



Bonus Monographs



Ethambutol hydrochloride

(eh-T H A M-byou-tohl)

PREGNANCY CATEGORY: B

CLASSIFICATION(S):

Antitubercular drug

Rx: Myambutol

★Rx: Etibi

ACTION/KINETICS

Inhibits the synthesis of metabolites resulting in impairment of cell metabolism, arrest of multiplication, and ultimately cell death. Is active against *Mycobacterium tuberculosis*, but not against fungi, other bacteria, or viruses. Readily absorbed after PO administration. Widely distributed in body tissues except CSF. **Peak plasma concentration:** 2–5 mcg/mL after 2–4 hr. **t_{1/2}:** 3–4 hr. About 65% of metabolized and unchanged drug excreted in urine and 20%–25% unchanged drug excreted in feces. Drug accumulates in clients with renal insufficiency.

USES

Pulmonary tuberculosis in combination with other tuberculostatic drugs. Use only in conjunction with at least one other antituberculostatic.

CONTRAINDICATIONS

Hypersensitivity to ethambutol, pre-existing optic neuritis, and in children under 13 years of age.

SPECIAL CONCERNS

Use with caution and in reduced dosage in clients with gout and impaired renal function and in pregnant women.

SIDE EFFECTS

Ophthalmologic: Optic neuritis, decreased visual acuity, loss of color (green) discrimination, temporary loss of vision or blurred vision. **GI:** N&V, anorexia, abdominal pain. **CNS:** Fever, headache, dizziness, confusion, disorientation, malaise, hallucinations. **Allergic:** Pruritus, dermatitis, ***anaphylaxis***. **Miscellaneous:** Peripheral neuropathy (numbness, tingling), precipitation of gout, thrombocytopenia, joint pain, toxic epidermal necrolysis. Renal damage. Also, hyperuricemia and decreased liver function. Adverse symptoms usually appear during the early months of therapy and disappear thereafter.

DRUG INTERACTIONS

Aluminum may delay and decrease the absorption of ethambutol.

HOW SUPPLIED

Tablet: 100 mg, 400 mg

DOSAGE

• TABLETS

Adults, initial treatment: 15 mg/kg/day until maximal improvement noted; **for retreatment:** 25 mg/kg/day as a single dose with at least one other tuberculostatic drug; **after 60 days:** 15 mg/kg/day.

NURSING CONSIDERATIONS

SEE ALSO *GENERAL NURSING CONSIDERATIONS FOR ALL ANTI-INFECTIVES*.

ASSESSMENT

- Note indications for therapy, onset and symptom characteristics, other treatments/outcomes.
- Obtain visual acuity test before

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therapy. Ensure no preexisting problems (especially if dose exceeds 15 mg/kg/day).

3. Monitor CBC, uric acid, cultures, liver and renal function studies.

4. With positive AFB cultures, report contacts and advise treatment.

CLIENT/FAMILY TEACHING

1. Take as prescribed to prevent any relapses or complications. May take with food to decrease GI upset.

2. Consume 2–3 L/day of fluids to ensure adequate hydration.

3. Avoid alcohol and aluminum-based antacids; may interfere with drug absorption.

4. Obtain periodic vision testing during therapy (q 1–2 months); report any vision changes that may indicate optic neuritis. Ocular side effects generally disappear within weeks to months after therapy completed.

5. Practice reliable birth control; stop drug and report if pregnancy is suspected.

6. Keep all follow ups and lab tests. Report any unusual or adverse drug side effects.

OUTCOMES/EVALUATE

- Negative sputum cultures for acid fast bacteria (AFB)

- Resolution of infection (↓ fever, WBC, sputum; improved CXR)