



**Therapeutic Class Review<sup>SM</sup>**  
**Ophthalmics - Timolol maleate (Istalol<sup>®</sup>)**  
**May 2005**

**New Product for Review**  
**timolol maleate (Istalol) [Ista]**

**Dossier Provided by Manufacturer: Yes**  
**Quality of Dossier: 3**

1. Low quality (dossier w/missing components)
2. Medium quality (all components, except pharmacoeconomic model)
3. High quality (all components, well done)

**Executive Summary**

- There are many ophthalmic  $\beta$ -blockers in the formulary to lower intraocular pressure (IOP) in patients with primary open angle glaucoma (POAG).
- There is no evidence that timolol maleate as a once daily formulation (Istalol) is superior in lowering IOP than twice daily preparations of timolol maleate.
- Once daily ophthalmic timolol maleate formulation (Istalol) has potassium sorbate and 50% less benzalkonium chloride than twice-daily timolol maleate preparation.
  - ⇒ There is no evidence that the addition of potassium sorbate increases ocular penetration of timolol or provides additional clinical benefit.
  - ⇒ The lower benzalkonium chloride has not shown to be less allergenic.
- Once daily formulation of timolol maleate (Istalol) is associated with significantly higher incidence of ocular adverse effects, such as stinging or burning sensation, eye infections, visual field defects and cataracts.

**Decision**

Maintain timolol maleate (Istalol) as non-formulary/nonpreferred because this product offers no additional medical value over its comparators in lowering IOP in individuals with POAG.

## Products

<b>Drug Product</b>	<b>Date of FDA Approval</b>	<b>FDA Approved Indication(s)</b>	<b>Dose Route</b>	<b>Potential Off-Label Use(s)</b>
Timolol maleate (Istalol®). 0.5% timolol ophthalmic solution with 0.47% potassium sorbate and 0.005% benzalkonium chloride	06/04/2004	Treatment of elevated intraocular pressure in patients with ocular hypertension or open-angle glaucoma.	Ophthalmic	None
Timolol maleate (generic) 0.25%, 0.5% ophthalmic solutions	11/04/1993	Treatment of elevated intraocular pressure in patients with ocular hypertension or open-angle glaucoma.	Ophthalmic	None
Timolol maleate (Timoptic-XE®). 0.25%, 0.5% ophthalmic gel forming solution	03/18/1998	Treatment of elevated intraocular pressure in patients with ocular hypertension or open-angle glaucoma.	Ophthalmic	None
Timolol hemihydrate (Betimol®) 0.25%, 0.5% ophthalmic solution	03/31/1995	Treatment of elevated intraocular pressure in patients with ocular hypertension or open-angle glaucoma.	Ophthalmic	None
Levobunolol HCl (generic) 0.25%, 0.5% ophthalmic solutions	06/28/1989	Treatment of elevated intraocular pressure in patients with ocular hypertension or open-angle glaucoma.	Ophthalmic	None
Betaxolol HCl 0.25% (Betoptic-S®), 0.5% (generic) ophthalmic solutions	08/30/1985	Treatment of elevated intraocular pressure in patients with ocular hypertension or open-angle glaucoma.	Ophthalmic	None
Carteolol HCl (generic) 1% ophthalmic solution	05/23/1990	Treatment of elevated intraocular pressure in patients with ocular hypertension or open-angle glaucoma.	Ophthalmic	None
Metipranolol HCl (generic) 0.25%, 0.5% ophthalmic solutions	12/29/1989	Treatment of elevated intraocular pressure in patients with ocular hypertension or open-angle glaucoma.	Ophthalmic	None

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