

Contact Investigation

Young children living in close contact with a source case of smear-positive pulmonary TB are at particular risk of TB infection and disease.

The risk of infection is greatest if the contact is close and prolonged such as the contact an infant or toddler has with a mother or other caregiver in the household and especially so if the index case is not treated.

The risk of developing disease after infection is much greater for infants and young children under 5 years of age, especially under 3 years. The main purposes of child contact screening are to

- Identify symptomatic children (e.g. children of any age with undiagnosed TB disease);
- Provide preventive therapy for susceptible individuals (e.g. asymptomatic children of <5 years of age in close contact with a bacteriologically confirmed pulmonary TB case)

Contact investigation among contacts must be conducted when the index TB patient has any of the following characteristics:

- 1) Bacteriologically Confirmed PTB
- 2) RR-TB, MDR-TB, XDR-TB
- 3) is a PLHIV
- 4) is a < 5 years old of age.

However, contact investigation should be conducted for all types of TB patient if resources and budget are available.

Steps in the Contact Investigation

Step 1	Identification of Risk group ➤ PLHIV ➤ Household contacts of Bacterial confirmed TB patients
Step 2	Rule out of TB: Symptoms screening ➤ In PLHIV with TB S/S • CXR and gene Xpert parallel ➤ In PLHIV without TB S/S • CXR • Followed by gene Xpert if there is abnormalities on CXR. ➤ In non-PLHIV household contacts • CXR • followed by gene Xpert if there is abnormalities on CXR *In household contact of MDRTB who have TB S/S → CXR and gene X pert parallel.
Step 3	If no TB detected, check for contraindication of TPT • Signs and symptoms of hepatitis • Peripheral neuropathy
Step 4	If no contraindication, initiate TPT regimen • 6 months of isoniazid daily (6H) or • 3 months of isoniazid plus rifapentine weekly (3HP)

Latent TB

- People with latent TB infection are infected with TB bacteria, but they do not have TB disease.
- However, if these bacteria become active and multiply, latent TB infection can develop into TB disease.
- Treating people with latent TB infection substantially reduces the risk that latent TB infection will progress to TB disease.

Latent TB treatment

Latent TB regime	6H:	3 HP:
	daily Isoniazid for 6 months (180 days)	weekly of (isoniazid + rifapentine) for 12 weeks
Pregnancy	Safe	Not known
Interaction with ART	No restriction	• Contraindicated with protease inhibitor, darunavir and nevirapine. • Potential interaction with TAF
Toxicity	• Hepatotoxicity • Peripheral neuropathy • Rash • GI upset	• Flu like syndrome • Hypersensitivity • GI upset • Hepatotoxicity (less)
Absorption	Best absorbed on empty stomach Up to 50% reduction in peak concentration with a fatty meal	Oral rifapentine bioavailability is 70%; peak concentration increased if given with a meal
Vit B6 prophylaxis	10-25mg/ day	25-50mg/week

Dosage for 6H regime

- <10 years of age: 10mg/kg/day (range 7-15mg)
- 10 years and above: 5mg/kg/day

Weight	2-3.9 kg	4-7.9 kg	8-11.9 kg	12-15.9 kg	16-24.9 kg	> 25kg
Isoniazid dosage for 6H regime	25mg	50 mg	100 mg	150 mg	200 mg	300 mg

Dosage for 3HP regime

Weight (in kg)		3 – 5.9 (<3mths)	3 – 5.9 (≥ 3mths)	6 – 9.9 (< 6mths)	6 – 9.9 (≥ 6mths)	10 - 14.9	15 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	≥ 50
Isoniazid	100 mg dt	0.6 mg (6ml)	0.7 mg (7 ml)	1	1.5	2.5	3	4.5	4.5	6	6	7.5	7.5	9
	300 mg tab						1	1.5	1.5	2	2	2.5	2.5	3
Rifapentine	150 mg dt	0.5 mg (5 ml)	0.7 mg (7 ml)	1.5	1.5	2	3	4	4	5	6	6	6	6
	300mg tab						1.5	2	2	2.5	3	3	3	3

Provision of TPT in special conditions

Condition	Remarks
Pregnancy and lactation	• 3HP is contraindicated in pregnancy and lactation. • Only 6H should be provided with close monitoring.

Patient taking OC pills	• If patient taking estrogen containing OC pills, Rifampicin/ Rifapentine reduce the efficacy of OC pills. • To change other contraceptive methods.
Liver disease	• TPT should not be provided in patients with acute hepatitis and end stage liver diseases. • TPT can be provided in chronic liver diseases (Hep B/Hep C) if there is no active inflammation.
Patient with renal failures	• TPT can be provided in patients with renal disease. • In patients taking 6H, Vit B6 should be given to lessen the side-effect of peripheral neuropathy.
People living with HIV (PLHIV)	• Rifampicin/ Rifapentine should not be provided in patients taking protease inhibitors or nevirapine. • In 3HP regimen, no dosage adjustment of DTG and EFV is needed.