



Aetna Better Health® of New Jersey

Tuberculosis: A Brief Review

According to the Centers for Disease Control and Prevention (CDC) in 2017 there were a total of 9,105 tuberculosis (TB) cases (incidence: 2.8 cases per 100,000 people). California, Texas, and New York reported higher incidence rates and had the highest case counts. Common risk factors include diabetes, substance abuse, HIV, homelessness and incarceration. 13% of US TB cases can be attributed to recent transmission and not a re-activation of latent disease.

Resistance

Resistance rates have remained stable for the last 20 years. In 2017, the most common form of resistance was to isoniazid (INH), occurring in 9.3% of cases with susceptibility results. Multi-drug resistance is still rare. To keep resistance low, it is important to select a dosing and administration strategy that will maximize probability of member adherence and completion of the regimen.

Treatment

The American Thoracic Society (ATS), CDC, and Infectious Diseases Society of America (IDSA) recommend a four- drug combination for treatment of active disease: rifampin (RIF), INH, pyrazinamide (PZA) and ethambutol (EMB), abbreviated as RIPE. The preferred schedule is two months on the daily RIPE regimen for induction and four months on RIF + INH for maintenance. Some groups may require longer durations of maintenance, but shorter durations are not recommended. Pyridoxine (vitamin B6) is recommended to prevent neuropathy while on INH. Latent disease may be treated with RIF and/or INH. See links in references for details on special populations and when to use other dosing frequencies.

Standard dosing recommendations:

Drug	Preparation	Population	Daily	1-day/week	2-days/week	3-days/week
Isoniazid	Tablets (50mg, 100mg, 300mg)	Adults	300 mg	900 mg	900 mg	900 mg
		Children	10–15 mg/kg	N/A	20–30 mg/kg	N/A
Rifampin	Capsule (150mg, 300mg)	Adults	600 mg	N/A	600 mg	600 mg
		Children	10–20 mg/kg	N/A	10–20 mg/kg	N/A
Rifabutin	Capsule (150mg)	Adults	300 mg	N/A	Not recommended	Not recommended
		Children	Appropriate dosing for children is unknown. Estimated at 5 mg/kg.			
Rifapentine	Tablet (150mg)	Adults	N/A	10–20 mg/kg	N/A	N/A
		Children	Active TB: for children ≥12 y of age, same as adults, once weekly. Not FDA-approved for treatment of active TB in children <12 years old.			
Pyrazinamide*	Tablet (500mg)	Adults	1000, 1500, or 2000mg	N/A	1500, 2500, or 3000mg	2000, 3000, or 4000mg
		Children	30–40 mg/kg	N/A	50 mg/kg	N/A
Ethambutol*	Tablet (100mg, 400mg)	Adults	800, 1200, or 1600mg	N/A	1200, 2000, or 2400mg	2000, 2800, or 4000mg
		Children	15–25 mg/kg	N/A	50 mg/kg	N/A

*Dosed in adults based on 3 weight ranges 40-55kg, 56-75kg, 76-90kg.

References

1. Full ATS/IDSA/CDC Guidelines: https://www.cdc.gov/tb/publications/guidelines/pdf/clin-infect-dis.-2016-nahid-cid_ciw376.pdf
2. Guideline highlights: <https://www.cdc.gov/tb/topic/treatment/guidelinehighlights.htm>
3. Statistics: <https://www.cdc.gov/tb/publications/factsheets/statistics/tbtrends.htm>
4. Latent TB in children: <https://www.cdc.gov/tb/topic/treatment/children.htm>
5. Latent TB in woman of child-bearing age: <https://www.cdc.gov/tb/topic/treatment/pregnancy.htm>