

Laser Eye Surgery for Presbyopia: Restoring Near Vision with Refractive Procedures.

Carlos Arronte*

Department of ophthalmology, Leiden University Medical Center, Leiden, Netherlands

Introduction

Presbyopia, often referred to as "aging eyes," is a common age-related condition that affects near vision, making it difficult to focus on close-up objects. While reading glasses or bifocals have traditionally been used to manage presbyopia, advancements in laser eye surgery now offer a permanent solution for restoring near vision. In this article, we will explore the role of laser eye surgery in treating presbyopia, the different refractive procedures available, candidacy criteria, potential risks, and benefits [1].

Presbyopia is a natural age-related condition that occurs when the lens of the eye loses its flexibility, making it difficult to focus on close-up objects. This typically becomes noticeable around the age of 40 and progresses over time. Common symptoms of presbyopia include difficulty reading small print, eyestrain, and the need to hold reading material at arm's length to see it clearly [2].

Laser eye surgery offers a permanent solution for correcting presbyopia by reshaping the cornea to create a multifocal or accommodating profile, allowing for improved near vision. By using advanced laser technology, surgeons can address both distance and near vision in individuals with presbyopia, reducing or eliminating the need for reading glasses or bifocals [3].

LASIK with monovision involves correcting one eye for distance vision and the other eye for near vision. While this approach may provide good near vision without glasses, some individuals may experience reduced depth perception or visual quality. Multifocal LASIK or PRK involves creating multiple zones of focus on the cornea, allowing for clear vision at various distances. This approach can provide improved near, intermediate, and distance vision, reducing the dependence on reading glasses or bifocals [4].

RLE is a surgical procedure similar to cataract surgery, where the natural lens of the eye is replaced with an artificial intraocular lens (IOL). Advanced IOLs, such as multifocal or accommodating lenses, can provide improved near vision and reduce the need for reading glasses. Age: Candidates for laser eye surgery for presbyopia are typically over the age of 40 and have stable near vision correction. Good Overall Eye Health: Candidates should have healthy eyes, free from conditions

such as glaucoma, cataracts, and corneal diseases [5].

Realistic Expectations: Candidates should have realistic expectations regarding the outcome of the surgery and understand that complete elimination of reading glasses may not be achieved in all cases. Visual Disturbances: Visual disturbances such as glare, halos, or reduced contrast sensitivity may occur, particularly in low-light conditions. Under correction or Overcorrection: Some patients may experience residual refractive error or overcorrection, necessitating additional enhancement procedures [6].

Dry Eye Syndrome: LASIK and other laser eye surgeries can exacerbate dry eye symptoms, particularly in older patients with reduced tear production. Regression: Over time, some patients may experience regression of the initial correction, leading to a gradual decline in near vision and the need for reading glasses. Reduced Dependence on Reading Glasses: Laser eye surgery can significantly reduce or eliminate the need for reading glasses or bifocals, providing greater convenience and freedom in daily activities [7,8].

Improved Quality of Life: By restoring near vision, laser eye surgery can enhance quality of life and productivity, allowing individuals to enjoy activities such as reading, hobbies, and work-related tasks without visual limitations. Following laser eye surgery for presbyopia, patients are typically advised to follow specific postoperative care instructions: Use of Eye Drops: Patients may be prescribed lubricating eye drops and anti-inflammatory medications to promote healing and reduce dryness and inflammation [9].

Avoidance of Strenuous Activities: Patients should avoid strenuous activities, swimming, and exposure to dust or debris for a specified period following surgery to minimize the risk of complications. Scheduled Follow-Up Visits: Regular follow-up visits with the surgeon are essential for monitoring healing progress, assessing visual acuity, and addressing any concerns or complications that may arise [10].

Conclusion

Laser eye surgery offers a promising solution for individuals seeking to restore near vision and reduce their dependence on reading glasses or bifocals. With advancements in technology and surgical techniques, surgeons can customize treatment plans to meet the unique needs and preferences of each

*Correspondence to: Carlos Arronte, Department of ophthalmology, Leiden University Medical Center, Leiden, Netherlands, E-mail: arronte@sund.ku.dk

Received: 20-April-2024, Manuscript No. OER-24-132950; Editor assigned: 22-Apr-2024, Pre QC No. OER-24-132950 (PQ); Reviewed: 26-Apr-2024, QC No. OER-24-132950; Revised: 29-Apr-2024, Manuscript No. OER-24-132950 (R); Published: 30-Apr-2024, DOI: 10.35841/oer-8.2.208

patient. While laser eye surgery for presbyopia is generally safe and effective, it is essential for patients to undergo a thorough preoperative evaluation, understand the potential risks and benefits, and follow postoperative care instructions diligently to achieve optimal outcomes and enjoy the benefits of improved near vision.

References

1. Lin JT, Mallo O. Treatment of presbyopia by infrared laser radial sclerectomy. *J Refract Surg.* 2003;19(4):465-7.
2. Gil-Cazorla R, Shah S, Naroo SA. A review of the surgical options for the correction of presbyopia. *Br J Ophthalmol.* 2016;100(1):62-70.
3. Mercer RN, Milliken CM, Waring IV GO. Future trends in presbyopia correction. *J Refract Surg.* 2021 Jun 1;37(S1):S28-34.
4. Ruiz LA, Cepeda LM, Fuentes VC. Intrastromal correction of presbyopia using a femtosecond laser system. *J Refract Surg.* 2009;25(10):847-54.
5. O'Keefe M, O'Keefe N. Corneal surgical approach in the treatment of presbyopia. *J Clin Exp Ophthalmol.* 2016;7(512):2.
6. Torricelli AA, Junior JB, Santhiago MR. Surgical management of presbyopia. *Clin Ophthalmol.* 2012;1459-66.
7. McDonald MB, Mychajlyszyn A, Mychajlyszyn D. Advances in corneal surgical and pharmacological approaches to the treatment of presbyopia. *J Refract Surg.* 2021;37(S1):S20-7.
8. Stival LR, Figueiredo MN, Santhiago MR. Presbyopic excimer laser ablation: a review. *J Refract Surg.* 2018;34(10):698-710.
9. Glasser A. Restoration of accommodation: surgical options for correction of presbyopia. *Clin Exp Optom.* 2008;91(3):279-95.
10. Holzer MP, Mannsfeld A, Ehmer A. Early outcomes of INTRACOR femtosecond laser treatment for presbyopia. *J Refract Surg.* 2009;25(10):855-61.