

# TUBERCULIN SKIN TESTING IN CHILDREN AND ADOLESCENTS

Risk factors for tuberculosis exposure should be assessed for all children at each routine health care evaluation

## TARGETED TESTING

Only children with increased risk of infection and progression to active tuberculosis should be tested:

### IMMEDIATE TESTING

- Contacts of person with confirmed/suspected TB
- Clinical or radiographic evidence suggestive of TB disease
- Recent immigrants (within 5 years) from high-prevalence countries
- Travel history to high-prevalence countries or significant contact with indigenous persons from such countries

### ANNUAL TESTING

- HIV-infected children
- Incarcerated adolescents

### TEST EVERY 2 TO 3 YEARS

- Exposed to persons who are: HIV infected, homeless, residents of nursing homes, institutionalized, users of illicit drugs, incarcerated or migrant farm workers
- Foster children exposed to adults in above categories

### CONSIDER TESTING AT 4-6 AND 11-16 YEARS OF AGE

- Children whose parents or household contacts (with unknown tuberculin skin test status) immigrated from high-prevalence countries
- Children with continued potential exposure by travel to these countries

### TESTING NOTES

- Tuberculin skin tests (TST) should be placed and read only by trained healthcare professionals
- Administer 5 tuberculin units (0.1 ml) of purified protein derivative (PPD) intradermally—no multiple puncture tests
- TST can be administered on same day as live virus vaccines or 4 to 6 weeks later
- Previous immunization with bacille Calmette-Guérin (BCG) is NOT a contraindication to tuberculin testing. Therefore, children with risk factors and history of BCG vaccine should be tested

**NO RISK = NO TEST**

## INTERPRETATION

### ≥5 MM INDURATION IS POSITIVE IF:

- Immunocompromised (including HIV infection)
- Contact to an active TB case
- Radiographic or clinical evidence of active TB disease

### ≥10 MM INDURATION IS POSITIVE IF:

- Child younger than 4 years old
- Medical conditions (lymphoma, Hodgkin disease, diabetes mellitus, chronic renal failure or malnutrition)
- Child or parent from high-prevalence countries
- Frequent exposure to high-risk adults (HIV infected, users of illicit drugs, homeless, residents of nursing homes, institutionalized or incarcerated, or migrant farm workers)
- Travel to high-prevalence countries

### ≥15 MM INDURATION IS POSITIVE IF:

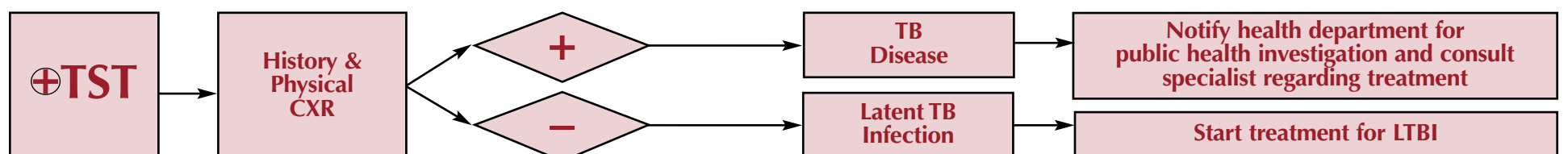
- Child ≥ 4 years of age without risk factors

### INTERPRETATION NOTES

- Measure only induration, not redness and record reaction in mm of induration (record absence of induration as 0 mm)
- Parents or patients should NOT be asked to read TSTs



## EVALUATION OF CHILDREN AND ADOLESCENTS WITH POSITIVE TST



**LATENT TUBERCULOSIS INFECTION (LTBI)** is characterized by:

- Positive tuberculin skin test (TST)
- No symptoms or physical findings suggestive of disease
- CXR – no evidence of active tuberculosis

## TREATMENT OF LATENT TUBERCULOSIS INFECTION

Drug	Dose		Length of Treatment		Side Effects
	Daily	Intermittent*	Daily	Intermittent* (2x/week)	
<b>Isoniazid (INH)</b> 100, 300 mg scored tablet	10-15 mg/kg po max: 300 mg per dose	20-30 mg/kg po twice weekly max: 900 mg per dose	9 months (min: 270 doses within 12 months)	9 months (min: 76 doses within 12 months)	<ul style="list-style-type: none"> <li>• Hepatotoxicity—rare</li> <li>• Peripheral neuritis—rare</li> <li>• Interacts with common seizure medications—monitor closely</li> </ul>

\*Directly observed therapy must be used for all intermittent dosing

**ALTERNATE TREATMENT REGIMEN:** Rifampin at 10-20 mg/kg po daily for 6 months can be given in cases of INH intolerance or for contacts of patients with INH resistant TB. Drug sensitivities should always be checked when the source case is known. Rifampin will turn urine and other body fluids orange and may stain soft contacts. It may also affect levels of certain other drugs and cause oral contraceptives to be ineffective. Side effects include gastrointestinal upset and rarely, hepatotoxicity.

## MONITORING

- Monthly visits recommended to emphasize importance of adherence. Perform brief PE, weight check and monitor for general well being and side effects (anorexia, malaise, abdominal pain, rash, or paresthesias)
- Give only 1-month supply of medication at each visit
- Routine liver function tests are not indicated unless child has history of previous liver disease, is taking other potentially hepatotoxic drugs, or develops possible side effects
- Vitamin B6 is not routinely given except in pregnancy, breast feeding, meat and milk deficient diet, nutritional deficiency, and symptomatic HIV infection

## SPECIAL CONSIDERATIONS

Consider consultation with an expert in tuberculosis if child:

- Is HIV infected
- Is immunocompromised
- Has history of liver disease
- Does not tolerate INH or is contact of a patient with INH-resistant TB
- Has signs or symptoms of TB disease such as abnormal CXR, cough, weight loss, anorexia, or change in activity level