

# Tips for Treating Latent TB Infection in Children

Including Window Prophylaxis

## Who should be treated?

- ▶ **Children with latent tuberculosis (TB) infection (LTBI)** - where LTBI is defined as a positive TB screening test (tuberculin skin test [TST] or interferon gamma release assay [IGRA] blood test) and no evidence of active disease on chest x-ray (CXR) or physical exam.
- ▶ **Children in the window period after exposure** - Children <5 years old who have been in contact with an infectious adult or teen in the past 8 weeks and who have a negative TB screening test are still in the window period for test conversion. These children should have a physical exam and CXR. If there is no evidence of active disease, they should be treated with 'window prophylaxis' and retested 8-10 weeks after the break in contact with the infectious source.
- ▶ **Children who are in contact with a source that has drug resistance** - Whether the infectious source has multidrug-resistant (MDR) or other drug resistant TB, children who are exposed or infected should be treated in consultation with an expert in tuberculosis.

## What are the treatment regimens?



- ▶ **3HP** - (isoniazid [INH] and rifapentine [RPT]) is approved for children  $\geq 2$  years of age. This regimen allows a child to be treated with only 12 weekly doses of medication.
- ▶ **4R** - (rifampin [RIF] daily for 4 months) is safe and effective for children that cannot take 3HP.
- ▶ **3HR** - (INH and RIF dosed daily for 3 months) though not used as commonly in the United States (US) as in the United Kingdom, is an effective short-course treatment regimen.
- ▶ **6H** - (INH dosed daily or twice weekly [BIW]) is effective, but the least desirable, as only 50% of patients are likely to complete the necessary 6 months course.
- ▶ Infants who are exclusively breastfed, pregnant teens and children with poor diets or who are immune suppressed should receive pyridoxine (Vitamin B6) 1-2 mg/kg with each dose of INH.

## What are helpful administration tips?

- ▶ To help with swallowing pills, children can practice by swallowing similarly sized candies.
- ▶ For children who cannot swallow pills, TB medications can be crushed (or capsules opened) and mixed with a small amount of food (syrup, applesauce, etc.).
- ▶ Mixing should be done immediately before dosing and discarded if not administered within 30 minutes of mixing.



## What are the monitoring recommendations?

- ▶ Medication doses should be adjusted based on weight change, if needed.
- ▶ Children tolerate treatment very well. Routine laboratory monitoring is not necessary unless the child takes other medications metabolized through the liver or has liver disease.
- ▶ Children taking other medications or who have underlying liver conditions should have a monthly CBC (complete blood count) as well as a metabolic panel that contains liver function tests (LFTs).
- ▶ Children with symptoms that suggest medication toxicity (e.g. recurrent vomiting, decreased appetite, abdominal pain) should have their LFTs checked.



# Treatment Regimens and Dosing Recommendations for Treating Children with LTBI (Including Window Prophylaxis)

LTBI Regimen	Number of Doses	< 2 years old	Age 2 - 11 years old	Age 12 - 17 years old	Maximum dosage
<b>3HP</b> Isoniazid (INH) Rifampin (RIF) Pyrazinamide (PZA)	12 doses once weekly	Not Approved	25 mg/kg	15 mg/kg	900 mg/dose
			10-14.0 kg 14.1-25.0 kg 25.1-32.0 kg 32.1-49.9 kg ≥ 50.0 kg	300 mg 450 mg 600 mg 750 mg 900 mg	900 mg/dose
<b>4R</b> Rifampin (RIF) Isoniazid (INH)	120 daily doses	20-30 mg/kg daily	10-20 mg/kg daily		600 mg daily
<b>3HR</b> Rifampin (RIF) + Isoniazid (INH)	90 daily doses				
		Rifampin (RIF) and Isoniazid (INH) dosages are the same as for monotherapy			
<b>6H</b> Isoniazid (INH) Rifampin (RIF)	130 daily or 52 twice weekly (BIW) doses		10-15 mg/kg daily or 20-30 mg/kg BIW		300 mg daily or 900 mg BIW

Centers for Disease Control and Prevention. (2014, October 10). TB in Children. Retrieved from <https://www.cdc.gov/tb/topic/populations/tbinchildren/default.htm>  
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