

Special considerations for young children

Children less than 5 years of age exposed to an infectious case of TB should receive TB testing and a full medical evaluation. An IGRA may be used in children 2 years of age and older. Regardless of the IGRA or TST result, a chest x-ray should be done to rule out active TB disease.

Children less than 5 years of age exposed to an infectious case of TB typically receive window prophylaxis treatment to prevent an early yet undetectable TB infection from rapidly developing into TB disease. Children less than 2 years of age are significantly more likely than adolescents or adults to progress to active TB disease after infection and to develop life-threatening TB disease such as TB meningitis or disseminated TB.

Clinicians evaluating children for TB infection or active TB disease are strongly encouraged to contact the TB Program at 717-787-6267 to request a medical consultation with the state pediatric TB consultant.

Avoid testing children at low risk

Routine testing of children without risk factors is not recommended and may result in unnecessary evaluations and treatment because of falsely positive test results.

Mandated testing

Certain populations may be mandated for testing by statute, regulation, or policy. This risk assessment does not supersede any mandated testing for students, residents in congregate settings and others. Testing can also be considered in children with frequent exposure to adults at high risk of TB infection, such as those with extensive foreign travel in areas with high TB rates.

Patients with TB infection should be treated

Children with risk factors who test positive for TB infection should be treated once active TB disease has been ruled out with a physical exam, chest x-ray and – if indicated – sputum smears, cultures and nucleic acid amplification testing (NAAT). However, clinicians should not feel compelled to treat children who have no risk factors but test positive for TB infection.

When to repeat a risk assessment and testing

Risk assessments should be completed for new pediatric patients, children thought to have new potential exposures to TB since the last assessment, and during routine pediatric well-child visits. Repeat risk

assessments should be based on the activities and risk factors specific to the child. Children who volunteer or work in health care settings might require annual testing and should be considered separately.

Retesting should only be done in children who previously tested negative and have new risk factors since the last assessment (unless they were less than 6 months of age at the time of testing). In general, new risk factors would include new close contact with an infectious TB case, new immunosuppression, a close family member with a newly positive TB test result, or even foreign travel (see “Foreign Travel or Residence”).

Immunosuppression

The exact level of immunosuppression that predisposes to increased risk for TB progression is unknown. The threshold of steroid dose and duration used in the Pediatric TB Risk Assessment are based on data in adults and in accordance with recommendations by the Advisory Committee on Immunization Practices (ACIP) for live vaccines in children receiving immunosuppression.

Foreign travel or residence

Travel or residence in countries with an elevated TB rate may increase the risk for TB exposure in certain circumstances (e.g., extended duration, likely contact with persons with infectious TB, high prevalence of TB in travel location, non-tourist travel). The duration of at least one consecutive month to trigger testing is intended to identify travel or residence most likely to involve TB exposure. TB screening tests can be falsely negative within eight weeks after exposure, so results are best obtained 8 weeks after a child’s return.

IGRA preference in non-U.S. born children 2 years of age or older

Because IGRAs have increased specificity for TB infection in children vaccinated with BCG, an IGRA is preferred over the tuberculin skin test (TST) for non-U.S. born children 2 years of age and older. IGRAs can be used in children less than 2 years of age, but there is an overall lack of data in this age group, which complicates the interpretation of test results. In BCG vaccinated immunocompetent children with a positive TST, it may be appropriate to confirm a positive TST with an IGRA. If an IGRA is not done the TST result should be considered the definitive result.

A negative test for TB does not rule out active TB disease

It is important to remember that a negative IGRA or TST result does not rule out active TB disease. A negative IGRA or TST in a patient with active TB disease can be a sign of extensive disease. Any suspicion for active TB disease or extensive exposure to TB should prompt an evaluation for active TB disease, including physical exam, symptom review, and two-view chest x-ray.

Emphasis on short course treatment of TB infection

Shorter regimens for treating TB infection have been shown to be as effective as 9 months of isoniazid and are more likely to be completed. Use of these shorter regimens is preferred in most patients, although the 12-week regimen is not recommended for children less than 2 years of age or children on antiretroviral medications. Drug-drug interactions and contact to drug-resistant TB are other contra-indications for shorter regimens. Additional studies are needed to understand the safety of 3HP in pregnancy.

Shorter duration treatment regimens

Medication	Frequency	Duration
Isoniazid + rifapentine (3HP)	Weekly	12 weeks ¹
Rifampin	Daily	4 months ²

¹ 11-12 doses must be taken in 16 weeks for treatment completion

² 120 doses must be completed in 6 months for treatment completion

Current recommendations concerning the administration of 3HP are available at www.health.pa.gov on the tuberculosis program page for health care providers.

Refusal of recommended TB infection treatment

Refusal should be documented. Recommendations for treatment should be made at future encounters with medical services. If treatment is later accepted, TB disease should be excluded, and a chest x-ray

repeated if it has been more than six months from the initial evaluation for children 5 years of age and older and three months for children less than 5 years of age.

Symptoms that should trigger evaluation for active TB disease

Patients with any of the following symptoms that are otherwise unexplained should be evaluated for active TB disease: cough for more than two to three weeks, fever, night sweats, weight loss, lymphadenopathy, hemoptysis or excessive fatigue.

Resources

Fact sheets for the TB infection regimens 3HP, rifampin alone and isoniazid alone are available at: <https://www.cdc.gov/tb/topic/treatment/lbti.htm>

Information about the American Academy of Pediatrics recommendation to use an IGRA to test children 2 years of age and older is available at:

<https://redbook.solutions.aap.org/chapter.aspx?sectionid=189640207&bookid=2205>