Blepharitis: The New Consensus

A Review of Posterior Blepharitis and Its Treatment

AN EXPERT PANEL REPORT

Prepared with support from Alcon Laboratories, Inc.
OVERVIEW

Posterior blepharitis is thought to account for a quarter of all patient visits for ocular discomfort.\textsuperscript{1,2} The condition typically appears in middle age, and its prevalence increases with age. Posterior blepharitis is an important contributory factor in evaporative dry eye and ocular surface disease, conditions that can diminish patient comfort, visual function, and quality of life and can potentially influence surgical results.\textsuperscript{3}

Posterior blepharitis contributes to evaporative dry eye and ocular surface disorder; affects patient comfort, visual function, and quality of life; and can potentially influence LASIK and cataract surgery results.

Unfortunately, posterior blepharitis is often misdiagnosed and suboptimally treated. One reason for this may be that, until very recently, there has been little consensus on terms used to describe posterior blepharitis and no widely accepted algorithms to aid in its diagnosis, classification, and treatment. With sponsorship from Alcon, Inc., an expert panel on blepharitis was convened to address these needs. Its findings are summarized here.

TERMINOLOGY

A number of terms are associated with posterior lid margin disease: chronic blepharitis, meibomian gland dysfunction, meibomian gland disease, meibomitis, obvious/non-obvious blepharitis, staphylococcal blepharitis, and seborrheic blepharitis. The multiplicity of terms, many with overlapping definitions, contributes to practitioner confusion about the nature and management of the condition. In considering various options, the panel preferred terminology based upon anatomical location, finding it to be precise, practical, and clinically relevant.

The panel wished to recognize the close association between posterior blepharitis and meibomian gland dysfunction (MGD), a significant and common underlying pathology in posterior blepharitis,\textsuperscript{4} and so suggested the umbrella term “posterior blepharitis/MGD” to signify inflammation and its associated signs and symptoms involving the posterior lid (see MGD Fast Facts). For purposes of diagnosis and treatment, posterior blepharitis may
be categorized as either either acute or chronic.

**DIAGNOSTIC
CONSIDERATIONS**

The panel developed a pathway for clinical diagnosis based upon patient history, assessment of ocular signs and symptoms, and examination of the eyelid (Figure 1).

**Patient History:**
A thorough history is an essential aspect of diagnosis. The simultaneous presence of other ocular surface conditions—including anterior blepharitis and aqueous tear deficiency—is common and can make diagnosis challenging. For example, both MGD, which causes increased evaporative tear loss, and aqueous tear deficiency (reduced tear production) produce dry eye disease.

Dermatologic conditions may also coexist with posterior blepharitis/MGD. The presence of rosacea, atopic dermatitis, or seborrheic dermatitis should suggest the need for closer evaluation of the eyelids and ocular surface for concomitant anterior and/or posterior lid margin disease.

**Signs and Symptoms:**
Posterior blepharitis patients typically present with thick (sometimes opaque) meibomian secretions and plugged meibomian gland orifices.

**Examination and Testing:**
A comprehensive eye examination, including both the eyelids and the periocular skin, is necessary for diagnosis. Slit-lamp biomicroscopy should include evaluation of the anterior and posterior eyelid margins, lashes, tarsal conjunctива, bulbar conjunctiva, cornea, meibum (quantity and quality), and tear film. A TFBUT less than 5 seconds suggests an abnormal or unstable tear film due to insufficient or abnormal quality meibum.
CLASSIFICATION AND TREATMENT

The classification of posterior blepharitis/MGD is based on disease severity, which in turn rests on the presence and degree of signs and symptoms (Figure 2). This severity-based classification—into asymptomatic, mild, moderate, or severe disease—forms the panel’s recommended basis of treatment (Figure 4).

Treatment of posterior blepharitis/MGD should aim to improve patient symptoms and visual function, enhance meibomian gland function, restore tear film stability, and reduce dry eye signs and symptoms. Since there is no cure, treatment should be directed at bringing the acute process under control and then maintaining control with long-term therapy.

**Patient education, warm compresses, lid massage, and lid hygiene set the management foundation for all degrees of severity.**

**Patient Education, Warm Compresses, and Lid Cleansing:**

Patient education, warm compresses and massage, and lid cleansing are basic elements that underlie treatment for posterior blepharitis/MGD at all

![Figure 2](image) Panel recommendations on classification of posterior blepharitis/MGD severity according to the presence of signs and symptoms.

![Figure 3](image) Signs of posterior blepharitis/MGD.

a. Lid margin neovascularization
b. Squamous metaplasia of the meibomian gland orifices with pouting of gland orifices
c. Changes in the quality of meibum
d. Gland dropout
e. Short TFBUT
stages. These strategies are appropriate for asymptomatic patients with signs of disease and remain appropriate for patients at all stages of the disease.

Education should be directed toward patients understanding the importance of their role in managing their condition, particularly the need for consistent use of warm compresses, massage, and lid cleansing.

Warm compresses and massage soften the lipids in the meibomian glands and thereby enhance meibum expression.³ Massage after warm compresses, several times a day, can enhance gland clearance. Note that excessive massage may result in irritation.⁹

In combination with warm compresses, eyelid cleansing can improve patient symptoms significantly. Often promoted for anterior blepharitis, cleansing with lid scrubs (commercial or homemade) is critical to reducing bacterial colonization, clearing bacterial toxins, and promoting ocular health.³

**Lubricant Eye Drops:**

Tear supplements are particularly useful for managing symptoms in patients with ocular surface dryness due to posterior blepharitis/MGD. Lubricant eye drops are utilized at all disease severity levels. While a number of tear products are available, their formulations vary significantly. The panel noted two aspects of artificial tear formulation that could be important for patients with posterior blepharitis/MGD: absence of the preservative benzalkonium chloride (BAK) and the presence of products that may prolong lipid layer restoration. SYSTANE® BALANCE Lipid Restorative Lubricant Eye Drops, an emulsion product suited for patients with posterior blepharitis/MGD with dry eye symptoms, is one such product.¹⁰

**Nutritional Support and Pharmacologic Therapy:**

The panel favored the use of omega-3 fatty acid-containing nutritional supplements. Omega-3 fatty acids are reported to reduce the level of inflammatory cytokines in the tears and improve tear function.¹¹,¹² Omega-3 supplementation also improves the omega-6:omega-3 fatty acid ratio, which is believed to increase the level of anti-inflammatory prostaglandins and reduce inflammatory leukotrienes in the tear film.¹³

Pharmacologic therapy for posterior blepharitis/MGD can aim at several things: managing concurrent infection or bacterial imbalance, controlling inflammation (in acute exacerbations), and reducing immune-mediated effects.

The topical antibiotics most often

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<tr>
<th>MGD/Posterior Blepharitis — STAGED TREATMENT OPTIONS</th>
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<td>Omega-3 Nutritional Supplements</td>
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<td>Topical Antibiotic + Steroid</td>
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<td>(2 weeks maximum)</td>
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<td>Oral tetracycline derivatives</td>
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<td>Other antiinflammatory therapies for dry eye</td>
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**Notes:** Antibiotics should be used for the shortest duration possible. Panelists noted that present data do not exist to support chronic topical antibiotic treatment. Steroids or fixed-combinations should be used for a maximum of 2 weeks for the management of an acute flare. The panel recommends that practitioners refer to the 2011 TFOS MGD Workshop for additional information regarding MGD.²

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**Figure 4** Posterior blepharitis/MGD severity-stratified treatment algorithm as defined by the expert panel.

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**Figure 4 Notes:**

- Antibiotics should be used for the shortest duration possible.
- Panelists noted that present data do not exist to support chronic topical antibiotic treatment.
- Steroids or fixed-combinations should be used for a maximum of 2 weeks for the management of an acute flare.
- The panel recommends that practitioners refer to the 2011 TFOS MGD Workshop for additional information regarding MGD.²
SYSTANE® BALANCE Lubricant Eye Drops

**FAST FACTS**

SYSTANE® BALANCE Lubricant Eye Drops (active ingredient: propylene glycol 0.6%), a scientifically engineered emulsion with LipiTech™ (mineral oil and anionic phospholipid), is indicated for temporary relief of burning and irritation due to dryness of the eye. Studies have shown that SYSTANE® BALANCE Lubricant Eye Drops:

- Stabilizes the tear film lipid layer (from deficient lipid layer to adequate lipid layer) in less than 1 minute following administration.10
- Produces minimal blur upon instillation, which resolves within 60 seconds.10
- Restores adequate tear film breakup time (within 15 minutes post administration).10
- Decreases aqueous tear evaporation.23

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**REFERENCES**


10. Korb D, Blackie C, Meadows D, Christensen M, Tudor M. Evaluation of extended tear stability by two emulsion based artificial tears. Poster presented at the Tear Film and Ocular Surface Society meeting; September 2010; Florence, Italy.


SYSTANE® BALANCE Lubricant Eye Drops is specifically designed for dry eye patients with meibomian gland dysfunction (MGD). The unique formulation of SYSTANE® BALANCE Lubricant Eye Drops, along with the LipiTech™ System and the active demulcent, propylene glycol, provide prolonged lipid layer restoration for longer-lasting protection from dry eye.1

Reference: 1. Korb D, Blackie C, Meadows D, Christensen M, Tudor M. Evaluation of extended tear stability by two emulsion based artificial tears. Presented at the Tear Film and Ocular Surface Society Meeting; September 2010; Florence, Italy.

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