

Raising Awareness about Laser Vision Correction

Do these patients sound familiar?

"I've worn glasses and contacts for years. My ophthalmologist never mentioned LASIK could be another option."

"Ten years ago, one of my friends had LASIK and she ended up with severe dry eye. I'm not sure I'd want to take the risk."

Precision technology enhances safety and predictability

Many people still consider elective refractive surgery to be a gamble even though LASIK technology has evolved rapidly over the last decade. In fact, today's advanced femtosecond lasers have reduced the frequency of side effects and complications, including the incidence of flap complications, potential for dry eye, and risk of infection. The advanced technology also allows physicians to more accurately predict patient outcomes.

Modern LASIK - high patient satisfaction rates

Before 2008, the average worldwide patient satisfaction rate for LASIK surgery was 95%.¹ However, the use of modern laser systems and advanced technologies provide slightly better visual outcomes and fewer side effects than earlier laser refractive surgery systems approved by the U.S. Food and Drug Administration. As a result, average patient satisfaction rates have increased to 98.7%.²

¹ LASIK world literature review: quality of life and patient satisfaction. Solomon KD, Fernández de Castro LE, Sandoval HP, et al. *Ophthalmology*. 2009 Apr;116(4):691-701.

² Modern laser in situ keratomileusis outcomes. Sandoval HP, Donnenfeld ED, Kohnen T, et al. *J Cataract Refract Surg*. 2016 Aug;42(8):1224-34.

Knowledge Is Power



Don't assume your patients will come to you with questions about laser vision correction. Today's patients expect their primary eye care physicians to take the initiative. Talk to your patient about vision correction options beyond glasses and contact lenses.

Download and print our educational handout on laser vision correction surgery to better inform your patients:

MassEyeAndEar.org/laservision

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243 Charles Street
Boston, MA 02114
MassEyeAndEar.org

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Dear Colleagues,

Recent advancements in refractive surgery technology have rapidly expanded options for patients with vision impairment due to myopia, hyperopia, or astigmatism. Currently, about 600,000 people have laser vision correction each year, and this volume largely correlates with consumer confidence and economic activity. According to current market research, higher projected household incomes and an improved sense of financial stability, coupled with advanced technology may encourage more people to consider elective corrective surgeries.

Precision excimer and femtosecond laser technology has increased the safety and efficacy of laser vision surgery in recent years. However, research shows that many consumers remain skeptical or fearful of the surgery. As ophthalmologists, we are increasingly challenged with managing patients' assumptions and expectations. In the right patients, surgery can be life-changing. However, educating patients about the benefits and potential risks of laser vision surgery during the pre-operative period, and setting realistic expectations with the overall outcome, are essential to maximizing patient outcomes and satisfaction.

In this issue of *Eye Insights*, we present three unique scenarios of patients who are considering refractive surgery, and the accompanying advice of our expert laser vision specialists. We also include digital resources for you and your patients, including a patient education handout, physician locators, and further recommended reading. We hope you find this information helpful in managing patient expectations around laser vision correction.



Joan W. Miller

Joan W. Miller, MD
Henry Willard Williams Professor of Ophthalmology
Chair, Harvard Medical School Department of Ophthalmology
Chief of Ophthalmology, Massachusetts Eye and Ear and
Massachusetts General Hospital

THE PROBLEM

Vision correction procedures may reduce or eliminate the need for glasses or corrective lenses—but for some people, the surgery feels too risky.

THE SOLUTION

Ophthalmologists need to explain the expected advantages, disadvantages, outcomes, risks, and benefits of laser vision correction.

THE WAY FORWARD

1. Relate

Be honest and empathetic
Listen and address concerns
Communicate clearly in plain language

2. Educate

Download and print an educational handout on laser vision correction surgery to better inform your patients:

MassEyeAndEar.org/laservision

3. Refer

Visit the American Academy of Ophthalmology website to find qualified refractive surgeons in your area:

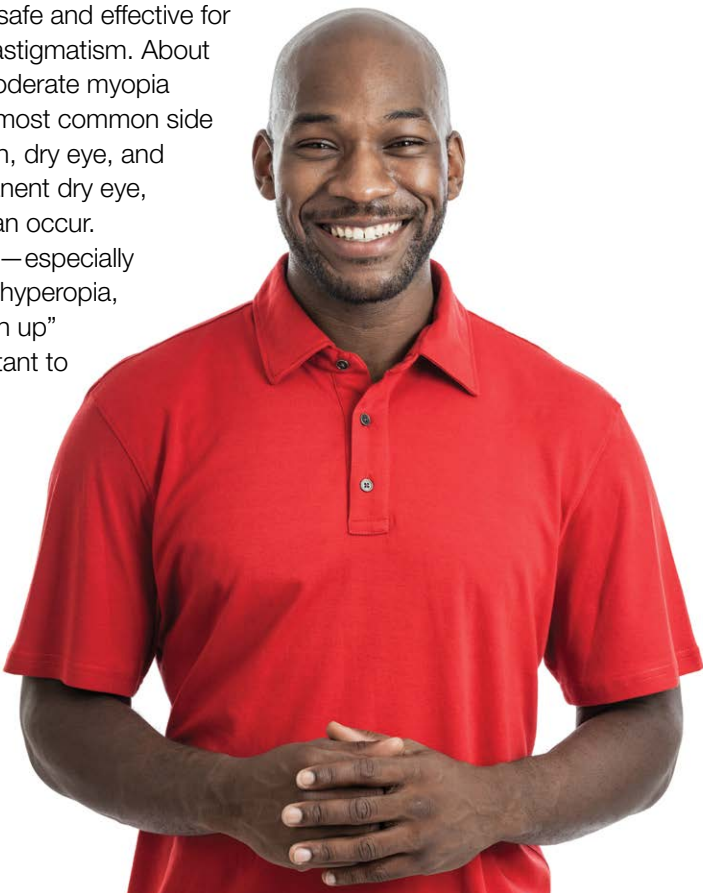
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A Good Candidate for LASIK

Your patient is a 25-year-old man with myopia. His prescription has been stable for several years. He shows no corneal abnormalities and is generally healthy with no comorbidities. He asks, “Am I a good candidate for LASIK?”

Yes. Good candidates are 21 years and older, have good eye and general health, with stable prescriptions (for at least one year).

Talking Points: LASIK is generally safe and effective for correcting myopia, hyperopia, and astigmatism. About 94-100% of patients with low-to-moderate myopia achieve 20/40 vision or better. The most common side effects include over/under correction, dry eye, and nighttime halos/glare. Rarely, permanent dry eye, glare, or markedly reduced vision can occur. Approximately 3-10% of all patients—especially those with high degrees of myopia, hyperopia, and astigmatism—will need a “touch up” surgery within two years. It is important to stress that LASIK does not prevent or correct for presbyopia, which typically develops around age 40. This patient may still need to wear glasses after surgery. Managing expectations is vital to a successful surgery and patient satisfaction.



A Good Candidate for PRK

Your patient is a 28-year-old mother of two with stable vision and some irregularities in the shape of her cornea. She wears contacts, but sometimes they irritate her eyes. She has a thin cornea, mild dry eye, and occasionally uses eye drops. She asks, “Am I a good candidate for PRK?”

Yes. PRK may be the best choice because she has a thinner cornea and mild dry eye. Good candidates are older than 21 years, healthy, with stable prescriptions (for at least one year). However, a careful screening is necessary to confirm her eligibility.

Talking Points: PRK is a form of advanced surface ablation that corrects the same vision problems as LASIK, but it may be a better option for people with thin corneas or pre-existing dry eyes. Recovery time is longer and less comfortable than for LASIK. Common side effects include over/under correction, dry eye, and nighttime halos/glare. Rarely, permanent dry eye, glare, or markedly reduced vision can occur. About 92% of PRK patients achieve 20/40 vision or better, and 70% of PRK patients achieve 20/20 vision. PRK works better for low-to-moderate hyperopia than high hyperopia. This patient should be made aware that PRK will not prevent presbyopia, which typically develops around age 40, and she may still need to wear glasses after surgery. Managing expectations is vital to a successful surgery and patient satisfaction.



Considerations for the Aging Eye

Your patient is a 50-year-old woman, and this is her first consultation with you. She had LASIK in her 30s and now wears reading glasses for presbyopia. You learn that cataracts and glaucoma run in her family. She says, “I wish I didn’t need reading glasses. Are there any options for me?”

Most likely, yes. Early- and mid-presbyopic people between the age of 40 and 60 years can be ideal candidates for corneal inlays. The inlays are implanted in presbyopic emmetropic eyes, but can also be used in eyes with myopia, hyperopia, and astigmatism as a combined procedure with LASIK.

Talking Points: Careful screening is required to make sure she is a good candidate for corneal inlays or any other vision correction procedure. Because she had LASIK in her 30s, special conversion tables must be used when evaluating her risk for glaucoma. If she shows early signs of cataract, a better choice for her might be refractive lens exchange (also known as early pre-cataract surgery). Her overall health must also be considered. Autoimmune diseases, comorbidities, or other ocular disorders may rule her out of as a strong candidate.



About Mass. Eye and Ear

Massachusetts Eye and Ear is the primary teaching hospital affiliate of Harvard Medical School and an international leader in ophthalmology. Members of the Cornea and Refractive Surgery Service have helped to pioneer many of the developments in laser vision correction by actively participating in FDA-reviewed clinical trials and developing novel surgical techniques. Surgeons at Mass. Eye and Ear perform more than 600 laser-assisted refractive surgeries each year using state-of-the-art technology, such as femtosecond lasers (LensSx®) and excimer lasers (ALLEGRETTO WAVE®). Mass. Eye and Ear offers the full array of laser vision correction services, including LASIK, advanced surface ablation (including PRK), phakic intraocular lens (IOLs) implants, refractive/clear lens exchange, corneal inlays, and arcuate keratotomy.

MassEyeAndEar.org/laservision

Further Reading

1. The evolution of corneal and refractive surgery with the femtosecond laser. Aristeidou A, Taniguchi EV, Tsatsos M, et al. *Eye Vis (Lond)*. 2015 Jul 14;2:12.
2. Avoidance of serious medical errors in refractive surgery using a custom preoperative checklist. Robert MC, Choi CJ, Shapiro FE, et al. *J Cataract Refract Surg*. 2015 Oct;41(10):2171-8.
3. 101 pearls in refractive, cataract, and corneal surgery (2nd ed.): Available in select bookstores or online. Edited by SA Melki and DT Azar. Slack Inc. 2006.
4. The quest for spectacle independence: A comparison of multifocal intraocular lens implants and pseudophakic monovision for patients with presbyopia. Greenstein S, Pineda R 2nd. *Semin Ophthalmol*. 2017;32(1):111-115.
5. Phakic intraocular lenses and their special indications. Pineda R 2nd, Chauhan T. *J Ophthalmic Vis Res*. 2016 Oct-Dec;11(4):422-428.

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Contributors: Roberto Pineda II, MD, and Kathryn Masselam Hatch, MD

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