



WHEN 20/HAPPY FALLS SHORT



A thoughtful approach to managing post-cataract complaints.

BY NICHOLAS J. BRUNS, OD, FAAO

As my dad would say when I was a kid, “Proper preparation prevents poor performance.” Setting realistic patient expectations and advanced preparation before surgery is integral to successful surgical outcomes.

Unfortunately, no amount of preparation can prevent the occasional unhappy patient. There are several reasons why someone may be dissatisfied, and in this article, I share my systematic approach to troubleshooting the most common culprits.

RESIDUAL REFRACTIVE ERROR

Residual ametropia is the most common source of patients’ dissatisfaction after cataract surgery. Even with modern IOL formulas, refractive

surprises can occur. Only approximately 73.7% of eyes that receive a monofocal IOL are within ± 0.50 D of the target.¹

When a refractive surprise occurs, the best course for management

depends on the patient’s preoperative expectations. Glasses and contact lenses are the easiest option, but additional surgery such as laser vision correction, piggyback IOL, or IOL exchange may be preferable if the patient expected to achieve spectacle independence, particularly with a multifocal or extended depth of focus (EDOF) IOL. As with any surgery, however, additional surgical intervention carries a risk of complications.

OCULAR SURFACE DISEASE

Biometry measurements are a key element in the IOL power calculation. Their accuracy and postoperative vision quality, however, are heavily influenced by the health and quality of the ocular surface (Figure 1).

Dry eye disease is prevalent in the cataract surgery population. In a

AT A GLANCE

- ▶ When a refractive surprise occurs, the best course for management depends on the patient’s preoperative expectations.
- ▶ Residual ametropia is the most common source of patients’ dissatisfaction after cataract surgery.
- ▶ Because an irregular corneal surface can exaggerate undesirable higher-order aberrations, the health of the ocular surface must be optimized both before and after cataract surgery.

prospective case series, 85% of patients presenting for a cataract evaluation had at least one abnormal tear test, and 48% had both a positive matrix metalloproteinase-9 test and an abnormal tear osmolarity value.² Cataract surgery, moreover, can exacerbate ocular surface disease (OSD).

Advanced-technology IOLs use principles of higher-order aberrations (HOAs) to bend and split light to extend depth of focus. Because an irregular corneal surface can exaggerate undesirable HOAs, the health of the ocular surface must be optimized both before and after cataract surgery.

When OSD is the main cause of poor quality of vision postoperatively, I often prescribe treatment with an anti-evaporative agent to increase the tear breakup time and stabilize the tear film. Additionally, immunomodulators reduce the surface inflammatory cascade, offering longer-term treatment. In my experience, punctal occlusion and amniotic membranes can also be a valuable strategy.

POSTERIOR CAPSULAR OPACIFICATION

Posterior capsular opacification (PCO) occurs when residual lens epithelial cells differentiate and migrate over the posterior capsule. The incidence of this complication varies depending on surgical technique and IOL design but was reported at 3 and 5 years after surgery in up to 12.6% and 18.6% of patients who received a one-piece acrylic IOL, respectively.¹ To manage PCO, an Nd:YAG laser capsulotomy is performed, which creates an opening in the posterior capsule. Although the procedure has an excellent safety profile, it is associated with a small risk of retinal detachment, IOP elevation, and a shift in the IOL's position, which can induce a change in refraction.¹

In the clinic, I frequently encounter patients with PCO. My colleagues and I do not automatically recommend an Nd:YAG laser capsulotomy, however, particularly in the first few months after the implantation of

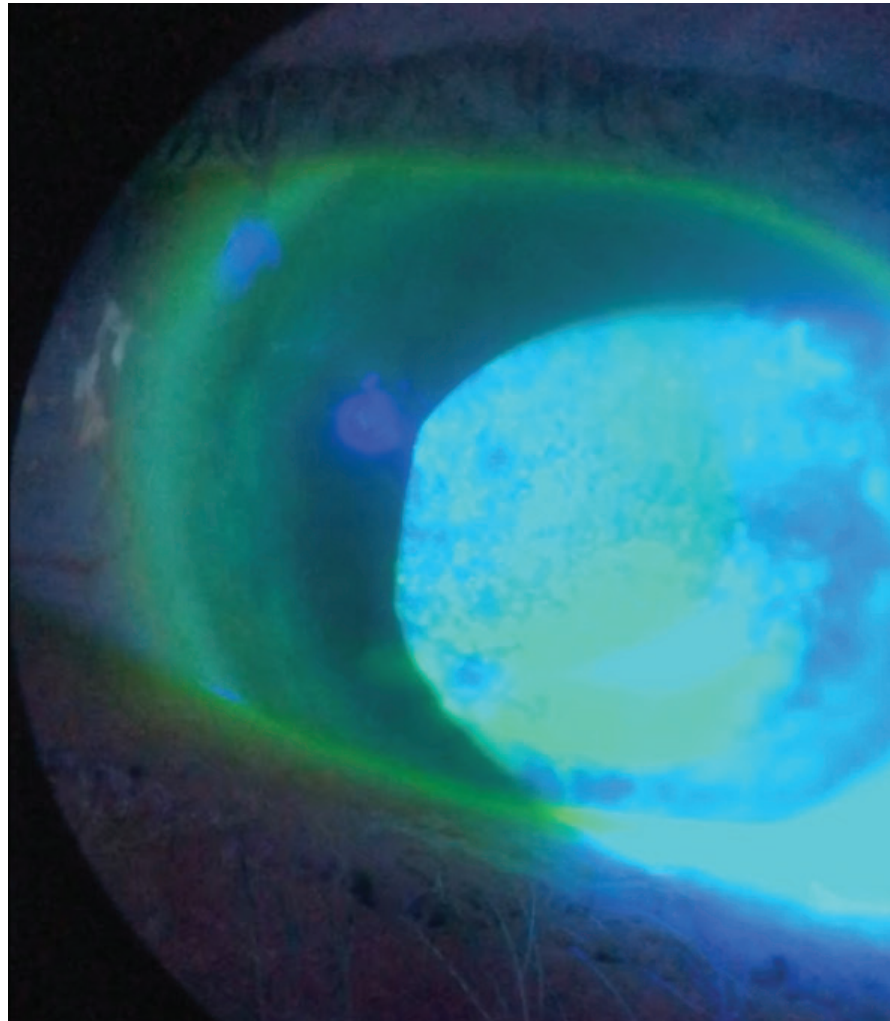


Figure 1. A patient undergoes cataract surgery with a Clareon Vivivity IOL (Alcon) at another clinic and presents for a consultation 4 months postoperatively, reporting dissatisfaction with their result. Upon examination, their UCVA is 20/50 OU due to severe OSD.

a multifocal or EDOF IOL to allow ample adaptation time. The combination of an anterior capsulotomy and an open posterior capsule reduces structural stability, which can make an IOL exchange, if required, more challenging and greatly increase the risk of macular edema, vitreous prolapse, and retinal detachment. For this reason, in our clinic, patients with a multifocal or EDOF IOL undergo an Nd:YAG laser capsulotomy only when we are 100% certain that PCO is the cause of their visual problems. If we suspect the issue might instead be slow neural adaptation (discussed later), a laser capsulotomy is not recommended.

DYSPHOTOPSIAS

Positive and negative dysphotopsias can occur when the off-axis reflection of light is detected by an unrelated retinal location or light bypasses the edge of the IOL to strike the peripheral retina. To make a diagnosis, I ask patients if the unwanted visual phenomenon occurs in the presence of an external light source. If so, dysphotopsias are the culprit. If, however, the phenomenon occurs in a dark room, retinal pathology such as peripheral vitreoretinal traction may be to blame.

A 2022 review article found that, during the early postoperative period, approximately 67% of

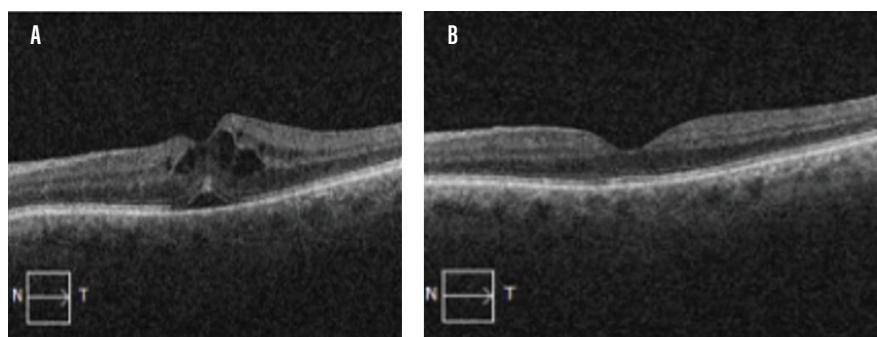


Figure 2. A patient develops significant CME 2 months following cataract surgery (A). After 6 weeks of treatment with a topical steroid and NSAID, the pseudophakic CME has fully resolved (B).

patients reported dysphotopsias that resolved on their own, whereas 2.2% of dysphotopsia complaints persisted for more than 1 year.³

When managing patients with longstanding dysphotopsias, I have had some success at reducing aberrant light rays with topical miotics. If this strategy is unsuccessful, an IOL exchange for a lens with a different edge design or reverse optic capture may be required.

REBOUND INFLAMMATION

Traditionally, steroids and/or NSAIDs are administered intra- or postoperatively to reduce inflammation during the first few weeks following surgery. Our clinic's standard drop regimen is tapered over 3 weeks. This timeline is an educated guess or best fit for our average patient.

Individuals who are prone to inflammation (or who do not adhere to the prescribed drug regimen) may experience rebound inflammation, in which white blood cells are visible floating in the anterior chamber weeks after surgery. These cells can negatively affect the patient's quality of vision and cause photophobia. Rebound inflammation may be managed with a repeat course of topical steroids or NSAIDs.

PSEUDOPHAKIC CYSTOID MACULAR EDEMA

An extreme form of rebound inflammation is pseudophakic cystoid

macular edema (CME), also known as Irvine-Gass syndrome. Pseudophakic CME is inflammatory in nature; the release of mediators such as cytokines and vascular endothelial growth factor causes a breakdown in the blood-retina barrier. Typically, pseudophakic CME is mild, not visually significant, and resolves spontaneously. Roughly 1% to 2% of cases, however, are visually significant and require treatment, with a peak incidence at about 6 weeks (Figure 2).⁴

CME can be difficult to diagnose with a fundoscopic examination. OCT is usually required for visualization and monitoring of mild to moderate cases. Patients who have preexisting macular pathology are at increased risk of developing pseudophakic CME, so these individuals should be monitored closely after cataract surgery, even in the absence of visual complaints.

In my experience, most patients with pseudophakic CME respond well to treatment with topical NSAIDs, steroids, or a combination of the two drug classes. I follow up with patients every 1 to 2 weeks and pay close attention to their IOP. If the CME does not respond to topical therapy, a sub-Tenon or intravitreal injection may be required.

FAILED NEURAL ADAPTATION

Neural adaptation is the method by which the brain learns to process new incoming stimuli. It usually occurs

during the first few weeks to months following cataract surgery but can be highly variable. Unfortunately, some patients need more time to adapt, particularly when they have elected to receive a multifocal or EDOF lens. Others do not adapt at all.

No IOL is without drawbacks. Those designed to increase a patient's range of vision will compromise quality of vision to some extent. Often, neural adaptation complaints are confused with PCO. The key question to ask when determining whether an Nd:YAG is appropriate is whether the patient's symptoms have persisted since day 1 or increased over time. If they've been constant since surgery, it's probably a problem with the lens design itself, and an IOL exchange may be necessary. However, I usually don't consider an IOL exchange for at least 2 to 3 months to allow sufficient adaptation time.

In my experience, there is a psychological component to managing surgical patients with cataract. The first step is to listen closely to them and determine the root of their complaint. Patients pay a premium for multifocal and EDOF lenses, so their expectations are naturally higher. If pathology is the problem, efficient diagnosis and treatment will help them reach a 20/happy result. ■

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NICHOLAS J. BRUNS, OD, FAAO

- Optometrist, Summit Eye Care, Waukesha, Wisconsin
- nbruns@summiteyecareclinic.com; Instagram @brunsnicholas
- Consultant (Bausch + Lomb, Nordic Pharma, RxSight), Speaker (Bausch + Lomb, RxSight)