

Refractive Lens Exchange (RLE)

Another Option for Correcting Refractive Problems

Although laser refractive surgery, SMILE, PRK and LASIK are the most widely used alternatives for surgically correcting focusing problems, a procedure known as refractive lens exchange, or clear lens extraction, provides another option. It is an option for people with very high levels of nearsightedness or farsightedness and for people who have early signs of lens opacity. In addition, people in their middle years may appreciate the dual advantage of a refractive lens exchange: not only will it correct nearsightedness or farsightedness, but it also prevents any future need for primary cataract surgery.

During refractive lens exchange, the eye's natural lens is removed and replaced with a better lens, which has been selected to compensate for the eye's refractive problems. In effect, the lens implant acts like a permanent contact lens within the eye, which can only provide a fixed range of focus rather than multiple ranges of focus.

The Procedure

The refractive lens exchange is the same procedure as modern cataract surgery. At the beginning of the surgery, a small incision of 1/8 of an inch (3.5mm) is made either in the sclera or in the periphery of the cornea. A delicate instrument is inserted through the incision to create a circular opening in the front of the lens capsule. A suction tip is then inserted into the lens capsule and the gel-like natural lens is removed. Once the natural lens has been suctioned out, a lens implant is inserted into the lens capsule. Antibiotic solutions are placed around the new lens to reduce any risk of infection, and the surgery is usually completed without stitches, since the incisions are designed to be self-sealing.

Anesthesia

Refractive lens exchanges are relatively pain-free for the patient because proven effective anesthesia methods are used during the surgery. Depending upon individual circumstances, the surgeon may elect to use either topical or local anesthesia. Topical anesthesia uses eye drops to numb the surface of the eye. The patient is still able to see and move the eye during surgery and patches are not required afterward. Topical anesthesia is the most commonly used type of pain management at the Herzig Eye Institute, but local anesthesia may be more suitable for a small number of patients and procedures.

Risks and Benefits

As with any type of surgery, there are risks and advantages to a refractive lens exchange. Some of the drawbacks of a refractive lens exchange include:

- Occasional need for glasses: Lens implants provide only a fixed range of focus. Lens implants cannot “accommodate” or change shape as the natural lens does to focus on objects at different focal distances. Many refractive lens exchange patients aim to have the lens implant provide both eyes with good distance vision, with glasses used for reading. Others prefer to have one eye targeted for close vision, in an attempt to reduce their need for reading glasses, although this choice can impair depth perception.
- Increased risk of retinal detachment: Nearsighted people usually have longer eyes, which can result in fragile retinas, which are more prone to retinal holes or tears. Any surgery within the eye carries a risk of retinal detachment, and this risk increases as the amount of nearsightedness increases. The risk of retinal detachment is low for farsighted patients.
- Risks associated with surgery within the eye: Since a refractive lens exchange is the same as a cataract procedure, the risks, which are associated with cataract surgery, are also relevant to refractive lens exchange. The following complications are extremely uncommon, but they can occur: hemorrhage within the eye, infection within the eye, induced

astigmatism, swelling around the eye, and increased dryness of the eye. Other complications associated with lens exchange procedures are reflections or slight distortions from the lens implant, an increase in the number, shape or size of floaters, loss of corneal clarity, dislocation of the intraocular lens, wound leak, glaucoma and uveitis (inflammation).

Some advantages of refractive lens exchanges include:

- Correction for very high levels of nearsightedness and farsightedness: Although laser refractive surgery can correct nearsightedness up to 10 to 12 diopters and farsightedness up to 4 diopters, corrections are less predictable in higher ranges. In addition, people with more extreme refractive errors are not able to benefit from these laser procedures. When a patient has a significant amount of astigmatism, the surgeon may elect to do an astigmatic keratotomy or use a toric intraocular lens in conjunction with the lens exchange in order to reduce the astigmatism.
- More predictable outcomes: When a person is nearsighted or farsighted, it is easier for the surgeon to predict the refractive outcome after a refractive lens exchange than after an excimer laser procedure. However, it should be noted that within the first few months after surgery, the lens capsule would shrink and wrap around the lens implant. This may cause a change in the refractive outcome and focus distance. A few people may require excimer laser enhancement if their focusing ability falls outside of the established range of predictable outcomes for refractive lensectomy.
- Faster visual stabilization: It takes approximately three months for vision to stabilize after an excimer laser procedure. Vision improves significantly immediately after a refractive lens exchange and is almost always stable within two weeks.
- Avoidance of cataracts: Since a refractive lens exchange removes the eye's natural lens, a cataract can never develop in the eye after this surgery. Anyone who has had a refractive lens exchange will never experience the visual problems associated with cataract development. It is however

possible to develop a “secondary cataract” - this is not an actual cataract, but the clouding of the lens capsule. This is treated with a simple laser procedure. Once the initial treatment for secondary cataract is performed, it is very unlikely that one would require a second procedure.

People considering refractive lens exchange surgery at the Herzig Eye Institute can be comfortable knowing that Herzig Eye Institute surgeons have performed over 20,000 cataract procedures and are recognized as leaders in cataract surgery. Anyone who is considering a refractive lens exchange should undergo a thorough eye examination and carefully discuss all available options with an experienced eye surgeon.

Lifetime Commitment

Your original RLE procedure is backed by the Herzig Eye Institute Lifetime Commitment. If an additional procedure is deemed medically necessary, it will be performed at no additional cost. You must return for the required number of post-op exams and maintain regular eye examinations with the ophthalmologist or optometrist managing your care.

The Herzig Eye Institute surgeons and doctors are committed to providing you with your best possible vision. Our pricing structure is as simple and straight-forward as our Lifetime Commitment to you.

For more information check our website at:
www.herzig-eye.com.