# Updated Guidelines for the Screening and Management of Tuberculosis in San Diego County 2017

**San Diego Pediatric TB Task Force**
Subcommittee on guidelines for the management of pediatric tuberculosis
American Academy of Pediatrics, CA Chapter 3 Infectious Disease Committee

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## I. Definitions

a. TB – tuberculosis. Caused by *Mycobacterium tuberculosis* complex organisms, including *M. tuberculosis* and *M. bovis*.
b. LTBI – latent tuberculosis infection
c. TST – tuberculin skin test
d. IGRA – interferon gamma release assay
e. DOT – directly observed therapy

## II. Background

Over the last decade, 6.5% of 2532 patients with tuberculosis disease in San Diego County were children under 15 years of age. Between 2010 and 2015, 70% of culture positive pediatric cases were caused by *Mycobacterium tuberculosis* and 30% by *Mycobacterium bovis*. *M. tuberculosis* is usually acquired via aerosolized transmission from an infected adult. *M. bovis* infection is acquired mainly via ingestion of unpasteurized dairy products, although aerosolized transmission from an infected person has been documented.

Risk factors for TB infection include:

a. Foreign birth in countries where TB is endemic, including Eastern Europe, Asia, Africa, South and Central America, including Mexico;
b. Travel to countries where TB is endemic;
c. Contact with persons born in or traveling to countries where TB is endemic;
d. Immunosuppressive conditions or medications;
e. Contact with persons at risk for tuberculosis including incarceration, homelessness, HIV infection; and
f. Ingestion of unpasteurized dairy products produced outside of the United States.

## III. Diagnosis and treatment for latent TB infection (LTBI)

### A. Definition of LTBI.

**Latent tuberculous infection (LTBI)** is defined by a positive TST or IGRA in a person who has no evidence of active TB disease by physical exam and by imaging, usually a chest radiograph (CXR). The CXR may be normal or may reveal isolated granulomas or calcifications in the lung and/or regional lymph nodes, which are minimal and/or stable. Latent *M. bovis* infection may be suspected in children who have had imaging of the abdomen (KUB or abdominal CT) that demonstrates calcified lymph nodes with no associated active adenopathy or bowel involvement. LTBI is the currently preferred term for tuberculous infection without symptomatic disease.

### B. Tests for LTBI

#### 1. TB skin test (TST)

The only TST recommended for use in the US is the Mantoux test containing 5 tuberculin units (TU) of purified protein derivative (PPD). It is administered intradermally, and must be read by a trained health professional at 48-72 hours.

Results of a skin test should always be documented in millimeters (mm) of induration, regardless of whether the result is considered positive or negative. Documenting a TST only as "positive" or "negative" is discouraged, but is helpful if used in conjunction with the mm reading.

Prior BCG vaccination does not alter criteria for interpretation of the TST.

Depending on underlying disease and risk factors for infection, a positive TST is defined as:

a. **≥5 mm induration**
- Children on immunosuppressive therapy (eg. prednisone 2 mg/kg/day ≥ 2 weeks) or with an immunocompromising condition, including HIV
- Close contact of known or suspect active TB case
- Children with suspect active tuberculosis (a 0mm TST does NOT rule out active TB)
- Patients with fibrotic changes on chest x-ray suggestive of old TB disease

b. **≥10 mm induration**
- Children at increased risk of dissemination
  - Children < 4 years
  - Children with underlying chronic medical condition (ie. diabetes, end-stage renal disease)
- Children at increased risk of exposure*
- Born in/travel to or exposure to adults born in high risk areas
- Exposure to adults with risk factors for TB (homeless, HIV infected, illicit drug use, institutionalized, incarcerated, nursing home, migrant farm worker)

*__The California TB Controllers Association assumes a TST induration of 10 mm as positive for any person living in California (California Department of Health Services/CTCA Joint Guidelines 1997).__

c. **≥ 15 mm induration**
- Children with no risk factors for tuberculosis

**2. Interferon gamma release assay (IGRA)**

IGRAs are blood tests that reflect an individual's T cell lymphocyte immune response to purified TB proteins in a test tube assay, by measuring Interferon gamma (IFNɣ) production following exposure of the individual's lymphocytes to these specific purified proteins. There are 2 commercially available IGRAs: QuantiFERON® Gold In Tube (Cellestis) and T SPOT®.*TB* (Oxford Immunotec).

Like TSTs, positive IGRAs indicate TB infection but do not discriminate between LTBI and active tuberculosis disease. Data from adults and older children show that compared to the Mantoux TST, IGRAs have similar sensitivity but improved specificity since the TB antigens used to stimulate an immune response are not present in BCG or most non-tuberculous mycobacteria. *M. bovis* infection is detectable with IGRAs. Fewer data on the sensitivity and specificity of IGRAs are available for young children under 5 years of age. Both TST and IGRAs are less reliable in young children compared with

older children and adults, and in particular, a negative IGRA does not always rule out tuberculosis infection.

IGRAs may give indeterminate (QuantiFERON®) or invalid (T SPOT®.*TB*) results if there is either high background IFNɣ or lack of mitogen ("control") response. Tests with indeterminate or invalid results do not support the presence or absence of TB infection.

Neither TST nor IGRAs results are definitive, and false positive and false negative results have been reported with both tests.

The current Centers for Disease Control and Prevention (CDC) recommendations for adults include:

- IGRAs can be used in place of (but not in addition to) TST in all situations in which TST is used as an aid in diagnosing *M. tuberculosis* infection. This includes contact investigations. Despite the indication of a preference (below), use of the alternative test (FDA-approved IGRA or TST) is acceptable medical and public health practice.
- Populations in which IGRAs are preferred for testing:
    - Persons who have received BCG (either as a vaccine or for cancer therapy); and
    - Persons from groups that historically have poor rates of return for TST reading.

**3. TST vs. IGRA**: TST and IGRAs are acceptable for use in children >5 years of age. TST is preferred over IGRAs for testing children less than 2 years of age. For children between 2- 5 years of age, an IGRA may be considered in patients with risk factors for false positive TST tests including patients with previous BCG vaccination and those with suspected non tuberculous mycobacterial infections. Please consult with a physician knowledgeable about tuberculosis before obtaining the IGRA in children under age 2 years.

Concurrent vaccinations: Measles vaccine can temporarily suppress a TST response. Although not specifically studied with other live virus vaccines and with IGRAs, it is recommended that tuberculosis testing by either TST or IGRA be done concurrent with live virus vaccine administration or at least 4 weeks after the vaccine has been given.

C. **Targeted testing for LTBI based on risk factors*** (adapted from 2015 Red Book).

1. Immediate TST or IGRA testing is recommended for:
    - Contacts of active TB cases
    - Childen with suspected active TB disease (negative test does not rule out active disease)
    - Immigrants from TB endemic countries
    - Patients with extended travel (> 3 weeks) to endemic countries or close contact with persons indigenous to endemic countries (it may take up to 12 weeks following the last exposure for a test to become positive)

- Children with a history of ingestion of unpasteurized milk or cheese at any time since birth
- Children being considered for immunosuppressive therapy including prolonged steroid and monoclonal antibody anti-inflammatory therapy (eg, TNF antagonists, anti-interleukins).
- Children who have been incarcerated, homeless, living in congregate settings, or exposed to high risk adults

2. Ongoing monitoring (if no documentation of prior positive TST)
   a. Annual testing recommended for:
      - HIV infected patient
      - Incarcerated adolescent

   b. Testing every 2-3 years
      - Exposure to adults with risk factors for TB (homeless, illicit drug use etc.)
      - Children with ongoing risk factors for TB exposure (e.g. frequent or extended travel to a TB endemic country including Mexico, ingestion of unpasteurized milk/cheese) especially patients with chronic disease

   c. While routine skin testing at 12 months of age is not routinely recommended for children in the United States (Red Book 2015), the incidence of tuberculosis is higher in San Diego than in many parts of the United States. It is, therefore, reasonable to test infants from families that have significant risk factors, or exposure to these high risk populations. Disseminated TB and meningitis are most common in preschool aged children.

   d. Screening is recommended at the preadolescent (11-12 year) visit for children with any TB risk factor during their lifetime.

3. Rule out active tuberculosis. Any child with a positive TST or IGRA should be evaluated for signs and symptoms of active tuberculosis prior to LTBI therapy being initiated. Providing single drug therapy to a child who proves to have active TB disease can lead to drug resistance and complicate subsequent therapy.
   a. If specimens for AFB culture have been obtained from an asymptomatic child with a family that has easy access to medical care, it is reasonable to await the final culture report (4-8 weeks) prior to starting treatment. Young children often have low bacterial loads and extrapulmonary TB disease makes recovery of organisms less successful than in adult patients. Cultures may be negative despite findings of active TB disease. Expert consultation is recommended if the diagnosis of LTBI vs. active disease is unclear.
   b. Minimal evaluation for tuberculosis disease should include a physical exam and CXR PA and lateral (if inconclusive, CT or MRI of the chest can better define the presence and extent of hilar adenopathy.)
   c. For children with history of unpasteurized dairy product ingestion (milk or cheese produced outside of the United States) *M. bovis* may be responsible for the positive test. At present, routine use of computed tomography of the

abdomen with contrast, is not recommended due to radiation risks and cost, and MRI with contrast is not recommended due to cost, in asymptomatic children with a positive TST or IGRA. However, either should be considered for children with symptoms compatible with abdominal tuberculosis.

***See appendix for list of suggested screening questions.***

## D. Treatment of LTBI

1. One of the following drug treatment regimens:
   a. Isoniazid (INH), 10-15 mg/kg/d (maximum dose of 300 mg), given daily for 9 months. A twice a week regimen is acceptable with INH 20-30 mg/kg/day (maximum dose 900 mg) if given via directly observed therapy. Children with immunosuppressive conditions including HIV infection or on immunosuppressive medications including steroid and monoclonal antibody anti-inflammatory therapy (eg, TNF antagonists) should be treated daily for at least 9 months.

   b. Rifampin (RIF) 10/kg/day (max dose 600/day) for 4 months. This regimen may be used to improve treatment completion, and for patients intolerant to INH or suspected of contact to an INH-resistant source case.

   c. Rifapentine in combination with INH x 12 once/weekly doses is an acceptable alternative in patients $\geq$2 years of age. Current recommendations are to use this regimen with directly observed therapy (DOT) for each dose.
      1. Rifapentine weight based dosing recommendations (5):
         i. 10-14 kg – 300 mg
         ii. 14.1-25 kg – 450 mg
         iii. 25.1-32 kg – 600 mg
         iv. 32.1-49.9 kg - 750 mg
         v. $\geq$ 50 kg – 900 mg (max)
      2. Isoniazid 15 mg/kg (max 900 mg)(5)

2. Routine monitoring of serum transaminases for INH or Rifampin therapy alone is not recommended unless the patient has underlying liver disease, is HIV+, or clinical symptoms develop. (see below treatment of active TB disease)

3. Levofloxacin may be considered for those with significant liver disease as assessed by liver transaminases. A physician knowledgeable in tuberculosis should be involved in this decision to assess the risks and benefits of fluoroquinolone therapy.

## E. Management of contacts of active TB cases

a. Any child (<4 years) who is a close contact of an adult with active pulmonary TB should be evaluated for LTBI and/or TB disease.

- Diagnostic work up should include:
  - Physical exam
  - TST(positive if $\geq$ 5 mm induration) or IGRA
  - CXR: PA and lateral

b. Therapy for LTBI should be started if:

- TST/IGRA is positive (CXR negative and no other evidence of active TB disease)
- TST/IGRA is negative but the patient is < 4 years or immunocompromised. "Window period" prophylaxis (eg, the period between a bona fide infectious exposure and development of a positive TST or IGRA, up to 12 weeks) should be provided and TST or IGRA repeated 12 weeks after the last exposure to the infectious case. Therapy may be discontinued if the TST or IGRA remains negative, as this documents a lack of infection. If the TST or IGRA is positive, therapy should continue to complete a full course of LTBI therapy. In the asymptomatic child, additional evaluation to assess for active disease is not required.
- Children under 6 months of age may have reduced ability to respond to an IGRA or TST, and thus treatment should continue until a child is at least 4 months of age and TST is negative. For those with a close exposure to TB (e.g., household member with cavitary TB), a second TST at 12 months of age will be helpful to validate lack of infection in this age group at highest risk of dissemination.

c. Infants born to mothers with active pulmonary tuberculosis.

i. In utero transmission of tuberculosis from pregnant women with active tuberculosis is rare. Transmission is more likely to occur postnatally from face-to-face contact between a mother with active pulmonary tuberculosis and her infant.

ii. Infants born to mothers with active pulmonary tuberculosis:

- Infants should be separated from mothers after delivery until mother is determined to be non contagious or appropriate measures are in place to protect the infant (maternal N95 mask, treatment of mother, treatment of infant). Additional details can be found in the AAP Redbook.
- The placenta should be sent for histopathology review, AFB stain and culture. Gastric aspirate and blood from the infant may also be sent if infection is suspected.
- Congenital tuberculosis most often presents with hepatic (reticuloendothelial system) infection as a consequence of transmission through umbilical vessels to the fetal circulation. Evaluation for physical and laboratory signs of hepatitis should be conducted. Advice from a physician knowledgeable in tuberculosis should be obtained.
- The infant should be started on isoniazid (or rifampin depending on knowledge of maternal isolate susceptibility testing) until follow up testing by TST in 12 weeks or when the infant is 4 months old whichever is later.

d. Review drug susceptibilities of the source case (active disease case that the child was exposed to) in order to guide the choice of the most appropriate LTBI regimen. TB Control will have this information for all active cases within San Diego County, and can quickly retrieve this information for any active case diagnosed in the US and often for other countries including Mexico. Susceptibility results may not be available for the source case for 3-6 weeks after diagnosis. In most cases, INH or Rifampin may be

used while awaiting results. Consultation with an expert in the treatment of TB is recommended to treat suspect or documented infection with drug resistant organisms.

## IV. Diagnosis and treatment for tuberculosis (TB) disease

### A. Definition of TB disease

Tuberculosis disease is defined by the presence of signs, symptoms, and/or radiographic findings caused by MTB complex (*M. tuberculosis or M. bovis)*. Disease may be pulmonary or extra pulmonary (e.g. lymph node, central nervous system [CNS], bone or joint disease) or both.

### B. Diagnosis of TB disease

The diagnostic work up for TB disease in children is tailored to the organ system most likely affected. Efforts should be made to collect clinical samples for AFB smear, histopathology, special stains, and AFB culture to assure confirmation of diagnosis and drug susceptibility. Nucleic acid amplification tests (NAAT) including polymerase chain reaction (PCR) and other methodologies are available but the sensitivity and specificity for TB have not been well defined outside of respiratory specimens, and to date none are FDA licensed for non-respiratory sites (consultation with an expert is recommended prior to ordering these tests). Diagnostic tests to consider include but are not limited to the following:

1. Pulmonary TB
   - CXR (PA & lateral views)
   - Early am gastric aspirates or bronchoscopy fluid (< 12 years or unable to
   - produce sputum)*
   - Sputum samples or bronchoscopy fluid (≥ 12 years or younger if able to
   - produce sputum)*

2. TB meningitis
   - Cerebrospinal fluid should be sent for cell count, protein, glucose, MTB PCR, and AFB smear and culture*
   - MRI brain with contrast (preferred) or CT scan of the head with contrast

3. Abdominal TB
   - CT scan or MRI of abdomen with contrast
   - Biopsy of mass/peritoneum/mesenteric lymph node*

4. TB osteomyelitis
   - CT or MRI with contrast of affected site
   - Biopsy of affected site*

5. TB adenitis
   - Excisional biopsy or a fine needle aspirate (FNA) of the mass (excisional biopsy is preferred however in the era of effective therapy for TB, a needle aspirate is not contraindicated for fear of a chronic draining sinus tract infection) *

* All specimens should be sent for AFB smear and culture and susceptibility testing. Histopathology should be ordered when applicable. Nucleic acid amplification testing can also

be considered on certain samples. Specimens should be collected before treatment is initiated.

6. In addition, all children evaluated for TB disease require a CXR to rule out pulmonary disease and possible contagiousness, regardless of other non pulmonary disease. For children under 10 years of age, a simple pulmonary infiltrate has **not** been found to be a risk factor for shedding of organisms or contagiousness, in contrast to cavitary disease or endobronchial infection that are considered contagious.

7. For all children under 24 months of age with active tuberculosis, a spinal tap should be considered to rule out meningitis as early meningitis may not result in neurologic changes detectable on physical examination.

## C. Treatment of TB disease

TB disease requires a multidrug treatment regimen**.** Drug selection is dependent on drug susceptibility seen in the area that TB is or was likely acquired, disease burden, and exposure to previous TB medications. Therapeutic choices are **best** made according to the drug susceptibility of the organism cultured from the patient.

In San Diego County 2009-2013, 9.7% INH resistance and 0.9% multi-drug resistance were reported from clinical isolates of *M. tuberculosis.* Between 2010 and 2015 there were 5 cases of INH resistant tuberculosis in patients 0-18 years of age. All cases of INH-resistant tuberculosis were in patients with *M. tuberculosis* infection. A 4-drug regimen of isoniazid, rifampin, pyrazinamide (PZA) and ethambutol, should be considered for empiric therapy of suspected *M. tuberculosis* disease unless the source case is known to have a pansusceptible isolate or there are no risk factors for drug resistance.

In San Diego, cervical adenitis and abdominal TB in young children are more likely caused by the *M. bovis* species. All *M. bovis* isolates are intrinsically resistant to pyrazinamide, although rates of resistance to other drugs are found to be lower. Because PZA resistance precludes short course (6-month) therapy, a 9-month course of INH and Rifampin is the recommended regimen if *M. bovis* infection is suspected. Ethambutol may be added as part of empiric therapy until cultures are back if there are risk factors (e.g., prior TB therapy) for resistance. If no history of unpasteurized dairy product ingestion is obtained, then treatment for *M. tuberculosis* infection is recommended while cultures are underway.

Directly Observed Therapy (DOT) is treatment in which the ingestion of most doses are monitored by a trained health care worker or trained third party (not a relative or friend) to document doses of medication given. DOT is extremely important to assure adherence and to avoid subsequent emergence of drug resistance. In San Diego, the TB Control Branch recommends DOT for all children with active TB disease and the program will assign health care workers to provide DOT for all active TB cases. If the child is school-aged, medications can be provided in the school setting. The TB Control Branch will work with you to arrange school-based DOT.

1. Pulmonary TB:

- INH, RIF, Ethambutol, PZA daily x 2 mo, followed by INH, RIF daily x 4 months or INH, RIF, Ethambutol, PZA daily x 2 mo, followed by INH & RIF twice a week x 4 months.

  Twice weekly therapy is usually started after 2 months of daily therapy, but may be started as early as two weeks into treatment. All intermittent dosing should be given by DOT.

  Note: Twice a week INH and rifampin regimens are not recommended for persons with HIV infection or those with immune compromise.

- Add ethambutol (EMB) daily unless drug resistance is considered unlikely or is already ruled out. A four drug regimen should be the initial choice in all adolescents, children with prior anti-TB drug exposure, and children with large disease burdens. In a pre-adolescent child with minimal disease, empiric therapy with 3 drugs may be sufficient if the likelihood of drug-resistant TB in the child or identified source case is considered low or has been ruled out.

- If *M. bovis* disease is proven, the treatment recommendation is INH, RIF daily x 9 months. Ethambutol should be added in the same situations for drug resistance coverage as noted above. (Biweekly therapy with DOT may be considered as noted above).

- In patients with pulmonary TB, repeat CXR should be considered 2-3 months into therapy to help evaluate response to therapy.

2. Cervical adenopathy: (see pulmonary tuberculosis)

3. Abdominal TB: (see pulmonary tuberculosis)

4. Other extra-pulmonary TB, including meningitis/disseminated TB/bone and joint disease:
   INH, RIF, PZA, Streptomycin (or EMB) daily x 2 months then INH, RIF daily x 7-10 months.

   or

   INH, RIF, PZA, Streptomycin (or EMB) daily x 2 months, followed by 7-10 months of INH & RIF biweekly via DOT may be considered for non central nervous system disease but there are limited data on biweekly therapy for meningitis.

Steroids are indicated as part of the treatment of TB meningitis, endobronchial TB with severe airway compromise or airway collapse distal to the obstructing lymph node, or abdominal tuberculosis. For meningitis, prednisone 1-2 mg/kg or dexamethasone equivalent 0.6 mg/kg/day are administered for the first 3-4 weeks followed by a taper over 3-4 weeks depending on the patient's clinical course. Little prospective, controlled data are available in children for steroid adjunctive therapy in tuberculosis disease.

Table 1. Commonly Used Agents for Treatment of Tuberculosis in Pediatric Patients

| Drug | Dosage forms | Daily dose (mg/kg/day) | Biweekly dose (mg/kg/dose) |
|---|---|---|---|
| Isoniazid (INH) | Tablets (100 mg, 300 mg), elixir (10 mg/ml) | 10-15 (max 300) | 20-30 (max 900) |
| Rifampin (RIF) | Capsules (150 mg, 300 mg), liquid can be made from capsules | 10-20 (600) | 10-20 (600) |
| Pyrazinamide (PZA) | Tablets (500 mg) | 15-30 (2g) | 40-50 (2 g) |
| Ethambutol*(EMB) | Tablets (100 mg, 400 mg) | 15-25 (2.5 g) | 50 (2.5 g) |
| Streptomycin | vials | 20-40 (1 g) | 20 (1 g)<br>20 |

* Ethambutol dosing is recommended to start at 15 mg/kg/day unless bactericidal activity is felt to be necessary.

**D. Monitoring of drug toxicity**

Baseline and routine (monthly) monitoring of serum transaminases and bilirubin are recommended for:

1. Severe TB disease
2. Pregnancy/post partum
3. Clinical symptoms of hepatotoxicity
4. Underlying hepatic disease
5. Use of other hepatotoxic drugs (especially anticonvulsants)
6. HIV infection
7. Obese children with hepatic steatosis

Routine testing of serum transaminases is not necessary in healthy children with none of the above risk factors. However, families should be educated on the symptoms of hepatotoxicity so that children can be brought to medical attention if symptoms of prolonged malaise and vague abdominal pain occur. Most cases of hepatotoxicity occur during the first months of therapy. Some experts recommend monitoring children treated with ethambutol for visual acuity and color discrimination

**E. Principles of antituberculous management**

1. Contact San Diego County (SDC) TB Control at 619-692-8610 (see forms and website at: http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs/tuberculosis_control_program/reporting.html) to report suspected cases of active tuberculosis within 24 hours of suspicion (required by California Health and Safety Code Section 121365) to facilitate contact investigation and treatment. Children diagnosed in a hospital may not be discharged until the patient's follow up management plan is approved by TB Control (required by Health and Safety Code Section 121361). Suspicion can be defined as whenever TB is a significant consideration in a differential diagnosis, and always

includes situations where treatment for active disease is started or when a child is kept out of school while awaiting TB lab results. Children ≤ 2 years of age with a positive TST or IGRA and no history of BCG vaccination should also be reported to the SDC TB Control. Asymptomatic children >2 years with a positive TST or IGRA and negative CXR do not need to be reported to SDC TB Control.

2. Do not start LTBI therapy until active disease has been excluded.

3. Achieve sterilization of the TB lesion in shortest time by starting an adequate regimen for all active TB cases.

4. DOT is recommended for treatment of active disease.

5. Persons with suspected or documented *M. tuberculosis* disease should be tested for HIV infection.

6. Drug resistance should be considered. Four drug initial therapy should be used for patients who are from populations with a high risk for resistant organisms including those with a source case with or at risk for drug resistance, adolescents, and all children with extensive initial disease, disseminated or central nervous system disease. Expert consultation should be sought before therapy initiation if the provider is unfamiliar with treatment of TB disease in children.

7. For any drug resistant organism, consultation with an expert in treatment of tuberculosis is recommended. Treatment with two oral and one injectable drug to which the organism is susceptible is the minimum acceptable regimen. Additional drugs are needed in the initial phase until cultures and susceptibilities are available and in order to assure the regimen is adequate.

8. If the infecting organism is likely to be INH resistant, a 4-month rifampin regimen is recommended (2015 Red Book).

9. Never add a single drug to a failing regimen. Seek expert consultation if a patient appears to be failing their TB regimen.

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# Appendix

# Questions for Tuberculosis Risk Assessment

1. Has a family member or other person who has contact with your child had tuberculosis disease?
2. Has your child or any family member had a positive test for TB?
3. Was your child born in a high-risk country (countries other than the United States, Canada, Australia, New Zealand, or located in Western or North Europe)? *Specifically mention Mexico.*
4. Has your child traveled to a high-risk country for more than 3 weeks?
5. Has your child ever consumed unpasteurized milk or cheese?
6. Has your child had close contact with someone who is homeless, abused drugs, or was incarcerated (recently in jail or prison)?

***TST or IGRA is indicated if the answer to anyone one of these questions is yes*.***

***Note to Provider:***
**Unless our patient has already received appropriate prophylactic for a positive PPD.**

*AAP-CA3 Infectious Disease Committee, 3/2017 updated Guidelines for Screening and Management of Tuberculosis in Children Living in San Diego County*

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