

Treatment of Latent Tuberculosis Infection (LTBI)

Introduction

Treatment of latent TB infection (LTBI) is essential to controlling and eliminating TB in the United States. Treatment of LTBI substantially reduces the risk that TB infection will progress to disease. Certain groups are at very high risk of developing TB disease once infected, and every effort should be made to begin appropriate treatment and to ensure those persons complete the entire course of treatment for LTBI.

However, if exposed and infected by a person with multidrug-resistant TB (MDR TB) or extensively drug-resistant TB (XDR TB), preventive treatment may not be an option.

Candidates for the Treatment of LTBI

Persons in the following high-risk groups should be given treatment for LTBI if their reaction to the Mantoux tuberculin skin test is ≥ 5 mm:

- HIV-infected persons
- Recent contacts of a TB case
- Persons with fibrotic changes on chest radiograph consistent with old TB
- Patients with organ transplants
- Persons who are immunosuppressed for other reasons (e.g., taking the equivalent of >15 mg/day of prednisone for 1 month or longer, taking TNF-alpha antagonists)

In addition, persons in the following high-risk groups should be considered for treatment of LTBI if their reaction to the Mantoux tuberculin skin test is ≥ 10 mm:

- Recent arrivals (less than 5 years) from high-prevalence countries
- Injection drug users

- Residents and employees of high-risk congregate settings (e.g., correctional facilities, nursing homes, homeless shelters, hospitals, and other health care facilities)
- Mycobacteriology laboratory personnel
- Persons with clinical conditions that make them high-risk
- Children under 4 years of age, or children and adolescents exposed to adults in high-risk categories

Persons with no known risk factors for TB may be considered for treatment of LTBI if their reaction to the tuberculin test is ≥ 15 mm. However, targeted skin testing programs should only be conducted among high-risk groups. All testing activities should be accompanied by a plan for follow-up care for persons with TB infection or disease.

Regimens

For persons suspected of having LTBI, treatment should not begin until active TB disease has been excluded. Persons suspected of having TB disease should receive the recommended multidrug regimen for treatment of disease until the diagnosis is confirmed or ruled out.

Although regimens are broadly applicable, there are modifications that should be considered under special circumstances (i.e., HIV infection, suspected drug resistance, pregnancy, or treatment of children). Listed in the table are the regimens; please refer to *Targeted Tuberculin Testing and Treatment of Latent TB Infection*¹ for detailed information for the treatment of LTBI.

Due to the reports of severe liver injury and deaths, CDC now recommends that the combination of rifampin (RIF) and pyrazinamide (PZA) should generally not be offered for the treatment of LTBI. If the potential benefits significantly outweigh the demonstrated risk of severe liver injury and death associated with this regimen and the patient has no contraindications, a TB/LTBI expert should be consulted prior to the use of this regimen.² (Clinicians should continue the appropriate use of RIF and PZA in multidrug regimens for the treatment of active TB disease.³)

Table: Drug Regimens for Treatment of LTBI

Drugs	Duration (months)	Interval	Minimum doses
Isoniazid	9	Daily	270
		Twice weekly	76
Isoniazid	6	Daily	180
		Twice weekly	52
Rifampin	4	Daily	120
Rifampin/Pyrazinamide	Generally should not be offered for treatment of LTBI ²		

Monitoring

Isoniazid or Rifampin Alone

Routine laboratory monitoring during treatment of LTBI is indicated only for those whose baseline tests suggest a liver disorder and for other persons with a risk of hepatic disease. Laboratory testing should be performed to evaluate possible adverse reactions that occur during the treatment regimen.

Rifampin/Pyrazinamide or Rifabutin/Pyrazinamide

A TB/LTBI expert should be consulted prior to the use of this regimen.

CDC is collecting reports of all severe adverse events (e.g., liver injury, metabolic acidosis, anaphylaxis, seizure, severe dermatitis) leading to hospitalization or death of a person receiving treatment of latent tuberculosis infection that occurred after January 1, 2004. Report these adverse events to the Division of Tuberculosis Elimination at 404-639-8401 or LManangan@cdc.gov.

Additional Information

1. ATS/CDC. Targeted tuberculin testing and treatment of latent TB infection. *MMWR* 2000;49(No. RR- 6). www.cdc.gov/MMWR/PDF/rr/rr4906.pdf
2. CDC. Update: Adverse Event Data and Revised American Thoracic Society/CDC Recommendations Against the Use of Rifampin and Pyrazinamide for Treatment of Latent Tuberculosis Infection. *MMWR* 2003; 52 (No.31). <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5231a4.htm>
3. ATS/CDC. Treatment of Tuberculosis. *MMWR* 2003;49 (No. RR-11). www.cdc.gov/mmwr/PDF/rr/rr5211.pdf
4. CDC. Mutlidrug-Resistant Tuberculosis (MDR TB). <http://www.cdc.gov/tb/pubs/tbfactsheets/mdrtb.htm>
5. CDC. Extensively Drug-Resistant Tuberculosis (XDR TB). <http://www.cdc.gov/tb/pubs/tbfactsheets/xdrtb.htm>