

Ethambutol:

Class: Antitubercular Agent.

Indications:

Treatment of pulmonary tuberculosis in conjunction with other antituberculosis agents.

Available dosage form in the hospital: 500MG TAB, 400MG TAB.

Trade Names:

Dosage:

- Disseminated *Mycobacterium avium* (MAC) treatment in patients with advanced HIV infection (unlabeled use; ATS/IDSA guidelines, 2007): Oral: 15 mg/kg ethambutol in combination with clarithromycin or azithromycin with/without rifabutin
- Tuberculosis, active: Oral: FDA-approved labeling: Adolescents ≥ 13 years and Adults: Initial: 15 mg/kg once daily (maximum dose: 1.5 g); Retreatment (previous antituberculosis therapy): 25 mg/kg once daily (maximum dose: 2.5 g) for 60 days or until bacteriologic smears and cultures become negative, followed by 15 mg/kg daily.
- Suggested doses by lean body weight (CDC, 2003):
 - Daily therapy: 15-25 mg/kg (maximum dose: 1.6 g)
 - 40-55 kg: 800 mg
 - 56-75 kg: 1200 mg
 - 76-90 kg: 1600 mg
 - Twice weekly directly observed therapy (DOT): 50 mg/kg (maximum dose: 4 g)
 - 40-55 kg: 2000 mg
 - 56-75 kg: 2800 mg
 - 76-90 kg: 4000 mg
 - Three times/week DOT: 25-30 mg/kg (maximum dose: 2.4 g)
 - 40-55 kg: 1200 mg
 - 56-75 kg: 2000 mg
 - 76-90 kg: 2400 mg

Note: Used as part of a multidrug regimen. Treatment regimens consist of an initial 2 month phase, followed by a continuation phase of 4 or 7 additional months; frequency of dosing may differ depending on phase of therapy.

-Nontuberculous mycobacterium (*M. kansasii*) (unlabeled use; ATS/IDSA guidelines, 2007): Oral: 15 mg/kg/day ethambutol for duration to include 12 months of culture-negative sputum; typically used in combination with rifampin and isoniazid; Note: Previous recommendations stated to use 25 mg/kg/day for the initial 2 months of therapy; however, IDSA guidelines state this may be unnecessary given the success of rifampin-based regimens with ethambutol 15 mg/kg/day or omitted altogether.

Renal Impairment:

-Aronoff, 2007

-Cl_{cr} 10-50 mL/minute: Administer every 24-36 hours

-Cl_{cr} <10 mL/minute: Administer every 48 hours

-Hemodialysis: Slightly dialyzable (5% to 20%); Administer dose postdialysis

-Peritoneal dialysis: Dose for Cl_{cr} <10 mL/minute: Administer every 48 hours

-Continuous arteriovenous or venovenous hemofiltration: Dose for Cl_{cr} 10-50 mL/minute: Administer every 24-36 hours.

Common side effect:

Confusion, dizziness, fever, headache, malaise, Dermatitis, rash, Abdominal pain, Arthralgia.
Ocular: Optic neuritis; symptoms may include decreased acuity, scotoma, color blindness, or visual defects (usually reversible with discontinuation, irreversible blindness has been described).

Pregnancy Risk Factor: C