii Control		
ESAT-6 Panel A		
CFP10 Panel B		
Positive Control		

Source: Oxford Immunotec

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

- **6H** (Isoniazid* x 6 months)
- **9H** (Isoniazid* x 9 months)

NEW Recommendation

- **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 only if virally-suppressed and 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:

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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 only 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 preferred 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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