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1-800-TEX-LUNG

# Tuberculosis Treatment Guidelines-2003

HEARTLAND NATIONAL TB CENTER
A PARTNERSHIP OF UT HEALTH NORTHEAST AND TCID

**For additional information, refer to the printed guidelines.**

## TABLE 2. DRUG REGIMENS FOR CULTURE-POSITIVE PULMONARY TUBERCULOSIS CAUSED BY DRUG-SUSCEPTIBLE ORGANISMS

| INITIAL PHASE | | CONTINUATION PHASE | | RANGE OF TOTAL DOSES | RATING* (Evidence)† | |
|---|---|---|---|---|---|---|
| DRUGS | INTERVAL AND DOSES‡ (Minimum Duration) | DRUGS | INTERVAL AND DOSES‡# (Minimum Duration) | (Minimum Duration) | HIV- | HIV+ |
| INH<br>RIF<br>PZA<br>EMB | Seven days per week for 56 doses (8 weeks) ***OR*** five days per week for 40 doses (8 weeks)¤ | INH/RIF | Seven days per week for 126 doses (18 weeks) ***OR*** five days per week for 90 doses (18 weeks)¤<br>**OR** | 182 - 130 (26 weeks) | A(I) | A(II) |
| | | INH/RIF | Twice-weekly for 36 doses (18 weeks) | 92 - 76 (26 weeks) | A(I) | A(II)§ |
| INH<br>RIF<br>PZA<br>EMB | Seven days per week for 14 doses (2 weeks) ***then*** twice-weekly for 12 doses (6 weeks) ***OR*** five days per week for 10 doses (2 weeks)¤ ***then*** twice-weekly for 12 doses (6 weeks) | INH/RIF | Twice-weekly for 36 doses (18 weeks) | 62 - 58 (26 weeks) | A(II) | B(II)§ |
| INH<br>RIF<br>PZA<br>EMB | Thrice-weekly for 24 doses (8 weeks) | INH/RIF | Thrice-weekly for 54 doses (18 weeks) | 78 (26 weeks) | B(I) | B(II) |
| INH<br>RIF<br>EMB | Seven days per week for 56 doses (8 weeks) ***OR*** five days per week for 40 doses (8 weeks)¤ | INH/RIF | Seven days per week for 217 doses (31 weeks) ***OR*** five days per week for 155 doses (31 weeks)¤<br>**OR** | 273 - 95 (39 weeks) | C(I) | C(II) |
| INH = isoniazid, RIF = rifampin, PZA = pyrazinamide, EMB = ethambutol | | INH/RIF | Twice-weekly for 62 doses (31 weeks) | 118 - 102 (39 weeks) | C(I) | C(II) |

‡ When DOT is used drugs may be given 5 days per week and the necessary number of doses adjusted accordingly. Although there are not studies that compare 5 with 7 daily doses, extensive experience indicates this would be an effective practice for drug susceptible tuberculosis.

**# Patients with cavitation on initial chest radiograph and positive cultures at completion of 2 months of therapy should receive a 7-month continuation phase.**

§ Not recommended for HIV-infected patients with CD4 cell counts < 100 cells/ml. Five-day-a-week administration is always given by DOT.

¤ Rating for 5 day a week regimens is AIII.

Definitions of evidence ratings

***A** = preferred; **B** = acceptable alternative; **C** = offer when **A** and **B** cannot be given; **E** = should never be given.

†**I** = randomized clinical trial; **II** = data from clinical trials that were not randomized or were conducted in other populations; **III** = expert opinion.

## TABLE 4. SUGGESTED PYRAZINAMIDE DOSES, USING WHOLE TABLETS, FOR ADULTS WEIGHING 40-90 Kg

| | WEIGHT (Kg)† 40-55 | 56-75 | 76-90 |
|---|---|---|---|
| Daily (mg/kg) | 1000 mg (18.2-25.0) | 1500 mg (20.0-26.8) | 2000 mg‡ (22.2-26.3) |
| Thrice weekly (mg/kg) | 1500 mg (27.3-37.5) | 2500 mg (33.3-44.6) | 3000 mg‡ (33.3-39.5) |
| Twice weekly (mg/kg) | 2000 mg (36.4-50.0) | 3000 mg (40.0-53.6) | 4000 mg‡ (44.4-52.6) |

†Based on estimated lean body weight.
‡Maximum dose regardless of weight.

## TABLE 5. SUGGESTED ETHAMBUTOL DOSAGES, USING WHOLE TABLETS, FOR ADULTS WEIGHING 40-90 Kg

| | WEIGHT (Kg)† 40-55 | 56-75 | 76-90 |
|---|---|---|---|
| Daily (mg/kg) | 800 mg (14.5-20.0) | 1200 mg (16.0-21.4) | 1600 mg‡ (17.8-21.1) |
| Thrice weekly (mg/kg) | 1200 mg (21.8-30.0) | 2000 mg (26.7-35.7) | 2400 mg‡ (26.7-31.6) |
| Twice weekly (mg/kg) | 2000 mg (36.4-50.0) | 2800 mg (37.3-50.0) | 4000 mg‡ (44.4-52.6) |

## TABLE 13. EVIDENCE-BASED GUIDELINES FOR THE TREATMENT OF ADULTS WITH DRUG-SUSCEPTIBLE** EXTRAPULMONARY TUBERCULOSIS AND ADJUNCTIVE USE OF CORTICOSTEROIDS

| Site | Length of Therapy | Rating* (Duration) | Corticosteroids | Rating* (Corticosteroids) |
|---|---|---|---|---|
| Lymph Node | 6 months | A I | Not recommended | D III |
| Bone and Joint | 6 to 9 months | A I | Not recommended | D III |
| Pleural Disease | 6 months | A II | Not recommended | D I |
| Pericarditis | 6 months | A II | Strongly recommended | A I |
| CNS Tuberculosis Including Meningitis | 9 to 12 months | B II | Strongly recommended | A I |
| Disseminated Disease | 6 to 9 months | A II | Not recommended | D III* |
| Genitourinary | 6 to 9 months | A II | Not recommended | D III* |
| Peritoneal | 6 to 9 months | A II | Not recommended | D III* |

* Limited clinical data to guide recommendations.

** Corticosteroid therapy should not be administered unless the organisms are known or presumed to be susceptible to the first-line drugs.

## TABLE 15. DOSING RECOMMENDATIONS FOR ADULT PATIENTS WITH REDUCED RENAL FUNCTION AND FOR ADULT PATIENTS RECEIVING HEMODIALYSIS

| Drug | Change In Schedule | Recommended Dose and Frequency for Patients with Creatinine Clearance < 30 Ml/min or Patients Receiving Hemodialysis |
|---|---|---|
| Isoniazid | No change | 300 mg once daily, or 900 mg three times/week |
| Rifampin | No change | 600 mg once daily, or 600 mg three times/week |
| Pyrazinamide | Yes | 25-35 mg/kg/dose three times/week (not daily) |
| Ethambutol | Yes | 15-25 mg/kg/dose three times/week (not daily) |
| Levofloxacin | Yes | 750-1000 mg/dose three times/week (not daily) |
| Cycloserine | Yes | 250 mg once daily, or 500 mg/dose three times/week* |
| Ethionamide | No change | 500 mg/dose daily |
| PAS | No change | 4 gm/dose twice daily |
| Streptomycin | Yes | 12-15 mg/kg/dose two-three times/week (not daily) |
| Capreomycin | Yes | 12-15 mg/kg/dose two-three times/week (not daily) |
| Amikacin | Yes | 12-15 mg/kg/dose two-three times/week (not daily) |
| Moxifloxacin | No change | 400 mg daily |
| Rifabutin | No change | Dose varies due to drug-drug interactions |
| Linezolid | No change | 600 mg daily |

The medications should be given after hemodialysis.

Monitoring of serum drug concentrations should be considered to ensure adequate drug absorption, without excessive accumulation, and to assist in avoiding toxicity.

Data currently are not available for patients receiving peritoneal dialysis. Until data become available, begin with doses recommended for patients receiving hemodialysis and verify adequacy of dosing using serum concentration monitoring.

* The appropriateness of a 250 mg Cycloserine daily dose has not been established; suggest careful monitoring for evidence of neurotoxicity.

## HOW TO MONITOR

HCV, HBV - If risk factors exist
* HIV, foreign birth in Asia or Africa, IVDU

Baseline labs on all: CBC's, Platelets, LFT's, Bilirubin, Alkaline Phosphatase, HIV, Creatinine

Monthly liver enzymes if baseline abnormal, chronic medical conditions or increased risk of hepatitis.

For pulmonary TB - Monthly sputum until 2 consecutive cultures are negative
* -2 months sputum is crucial
* 80% should convert by 2 mo, 95% by 3 mo

Assessment of visual acuity and red-green color vision if receiving EMB.
Clinical evaluations monthly to assess for adherence and adverse drug reactions

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