

# Public Health Message to Providers

Between January 2013 and January 2015, the New Jersey Department of Health statewide tuberculosis (TB) surveillance observed seven cases of TB meningitis in children younger than five years of age. These cases were geographically dispersed throughout the state and there were no epidemiologic links between case-patients aside from two siblings residing in the same home. All seven children are U.S. - born with foreign-born parents, and six of the seven parents are from countries where TB is endemic\*. Additionally, all children were seen on multiple occasions by private pediatricians and ER physicians with worsening respiratory symptoms, abnormal chest radiographs, fever, decreased appetite, lethargy, and behavior changes. The delay in the diagnosis of pulmonary TB resulted in the spread to the meninges resulting in seizures, hydrocephalus, and multiple cerebral infarcts. Contact investigations following the diagnosis of each child found adults living in the same household also had prolonged respiratory symptoms, were seen on multiple occasions by primary care physicians, and were later diagnosed with pulmonary TB.

Pulmonary TB and TB meningitis in children are difficult to diagnose. The onset of symptoms progresses gradually over a period of weeks and the tuberculin skin test is negative in approximately half of the cases. Pulmonary disease and associated intrathoracic adenopathy is the most common presentation of TB in children. Common symptoms of are often nonspecific:

- Chronic, unremitting cough that is not improving and present for >3 weeks
- Fever >100.4° for at least 2 weeks, other common causes excluded
- Weight loss or failure to thrive (based on growth chart)
- Infants are more likely to present with signs and symptoms of lung disease

Children 5-10 years of age may present with clinically silent but radiographically apparent disease.

Adolescents can present with features common in children or adults. TB meningitis should be considered with signs of increased intracranial pressure and cerebral inflammation: hemiparesis, irritability, vomiting, lethargy, and seizures.

Pediatric meningitis diagnosed and treated early leads to a good prognosis. Failure to diagnose and treat TB may result in coma and death. Be alert for the signs and symptoms of TB in all children, particularly those with frequent visits to the ER or primary care provider and/or those with a parent or guardian from a high-prevalence country. Increasing the suspicion of TB will prevent life-long disabilities from this disease that is preventable and treatable.

TB in adults should be suspected with a prolonged cough greater than three weeks, lethargy, weight loss, fever, chills, and drenching night sweats. If an antibiotic is prescribed and the person returns with similar symptoms, a tuberculin skin test or interferon-gamma release assay and a chest x-ray should be done. "Think TB" when an individual presents with TB symptoms and is from a high-incidence country or has frequent travel to one of these countries.

**For medical consultation call the Global Tuberculosis Center at 1-800-4-TB-DOCS.**

**For further information or to plan an educational session about TB, call the New Jersey Department of Health, TB Program at 1-609-826-4878.**

\* The CDC and WHO define high-incidence countries as those with a TB incidence rate of  $\geq 25$  cases per 100,000 population per year available at: [http://gamapserver.who.int/gho/interactive\\_charts/tb/cases/atlas.html](http://gamapserver.who.int/gho/interactive_charts/tb/cases/atlas.html)  
<http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-3-infectious-diseases-related-to-travel/tuberculosis>

