Vision Correction Surgery Patient Information

Anatomy of the eye: The eye is a complex organ composed of many parts, and normal vision requires these parts to work together. When a person looks at an object, light rays are reflected from the object to the cornea. In response, the cornea and lens refract and focus the light rays directly on the retina. At the retina, the light rays are converted to electrical impulses that are transmitted through the optic nerve to the brain, where the image is translated and perceived. The picture of the eye below identifies parts of the eye to assist you in understanding the anatomy of the eye.

Refractive Errors: Any deviation from normal vision is referred to as a refractive error. Myopia, hyperopia, astigmatism, and presbyopia are different types of refractive errors.

- **Myopia** (nearsightedness) means the eye is longer than normal, resulting in difficulty seeing distant objects as clearly as near objects.
- **Hyperopia** (farsightedness) means the eye is shorter than normal, resulting in difficulty seeing near objects as clearly as distant objects.
- **Astigmatism** means the cornea is oval-shaped, resulting in blurred vision.
- **Presbyopia** is the loss of lens and eye muscle flexibility due to the natural aging process, which causes difficulty in focusing on near objects.

Treatment for Refractive Errors

**Eyeglasses:** Eyeglasses correct nearsightedness, farsightedness, and astigmatism by using appropriate lenses to diverge or converge light rays and focus them directly on the retina.
**Contact lenses:** Contact lenses correct nearsightedness, farsightedness, astigmatism, and presbyopia.

**Vision Correction Surgery:** Vision correction surgery is an elective procedure available to correct refractive errors. Vision correction surgery alters the shape of the cornea to allow light rays to be focused directly on the retina, and is designed to dramatically reduce the need for eyeglasses or contact lenses. Vision correction surgery is not for everyone and is associated with potential risks and complications.

Types of Vision Correction Surgery

**LASIK (Laser In Situ Keratomileusis):** The LASIK procedure is designed to correct nearsightedness, farsightedness, and astigmatism by using an excimer laser to reshape the cornea. LASIK is an outpatient procedure and takes approximately 5-15 minutes per eye to complete. Although some pressure sensation may be felt during LASIK, it is generally painless. Before the procedure, anesthetic drops are used to numb your eye. During the procedure, an instrument holds your eyelid open and you are asked to focus on a target light. An instrument called a microkeratome is used to create a protective flap of corneal tissue. While the corneal flap is being created, your vision becomes gray and the target light disappears. Your surgeon then folds the corneal flap to the side and uses a laser to apply computer-controlled pulses of light energy to reshape the cornea. After the laser portion of the procedure is completed, the corneal flap is replaced and the natural suction within the cornea seals the flap back in place within 1-5 minutes. Sutures are not necessary. In creating a corneal flap to reshape the cornea, LASIK does not disrupt the front surface of the cornea and is therefore generally less painful, has a quicker recovery period and shorter post-operative need for steroid eye drops than other surgical procedures. LASIK is currently the most common vision correction surgery and may be the treatment of choice for patients desiring a more rapid visual recovery. Although some patients experience overnight improvement in vision, it may take weeks or months for your vision to stabilize.

![LASIK](image)

**LASIK Intralase:** LASIK Intralase differs from LASIK in that, whereas LASIK uses a microkeratome to create the protective corneal flap; Intralase uses a laser. This allows the surgeon greater control of the flap dimensions. Please see the above description regarding “LASIK” for additional details regarding the procedure.
PRK (Photorefractive Keratectomy): PRK is designed to correct nearsightedness, farsightedness and astigmatism by using an excimer laser to reshape the cornea without creating a flap in the cornea. PRK is an outpatient surgery and takes approximately 5-15 minutes per eye to complete. Although some pressure sensation may be felt during PRK, the procedure is generally painless. Before the procedure, anesthetic drops are used to numb your eye. During the procedure, an instrument holds your eyelid open and you are asked to focus on a target light. Your surgeon then removes the protective surface layer of the cornea (the corneal epithelium) and uses an excimer laser to apply computer-controlled pulses of light energy to reshape the cornea. After PRK is completed, the surgeon either inserts a bandage contact lens or patches the eye closed for a few days. The corneal epithelium grows back over 3-4 days, and vision usually improves once the epithelium is healed. In certain situations, special medications may be used during or after the surgery to reduce the chance of scar tissue formation. Your surgeon will further discuss the use of these medications with you prior to your surgery. The risk of pain, infection, and corneal scaring is higher with PRK than with LASIK; however, the intra-operative risks of a flap complication are lessened with PRK because no corneal flap is created. If you have dry eyes or a high prescription, PRK results in a lower risk of Dry Eye following surgery.

LASIK Enhancement: LASIK Enhancement surgery is an elective surgery which uses an excimer laser to further reshape the cornea following previous refractive surgery. This outpatient surgery takes approximately 5-15 minutes per eye to complete. Although some pressure may be felt during the procedure, it is generally painless. LASIK Enhancement surgery may be performed by either lifting the corneal flap that was created during your original LASIK procedure and applying laser energy to the corneal bed (flap lift Enhancement) or by creating a new corneal flap and reshaping the cornea with the laser (repeat LASIK Enhancement). Your surgeon will discuss with you which of these options is most appropriate for your LASIK Enhancement surgery.
Candidates for Vision Correction Surgery:

Generally, you are a good candidate for vision correction surgery if you:

- Are nearsighted, farsighted or have astigmatism
- Are at least 18 years of age
- Have had a stable eyeglass or contact lens prescription for at least one to two years
- Are in good general health

Generally, you are not a good candidate for vision correction surgery if you:

- Have certain eye diseases, such as cataracts, glaucoma or keratoconus
- Have certain eye viruses, such as herpes simplex and herpes zoster
- Have certain health problems, such as uncontrolled diabetes, autoimmune or collagen vascular disease or any condition that weakens your immune system
- Take certain medications that weaken your immune system
- Are pregnant, nursing or plan to become pregnant in the next six months
- Are in a profession that prohibits vision correction surgery
- Have an implanted electronic device such as a pacemaker or defibrillator

Conditions your Doctor should know about: If you are taking any medications or have or had one of the conditions listed below, you MUST inform your surgeon and your personal eye care provider to make sure that vision correction surgery is appropriate for you:

- Amblyopia (lazy eye)
- Strabismus (muscle imbalance) or previous strabismus surgery
- Severe dry eyes
- Previous eye surgery or injury
- Any recurrent, residual or active eye condition which may affect healing
- Keloid scarring with previous surgical healing
- Back problems, claustrophobia or psychological problems

General Risks and Complications: Most patients are pleased with the results of vision correction surgery, however, like any surgical procedure, vision correction surgery is associated with potential risks and complications. It is very important that you carefully consider the alternatives, risks, and benefits of vision correction surgery before deciding whether the surgery is right for you. Despite the best of care, complications and side effects may occur which could negatively impact your vision.

No Guarantees. There is no guarantee that vision correction surgery will improve your vision or that you will not need eyeglasses or contact lenses after surgery in order to perform your daily activities. Even if an excellent result is achieved, you may still require eyeglasses for night driving and reading. In addition, just as you might need to change your eyeglasses or contact lens prescription over time, your eyes may change over time regardless of whether you have had vision correction surgery. You may require additional surgery to continue to have your best vision.

Risks and Complication: It is impossible to list all the potential risks and complications associated with vision correction surgery. A description of the risks and complications associated with the particular
surgery you have selected will be provided to you when you prepare for surgery. Generally, complications associated with vision correction surgery include:

- Under correction or over correction
- A lessening or increasing of the effect of the surgery over time
- Infection
- Dry eyes, which is generally treatable with artificial tears and resolves in 1-3 months, but may be permanent.
- A prescription imbalance between eyes
- Aggravation of the eye coordination problems
- The following common side effects which are usually temporary but which may be permanent: pain or discomfort, foreign body sensation, increased sensitivity to light, glare and halos around lights, haze or fluctuating vision.
- Loss of best corrected vision (your visual sharpness or crispness after surgery may not be as good as your vision with eyeglasses or contact lenses before surgery).
- Injury or perforation of the cornea which could result in loss of vision
- Death

Pre/Post Surgery Expectations:

**Pre/Post surgery procedures vary and will be determined by the surgeon you choose. Below are situations that may occur.**

**Before Surgery:** You will be asked to refrain from wearing contact lenses for some period of time before the day of surgery. You will sign a informed Consent for the particular vision correction surgery you have selected and discuss all your questions and concerns with you surgeon and personal eye care provider.

**The Day of Surgery:** Your eyes may be examined and the surgery discussed with you to ensure you are firm in your decision to undergo vision correction surgery. You may be asked to sign any necessary paperwork. You may be instructed to take any pre-operative medications, if necessary, and will be taken to surgery.

**After Surgery:** You will be provided with detailed post-operative instructions, determined by your surgeon, to follow for the specific vision correction procedure you have chosen.

- Rest as much as possible for the first evening following surgery, as this rest helps the eye heal more quickly
- Avoid swimming, hot tubs or whirlpools for one week (showers and baths are fine 24 hours after surgery, but avoid getting water and shampoo in your eyes for the first few days).
- Avoid eye makeup, gardening and dusty, dirty environments for one week
- Do not watch TV or read for prolonged periods of time for the first few days- this causes dry eyes and slows healing
- Avoid driving for the first few days because you may experience blurred vision and the loss of depth perception. You should not resume driving until you feel you are able.

**Follow-Up Appointments:** Follow-up care is essential to achieve optimal results of surgery. To monitor your recovery and progress, you will be asked to return for scheduled follow-up visits daily, weekly, semi-
monthly, or semi-annually, and at such additional times as may be necessary. It is very important that you attend each follow-up appointment so that your progress can be monitored by your personal eye care provider.

**How to choose a refractive surgeon:** Research your options online. Many surgery centers will allow you visit prior to scheduling an appointment to watch surgery being performed. Below are the names of three well respected refractive surgeons in the area.

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<th>Woolfson Eye Institute</th>
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<tr>
<td>Dr. Richard Carlin</td>
<td>Dr. Eugene Gabianelli</td>
<td>Dr. Jonathan Woolfson</td>
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<tr>
<td>Snellville, GA</td>
<td>Atlanta, GA</td>
<td>Lawrenceville, GA</td>
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<td>(770)979-2020</td>
<td>(404)257-5545</td>
<td>Atlanta, GA</td>
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<td><a href="http://www.carlinvision.com">www.carlinvision.com</a></td>
<td><a href="http://www.LASIK.com">www.LASIK.com</a></td>
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