PREPPING THE OCULAR SURFACE BEFORE CATARACT SURGERY REFERRAL

This is the first step of a successful comanagement process—and more optimal patient outcomes.

BY JACLYN GARLICH, OD, FAAO

Ensuring the health and stability of a patient's ocular surface before they undergo cataract surgery is not just a recommendation—it's a key part of the comanagement process and is the responsibility of the referring doctor. Doing so allows the surgeon to proceed with confidence, without needing to delay surgery to treat smoldering dry eye disease. Perhaps more importantly, it significantly affects the accuracy of preoperative testing and the patient's overall satisfaction with their surgical outcome.

YOU GET OUT WHAT YOU PUT IN

A hydrated, stable tear film is critical for accurate presurgical measurements. These values are the foundation for IOL power calculations. If the ocular surface is compromised—whether by dry eye, blepharitis, or meibomian gland dysfunction (MGD)—these readings may be unreliable. The result? A patient may end up with a suboptimal visual outcome, leading to postsurgical dissatisfaction despite an otherwise technically successful procedure.

In addition, while most patients pursue cataract surgery due to blurry vision, they often have underlying mild dry eye that isn't bothersome enough to mention. A 2018 study found that 80% of studied patients presenting for cataract surgery had at least one abnormal tear test result suggestive of ocular surface dysfunction, and 40% had two

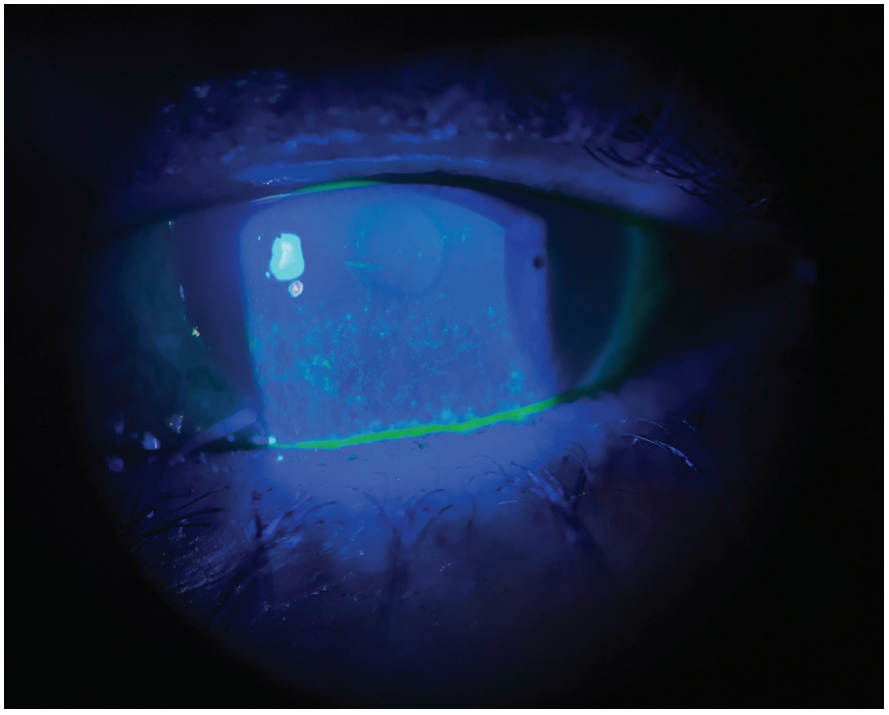

Figure. The health of the ocular surface sets the tone for surgical success. Optimize it to avoid postoperative complications.

abnormal results.[1] Additionally, the PHACO study showed that just because a patient doesn't complain about dryness doesn't mean they don't have it. The investigators found that 77% of patients had corneal staining before cataract surgery, but only 13% reported symptoms (Figure).[2]

After surgery, however, the procedure itself can exacerbate ocular surface disease (OSD), making patients aware of symptoms such as burning, foreign body sensation, and fluctuating vision. If dry eye wasn't addressed before surgery, patients may incorrectly assume surgery caused the problem.

Patients expect crisp, comfortable vision after cataract surgery. When that expectation isn't met—especially if they now notice new discomfort—it reflects poorly not only on the surgeon, but also on the entire care team. And if the surgeon has to delay surgery due to an unstable cornea, it may appear as if the referring provider didn't do their due diligence.

By optimizing the ocular surface before referral, you're helping the surgeon proceed efficiently, protecting the integrity of your relationship with the patient and improving long-term outcomes. It's a small investment in time and care that pays off in surgical precision and happier patients.

AT A GLANCE

- By optimizing the ocular surface before referral for cataract surgery, you're helping the surgeon proceed efficiently, protecting the integrity of your relationship with the patient and improving long-term outcomes.
- Following established guidelines and employing a combination of therapies and treatments helps ensure the ocular surface is stable and ready for surgery.
- Setting realistic expectations with patients lets them know some treatments may need to be continued indefinitely to preserve tear film stability and maintain clear, comfortable vision after surgery.

CLINICAL GUIDELINES

The American Society of Cataract and Refractive Surgery Preoperative OSD Algorithm provides a structured and efficient approach to diagnose and treat OSD before surgery. It includes both diagnostic testing, such as tear osmolarity, meibography, and MMP-9 testing, and clinical examination findings, including corneal staining, corneal sensitivity testing, and gland expression, to identify patients with a compromised ocular surface.[3] Simultaneously, the Tear Film & Ocular Surface Society Dry Eye Workshop II offers a framework for categorizing dry eye into aqueous-deficient, evaporative, or mixed forms, allowing tailored treatment strategies.[4] Combining these two resources can help clinicians quickly identify and stratify patients who need treatment before being referred for surgery.

OCULAR SURFACE OPTIMIZATION

For patients with mild to moderate OSD, the goal is to stabilize the tear film and reduce inflammation efficiently without delaying surgery. This can be accomplished using the following:

Topical Steroids

Short-term use of a low-dose steroid can quickly reduce ocular surface inflammation. This is very useful for jumpstarting therapy.

Immunomodulators

For long-term management, cyclosporine or lifitegrast ophthalmic solution 5% (Xiidra, Bausch + Lomb) should be initiated early. One study showed that patients treated with cyclosporine ophthalmic solution 0.09% (Cequa, Sun Ophthalmics) twice daily for 28 days preoperatively had statistically significant improvements in the prediction error of the spherical equivalent outcome of surgery.[5] A similar study found that using lifitegrast twice daily significantly improved preoperative corneal surface measurement accuracy in patients with confirmed dry eye who were scheduled for cataract surgery.[6]

Anti-Evaporatives

For patients with evaporative dry eye, especially those with incomplete blinks or MGD, anti-evaporative strategies can help stabilize the tear film. Preservative-free artificial tears with lipid components can reduce tear evaporation. Prescription therapies such as perfluorohexyloctane (Miebo, Bausch + Lomb) target tear film evaporation by stabilizing the lipid layer.

Neuromodulation

Neurostimulation of the trigeminal-parasympathetic pathway is another tool to enhance tear film quality and quantity, especially in patients with a reduced lacrimal lake. Devices such as iTear100 (Olympic Ophthalmics) and prescription nasal sprays such as varenicline (Tyrvaya, Oyster Point Pharma) can increase basal tear production by stimulating the lacrimal functional unit. Acoltremon ophthalmic solution (Tryptyr, Alcon), a topical neurostimulation medication, was recently FDA-approved but is not yet commercially available.

In-Office Procedures

In cases of moderate to severe MGD, in-office therapies can make a significant difference. A 2021 study showed that treatment with the LipiFlow Thermal Pulsation System (Johnson & Johnson Vision) 3 weeks prior to cataract surgery significantly improved meibomian gland patency and quality, increased tear film breakup time, and reduced corneal staining after cataract surgery.[7] Additionally, a 2025 study showed that preoperative intense pulsed light therapy with meibomian gland expression considerably improved the predicted postoperative refraction accuracy in patients with MGD-related dry eye undergoing cataract surgery.[8] Punctal occlusion is another option to help enhance tear retention.

Lid Hygiene and Margin Care

Don't overlook the lid margin; blepharitis and MGD can contribute to tear film instability and surface inflammation. Daily lid hygiene, warm compresses, omega-3 supplements, and prescription therapies such as lotilaner ophthalmic solution 0.25% (Xdemvy, Tarsus Pharmaceuticals) for *Demodex* blepharitis and oral doxycycline can help stabilize the environment. In-office microblepharoexfoliation may also be needed to expedite improvement.

PATIENT EDUCATION

It's essential to set realistic expectations with patients. Ocular surface therapy isn't just a preoperative fix; it's a long-term commitment to corneal health. Let patients know that some treatments may need to be continued indefinitely to preserve tear film stability and maintain clear, comfortable vision after surgery.

Framing the discussion around "caring for the cornea now and forever" helps patients understand the chronic nature of dry eye disease and the importance of proactive treatment. This conversation tactic also helps prevent the common scenario where a patient, happy with their visual clarity, discontinues drops prematurely and returns later on with significant symptoms.

THE PAYOFF

As primary eye care providers, we are in the best position to identify, treat, and stabilize OSD in our patients before handing them over to the surgical team. Following established guidelines and employing a combination of therapies and treatments helps ensure the ocular surface is stable and ready for surgery. The result? More accurate IOL calculations, faster recovery, fewer postoperative complaints, and happier patients. ■

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