



A PRE-SURGERY CHECKLIST FOR OPTOMETRISTS



Guidance for those comanaging patients undergoing refractive IOL surgery.

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Refractive intraocular surgery, including cataract and refractive lens exchange, offers an exciting opportunity to improve a patient's vision and quality of life. Presbyopia-correcting intraocular lens (PC-IOL) technology is ever-evolving, and IOL selection is based on a thorough patient assessment, including an evaluation of the patient's ocular health. This is where a presurgical checklist comes in, which must include candidacy criteria, effective and consistent communication, a review of the patient's

visual preferences, ocular history and examination, management of expectations, and a record of addressing any issues with the ocular surface.

THE CHECKLIST

When you have a patient in the market for refractive intraocular surgery, following the checkpoints below will ensure optimal results.

Criteria

Every procedure has specific criteria that deem a patient a candidate or not. Therefore, we must help patients

understand their treatment options.

Cataract surgery becomes medically necessary when a patient's vision declines and limitations in daily activities are consistent with the severity of their cataract. Patients who do not yet have cataracts or visually significant cataracts may consider refractive lens exchange to maximize vision at all distances and minimize dependence on glasses.

Refractive lens exchange is considered an elective procedure and is not covered by insurance.

Communication

It is vital to establish a good relationship with the refractive surgeon in order to learn about their assessment and surgical approach, choice of lenses, and language when discussing surgery with patients. Consistent communication among doctors will keep patients confident throughout the process.

Lifestyle and Visual Expectations

One of the preliminary considerations before refractive surgery is the patient's lifestyle and visual expectations. The answers to the questions below can provide valuable insights into the patient's preferences.

- Do they want partial or minimal spectacle dependence?
- What are the visual demands of their work or hobbies?
- What's their refractive error (eg, if nearsighted, do they like reading without glasses)?

- Do they wear contact lenses? Soft or rigid gas permeable?
- Do they have monovision?
- How tolerant would they be of glare and halos due to lens design?

Conversations about lens technology should be kept simple and focused on visual outcomes. If a patient wants to maximize their vision at all distances, I will first discuss multifocal IOLs. Conversely, some patients want to continue wearing glasses postoperatively and prefer a monofocal IOL. Nearsighted patients must be advised that technology may not match their natural reading ability. Patients who knit or have other specific near demands may still require the use of reading glasses after surgery. Patients who work or drive at night, or already experience night vision disturbance should be warned about decreased postoperative contrast sensitivity. They should also be aware that glare and halos may appear or worsen.¹

Patients wearing rigid gas permeable lenses before cataract surgery tend to have high visual expectations and should be advised about mild contrast reduction after surgery. They must also transition to soft contact lenses a few weeks to months before surgery to improve corneal irregularities and to stabilize corneal measurements.² Approximately 1 to 2 weeks before biometry measurements, patients

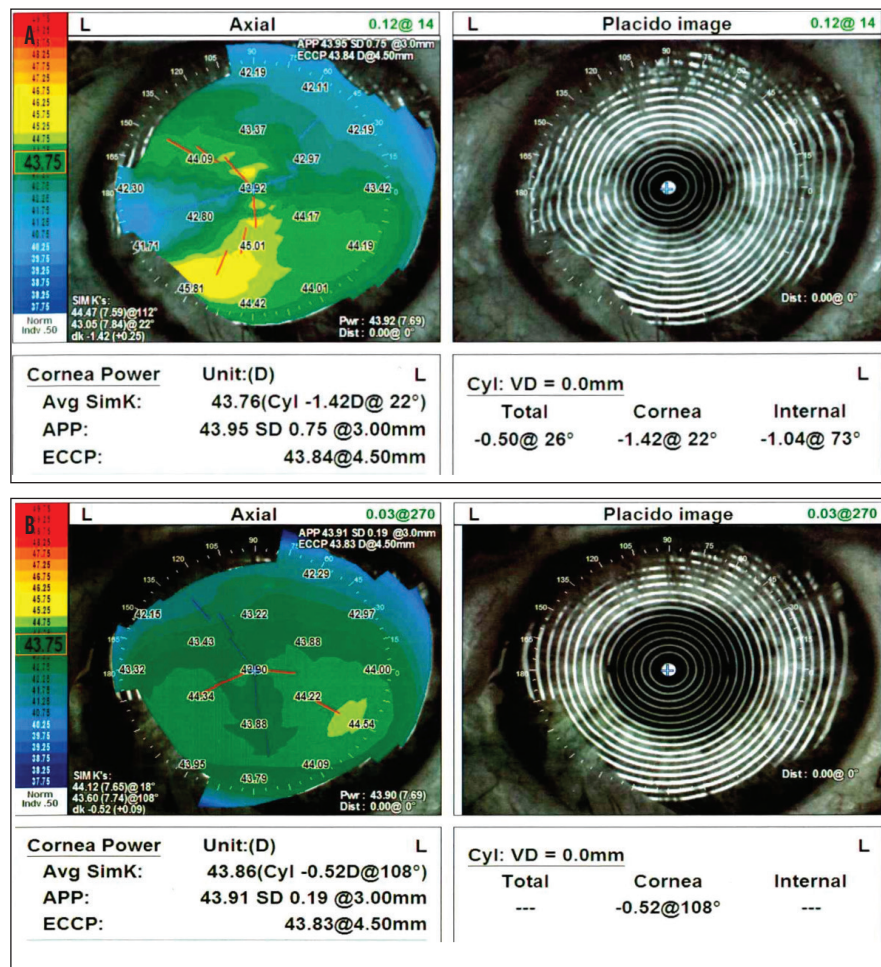


Figure 1. Patient with presurgical dry eye disease before (A) and after (B) treatment.

wearing soft contact lenses must also discontinue their use to normalize the cornea, achieve stability, and improve postoperative refractive accuracy.

Patients with successful monovision history may commit to a monovision setup after cataract surgery. It is important to inform patients with monovision that they may prefer wearing glasses while driving at night to reduce the occurrence of glare and halos following cataract surgery.³

It is also important to consider the patient's personality when determining their ability to neuro-adapt and tolerate the small loss of contrast sensitivity in exchange for a broader range of vision.¹ Some doctors use a questionnaire, while others assess personality in the examination room.

Ocular History and Examination

A careful examination should help set the patient up for postoperative success. Therefore, it is essential that

AT A GLANCE

- Using a presurgical checklist for patients going through refractive intraocular surgery removes roadblocks and paves the way toward a successful outcome.
- Conversations about lens technology should be kept simple and focused on visual outcomes.
- Providing patients with the necessary tools before surgery will make them feel empowered and confident, creating an optimal environment for achieving excellent results.

TABLE. Presurgical Dry Eye Treatment Guidelines

DRY EYES	PUNCTATE KERATITIS - LOW TEAR VOLUME	BLEPHARITIS, MGD, OCULAR ROSACEA	SALZMANN NODULES	EBMD
Mild to Moderate	Steroid drop	Antibiotic/steroid combination drop	Steroid drop	Steroid drop
	Hypochlorous acid	Hypochlorous acid or tea tree oil	Hypochlorous acid	Hypochlorous acid
	Lifitegrast ophthalmic solution 5% (Xiidra, Novartis Pharmaceuticals) or cyclosporine drops	Omega-3 supplement	Lifitegrast or cyclosporine drops	Lifitegrast or cyclosporine drops
	Punctal occlusion	Lifitegrast, or Cyclosporine drops	Oral doxycycline	Hypertonic tears
		Oral doxycycline	Punctal occlusion	Punctal occlusion
		Punctal occlusion		
Moderate to Severe	Amniotic membrane	Eyelid micro exfoliation	Superficial keratectomy	Amniotic membrane
		Thermal pulsation therapy	Intense pulsed light therapy	Superficial keratectomy
		Intense pulsed light therapy		

Abbreviations: EBMD, epithelial basement membrane dystrophy; MGD, meibomian gland dysfunction

all preexisting conditions affecting the visual pathway or causing increased risks during and after surgery be identified and addressed. Corneal topography can be performed to assess corneal irregularity, dryness, and astigmatism. Also be sure to evaluate for systemic medications, such as alpha-1 antagonist drugs, which can cause poor dilation and intraoperative floppy iris syndrome. You'll also want to rule out developmental anomalies, degenerative conditions, and other retinal, macular, and optic nerve pathology. If any of these conditions are present before surgery, explain their consequence and visual limitations to the patient. Those with mature cataracts require a B-scan to assess their fundus before surgery. High myopes are at increased risk of retinal detachments and require retinal clearance. Many myopic patients are likely to experience floaters postoperatively.

Other conditions that need to be identified include previous corneal refractive surgery (eg, radial keratotomy, LASIK, photorefractive keratectomy/advanced surface ablation); dry eye disease and punctate keratitis; eyelid abnormalities and disease; pterygium, inducing corneal astigmatism; corneal subepithelial fibrosis; stromal scars; epithelial basement membrane dystrophy (EBMD) and Salzmann nodular degeneration; corneal ectasia; endothelial abnormalities, such as Fuchs dystrophy; elevated IOP; and pseudoexfoliation.

Optimize the Ocular Surface

As part of the comanagement team, we as optometrists aim to diagnose ocular surface disease, educate patients about their preexisting conditions, and treat these diseases before refractive surgery. Studies have shown that dry eye symptoms tend to

increase after uncomplicated phacoemulsification for at least 3 months.⁴ Optimizing the ocular surface helps to restore corneal health, improve biometry measurements, and minimize visual fluctuations after surgery.⁵

My preoperative approach to diagnosing dry eye is to follow three simple steps:

1. Look at the eyelid for anatomic abnormalities, such as lid laxity, ectropion, entropion, and lagophthalmos, as well as ocular rosacea, blepharitis, scurf, debris, and *Demodex*.
2. Express the meibomian glands and document the ease of expression and meibum quality.
3. Assess the ocular surface by measuring tear volume, corneal and conjunctival fluorescein staining, and tear break-up time.

Another important factor concerning

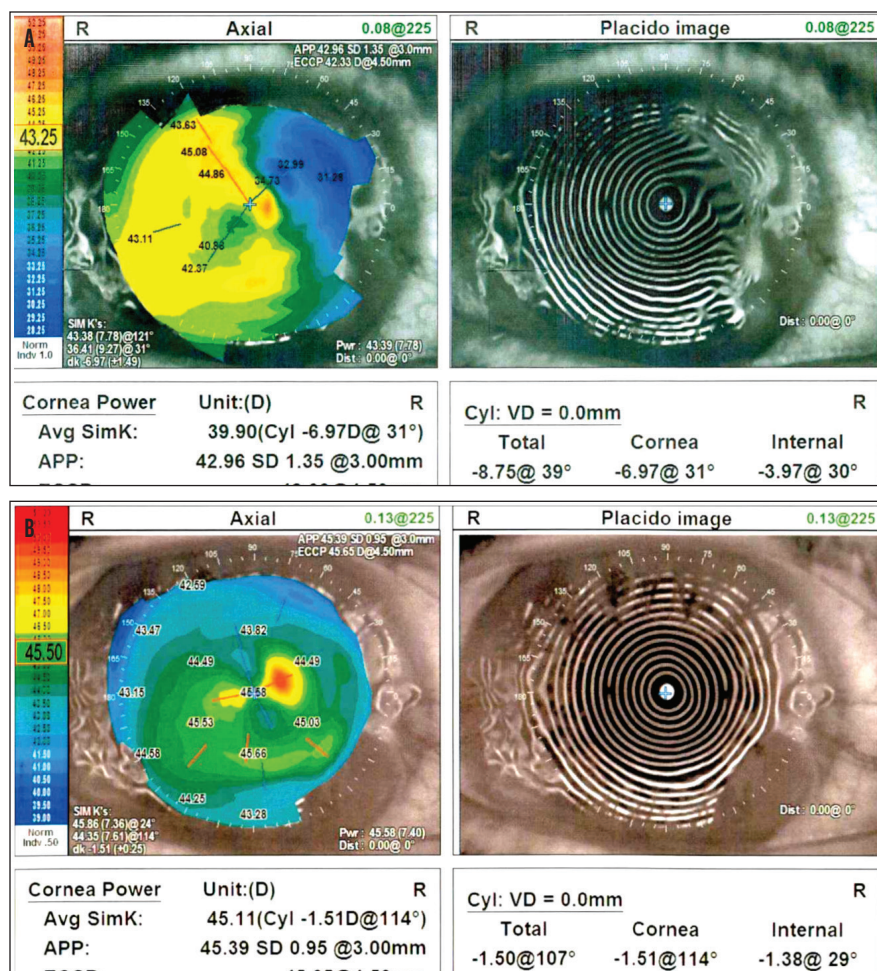


Figure 2. Patient with severe Salzmann nodules before (A) and after (B) superficial keratectomy.

dry eye disease is patient education. The Prospective Health Assessment of Cataract Patients' Ocular Surface study reported that 60% of patients with preoperative dry eyes were asymptomatic.⁶ Patients who are asymptomatic may have an easier time understanding their condition if it is compared with high blood pressure or cholesterol. This explanation usually improves compliance with treatment.

I explain to my patients that the cornea is similar to the windshield of a car. Keeping it clear improves visibility, but visibility decreases when the windshield is dry and dirty. Water and soap are the equivalents of dry eye treatment, which is needed to optimize the surface before and after surgery. Explaining how a proposed treatment affects the different layers of the tear film helps patients

understand the recommendations and partner in their care.

Discuss with patients the fact that cataract surgery and the creation of corneal incisions can aggravate their dry eye disease. Corneal sensitivity and tear production have been shown to decrease after cataract surgery.⁵ Those with PC-IOLs are more susceptible to visual disturbances from a poor tear film and other forms of ocular surface disease.

My presurgical core dry eye treatments include a steroid or antibiotic/steroid drop to lower inflammation, a hypochlorous acid solution to decrease bacterial load and reduce the risk of postoperative infection,^{5,7} a topical immunomodulator to increase tear production, and punctal occlusion to preserve tear volume (Figure 1).

Eyelid disease, including blepharitis, ocular rosacea, and meibomian gland dysfunction, may require additional treatments, such as oral doxycycline, omega-3 fatty acids, blepharoxfoliation, intense pulsed light therapy, and thermal pulsation treatments (Table).

Ocular surface conditions, including Salzmann nodules (Figure 2), EBMD, and severe punctate keratitis, may require an amniotic membrane or superficial keratectomy.

TAKE-HOME POINTS

Consistent communication, understanding patient preferences, diagnosing conditions affecting the visual pathway, restoring anatomy, and managing visual expectations during the preoperative examination will set your patients up for success. In addition, a multifaceted dry eye treatment approach is needed to optimize the tear film and normalize the ocular surface effectively. This will prevent new or worsening dry eye symptoms and minimize refractive misses, fluctuating vision, and postoperative infection. Finally, providing patients with the necessary tools before surgery will make them feel empowered and confident, creating an optimal environment for achieving excellent results. ■

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