

# Bimatoprost Therapeutic Cheat Sheet

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## TRADE NAME<sup>1,2</sup>

- › Latisse – 0.03% ophthalmic solution (FDA-approved for eyelash hypotrichosis)
- › Lumigan – ophthalmic solution (for glaucoma/ocular hypertension)

## MECHANISM OF ACTION<sup>1-3</sup>

- › Bimatoprost is a synthetic prostamide F2a analog.
- › The exact mechanism of action is not known but eyelash growth is thought to be stimulated by:
  - › Increasing the percentage of hairs in the anagen (growth) phase
  - › Prolonging duration of anagen phase
- › Eyelashes have a higher proportion of hairs in the telogen phase which supports the effectiveness of bimatoprost for hypotrichosis of the eyelashes.
- › Bimatoprost also stimulates melanogenesis which drives the periocular hyperpigmentation.
- › When used intraocularly (Lumigan), lowers intraocular pressure (IOP) by increasing aqueous humor outflow

## FDA-APPROVED FOR<sup>1,2</sup>

- › Latisse: Treatment of hypotrichosis of the eyelashes (increased length, thickness, and darkness).
- › Lumigan: Reduction of elevated IOP in open-angle glaucoma or ocular hypertension.

## OFF-LABEL DERMATOLOGIC USES<sup>3,4</sup>

- › Eyebrow hypotrichosis
- › Alopecia areata (eyelashes/eyebrows)
- › Frontal fibrosing alopecia (eyebrow involvement)
- › Chemotherapy-induced eyelash loss
- › Adjunct in cicatricial alopecias affecting brows
- › Androgenic alopecia
- › Vitiligo

## DOSING<sup>1</sup>

- › Eyelashes (FDA-approved use)
  - › Apply once nightly to clean, dry face. Using a sterile applicator, apply one drop to the upper eyelid margin only at the base of lashes and blot the excess solution.
  - › In the pivotal 16-week, multicenter, double-masked, randomized, vehicle-controlled clinical trial, significantly greater proportions of patients treated with bimatoprost achieved at least a 1-grade improvement in the 4-point Global Eyelash Assessment (GEA) scale compared to vehicle. Improvement was seen as early as Week 8 (50% vs 15%), increased at Week 12 (69% vs 20%), and reached 78% at Week 16 compared to 18% with vehicle. Digital image analysis at Week 16 demonstrated a mean increase in eyelash length of 1.4 mm (25% increase from baseline), a 106% increase in thickness/fullness, and an 18% increase in eyelash darkness. Upon discontinuation of treatment, eyelash growth gradually returns to baseline over several weeks to months.<sup>1</sup>
- › Eyebrows (Off-label)
  - › Apply small amount with cotton-tipped applicator once nightly to affected eyebrow areas.
  - › Avoid runoff to forehead or unintended areas to prevent unwanted hypertrichosis

## WARNINGS AND PRECAUTIONS<sup>1</sup>

- › May cause increased brown iris pigmentation, which is likely permanent.
- › May cause eyelid skin hyperpigmentation; this is typically reversible after discontinuation.
- › May cause periorbital changes including fat atrophy, deepening of the upper eyelid sulcus, and eyelid ptosis; these effects may be partially reversible.
- › Unintended hypertrichosis may occur if the solution repeatedly contacts adjacent skin; excess medication should be blotted.
- › May lower intraocular pressure (IOP); patients using prostaglandin analogs for glaucoma (e.g., Lumigan) should consult ophthalmology prior to use.
- › Use with caution in patients with active intraocular inflammation (e.g., uveitis).
- › Use with caution in aphakic patients, pseudophakic patients with a torn posterior lens capsule, or those at risk for macular edema.
- › Contains benzalkonium chloride; soft contact lenses should be removed prior to application and reinserted after 15 minutes.
- › Avoid contamination of the bottle tip and applicators to reduce risk of infection.

## SIDE EFFECTS<sup>1</sup>

- › Most common adverse effects (~3–4%) include eye pruritus, conjunctival hyperemia, ocular irritation, periorbital erythema, and skin hyperpigmentation.
- › Rare side effects including blurred vision, eyelid edema, hordeolum, increased lacrimation, trichiasis, eyelash growth abnormalities, madarosis and trichorrhexis have been reported.
- › Periorbital fat atrophy and eyelid sulcus deepening have been observed in postmarketing reports.

## CONTRAINDICATIONS<sup>1</sup>

- › Hypersensitivity to bimatoprost or formulation components.

## DRUG INTERACTIONS<sup>1</sup>

- › Caution with concurrent prostaglandin analogs used for IOP lowering (e.g., Lumigan).
- › No major systemic drug interactions reported.

## PREGNANCY AND BREASTFEEDING<sup>1</sup>

- › No adequate human studies with the use of bimatoprost in pregnant women. However, animal studies with oral systemic exposure at high doses showed abortion, early delivery, and reduced fetal weight.
- › It is unknown if bimatoprost is excreted in human milk.

## MONITORING<sup>1</sup>

- › None
- › Consider ophthalmology referral if patient has a history of glaucoma, ocular surgery, or new visual symptoms.