LASIK and Refractive Surgery

Laser and Lens Vision Correction Options
Dr. Andrew Lyle, vision pioneer and founder of The Eye Institute of Utah, was the first ophthalmologist to offer LASIK vision correction to the state of Utah. Since that time, vision correction has evolved even further so that patients now have an array of choices for their procedure, depending on their personal eye health and vision goals. Vision correction is not a step to be taken lightly as our sight is one of the most valuable senses that help us enjoy life. That is why the dedicated surgeons at The Eye Institute of Utah are not only conservative in their approach, but they also offer a wide range of surgical solutions such as LASIK, PRK, Visian ICL™ surgery, and refractive lens exchange to help you help you reduce, and often eliminate, your dependence on eyeglasses and contact lenses. Today the most commonly performed vision correction procedure, LASIK, is almost a household term for those wanting to reduce or eliminate their dependency on contacts or glasses and the results have been fantastic. However, for many people, LASIK is not always the best option for vision correction. We offer a variety of alternatives for patients who have high prescriptions, thin corneas, dry eye and even presbyopia. If you have been told in the past that you were not a good candidate for LASIK, we may have a procedure that is perfect for you!

For over 30 years, The Eye Institute of Utah has been giving people vision for life...
What is a Refraction and Refractive Error?

First and foremost, we should give you some background on how your eye works and define “refractions” and “refractive errors” as they are commonly used terms in the eye care field. Refractions deal with the testing that measures how light and images pass through your eye and focus on the back surface of your eye (the retina) to form a picture that your brain processes. It’s hard to imagine that this is how you actually SEE! One of the best ways to think of how your eye works is to think of the inner workings of a camera. The front surface or lens of the eye (the cornea) has certain magnification power just like a camera lens, but it is not always shaped perfectly like a camera lens. When the cornea is not absolutely perfect, the images cannot be clearly transmitted. These are the imperfections or “refractive errors” that will be described in the following section. Once images pass through the cornea, a second interior lens also helps to focus the image on the retina. So there are two lenses that can possibly affect your “refraction.” When we test your vision, we measure the focusing strengths of both lenses together so we can determine what is needed to get your best possible vision. Your refractive error is the measurement or prescription (just like your glasses or contacts) that tells us how to correct your focusing power or vision.

**Myopia (nearsightedness)**

Myopia, or nearsightedness, is an eye condition that occurs when the cornea is too steep or the total length of the eye is too long. This means the light that enters the eye focuses in front of the retina causing distant objects to appear blurry. This is the most common type of refractive error.

**Hyperopia (farsightedness)**

Hyperopia, or farsightedness, is a condition where near and intermediate objects are blurry. In farsightedness, the eye is too short, which causes the light to focus past the retina. Those who have high amounts of hyperopia are very dependent on glasses or contacts; however, many people who are slightly hyperopic may not realize problems until they are in their 40’s.

**Presbyopia (need for reading glasses)**

Presbyopia occurs when the interior lens, inside your eye, loses its ability to change focusing power simply because of age. Between the ages of 40-60, most people gradually lose the ability to see clearly when performing activities such as reading a newspaper, book, or menu. You will notice that presbyopia develops progressively so your reading or near vision will continue to worsen and become blurry. Many people nickname presbyopia as the “long-arm” disease because they develop the need to hold reading materials further away. Eventually, this condition may also affect your intermediate vision (working at computers) as well.

**Astigmatism**

Astigmatism is a common eye condition due to an irregularly shaped cornea. This refractive error can occur with any of the above three conditions as well. In a perfect world, the cornea should be shaped like a basketball, but with astigmatism, it is shaped more like a football resulting in blurred vision or double images at all distances.
LASIK

LASIK, or Laser-Assisted In-Situ Keratomeleusis, is one of the most advanced and precise vision correction procedures available today, improving, or in most cases fully restoring vision. LASIK is an effective treatment used to correct mild to severe cases of nearsightedness, farsightedness and astigmatism. All LASIK procedures at The Eye Institute of Utah are completely bladeless. First a femtosecond laser, utilizing either the latest IntraLase iFS™ or LenSx® laser, is used to create a flap on the surface of your cornea. The wonderful benefit to this is that this flap acts as a natural bandage when the procedure is done. After the flap is created a second laser, the excimer Allegretto Wave® Eye-Q laser, is used to apply your refractive prescription to the cornea, giving you your best possible vision. While each laser treatment is very fast, lasting only 30-60 seconds, you should expect to spend a total of about 10-15 minutes in the operating rooms.

**Ideal LASIK Candidates**

- People between the ages of 21 and 45
- Mild to moderate levels of myopia, hyperopia, and astigmatism
- Healthy eyes with no history of disease
- Normal corneal topography

PRK

PRK, or Photo-Refractive Keratectomy, is often times best for patients with thin corneas. The procedure is very similar to that of LASIK, but no flap is created. During PRK, the surface cells of the cornea, called the epithelium, are removed using a dilute chemical solution. The surgeon then uses the Allegretto Wave® Eye-Q laser to reshape the cornea to the desired correction. A laser treatment usually lasts an average of 30 seconds depending on the amount of correction necessary. A soft contact lens is placed on the eye to act as a “bandaid” to promote comfort and healing of the surface cells. This will be removed by the doctor within 5-7 days after the surgery.

**Ideal PRK Candidates**

- People between the ages of 21 and 45
- Mild to moderate myopia or hyperopia
- People who don’t qualify for LASIK due to thin corneas or irregular topography
Visian ICL™

If your eye doctor said you weren’t a good candidate for LASIK or PRK because your corneas are too thin, you have dry eyes or your prescription is too high, then the Visian ICL™ may just be perfect for you! In addition, the Visian ICL™ is also available to people who are looking for other alternatives to LASIK. The Visian ICL™ is an implantable contact/collamer lens. It’s different from LASIK because it doesn’t involve a laser to reshape the cornea permanently. The ICL™ is actually an implant and although it would require an additional surgery, one of the benefits is that it is reversible if necessary. The surgeon makes a tiny incision and inserts a microthin contact lens in front of the eye’s natural lens inside the eye.

**Ideal ICL™ Candidates**
- People between the ages of 21 and 45
- Patients with high levels of myopia and hyperopia and less than 3D of astigmatism
- Patients with dry eye and thin corneas
- People wanting a reversible option for permanent vision correction

Refractive Lens Exchange

If you are over the age of 45 and interested in correcting your vision, then refractive lens exchange (RLE) surgery may be a great option for you! As we age, everyone develops presbyopia, making it difficult to see objects up close. Refractive lens exchange replaces the eye’s interior/natural lens with an artificial lens to improve the overall prescription, range and focus of vision. It is basically cataract surgery done for the purpose of correcting vision when no cataract is present. Here at The Eye Institute of Utah, we have premium intraocular lenses (IOLs) including the AcrySof® ReSTOR® and Toric lenses that can reduce or help eliminate your dependency on glasses or contacts. The ReSTOR® multifocal lens aims to correct vision at all ranges (near, intermediate and distance). The Toric lens is an astigmatism correcting intraocular lens that corrects vision at one distance. You will want to discuss your lifestyle needs and concerns with your doctor when deciding which lens is right for you.

**Ideal RLE Candidates**
- People with presbyopia and either one form of myopia, hyperopia or astigmatism
- People over the age of 45
One of the reasons The Eye Institute of Utah is one of the most respected and well-established vision care facilities in the Intermountain West, is owed to the fact that we use only the best, most state-of-the-art technology available. The lasers and medical devices listed below demonstrate the types of technology we have on hand to give patients the most accurate and precise vision correction treatment possible. Our technology allows you to enjoy significantly improved vision without the need for glasses or contacts. The use of lasers instead of manual incisions using microkeratome blades, allows for more accurate incisions with reduced likelihood of complications or visual problems after surgery.

**Vision Correction Technology used at The Eye Institute of Utah:**

- **IntraLase iFS™ Advanced Femtosecond Laser** – A femtosecond laser commonly used to create the flap during the first step of your customized LASIK procedure.
- **Allegretto Wave® Eye-Q Laser** – A high speed excimer laser used to reshape the cornea and reduce irregularities in the eye during all-laser LASIK.
- **LenSx® Femtosecond Laser** – One of the most recently approved femtosecond lasers used to create the flap during LASIK or to correct astigmatism during RLE or cataract surgery.
- **Advanced Technology IOLs such as the AcrySof® IQ ReSTOR® Multifocal IOL and AcrySof® IQ Toric IOL** – Intraocular lenses used in RLE and cataract surgery to correct astigmatism and vision at near, intermediate or far distances.
The Eye Institute of Utah offers all of our laser vision correction patients, anyone receiving either LASIK or PRK, this lifetime warranty program. In the event your vision decreases from the intended result due to myopia, hyperopia or astigmatism, The Eye Institute of Utah will enhance the original laser vision correction at no charge, subject to eligibility and exclusions. We can provide you this warranty because we are confident that our surgeons can provide the best results possible. We call this “Your Life in Focus” Warranty. The primary benefit of this program is that if an enhancement is deemed beneficial and medically advisable, eligible patients will have no charge for the enhancement procedure. Charges for clinical examinations, special testing and procedures, and medications will be the patient’s responsibility. A 90-day postoperative period is included with the enhancement.

Eligibility Criteria

- Your initial refractive eye procedure must have been either LASIK with IntraLase iFS™ or PRK and must have been performed at The Eye Institute of Utah.
- Vision must have been correctable to 20/20 before the initial procedure.
- Vision must be correctable to 20/20 at the time of enhancement.
- At the time of enhancement, your uncorrected vision must be 20/40 or worse and you must have at least 0.75D of myopia, hyperopia, or astigmatism.
- You must have sufficient corneal thickness to allow safe treatment.
- You must have complied with the post-operative treatment regimen, including all follow-up visits, as prescribed by your Eye Institute doctor during the first 12 months after the initial procedure.
- You must be current in all payments due for laser vision correction.
- You must provide proof of having had an eye exam each year following the initial procedure. Costs of annual exams are the responsibility of the patient.

You can view full terms and conditions of the Life in Focus Warranty by visiting our website at www.theeyeinstitute.com.