

Introduction to Laser Eye Surgery

The surgery is performed by an ophthalmologist, a medical doctor with special training in diseases and surgery of the eye. Optometrists are specialists in the treatment of eye and vision disorders and actively manage the care of service members before and after laser surgery. The Refractive Optometrists at the WRESP-RC also specialize in the fitting of specialty contact lenses, including scleral contact lenses for diseases such as keratoconus, a contraindication to laser refractive surgery.

After refractive surgery, a strict regimen of medications is prescribed, as is a physical profile, to optimize healing and to minimize injury to the healing eyes. A few days of quarters is recommended after surgery. PRK patients are given pain medications to minimize post-operative discomfort; however, rare patients experience significant pain for several days following surgery. LASIK usually causes pain for only one or two days. Driving vision often returns only a few days after either surgery.

By decreasing the dependence on corrective glasses, refractive surgery leaves the service member vulnerable to projectile objects that could injure the naked eye. For this reason, use of protective eyewear is essential following refractive surgery. Refractive surgery does not eliminate the need for reading glasses, as this is a result of age-related changes to the lens inside of the eye.

What is LASIK?

In Laser Assisted In-Situ Keratomileusis (LASIK), the doctor uses a femtosecond laser (Intralase) to create a flap in the outermost layer of the cornea. The flap is folded back, allowing an excimer laser to reshape the underlying cornea. This reshaping is called photoablation. The flap is then repositioned over the ablated cornea. Most patients recover quickly from this procedure, often seeing well without glasses or with minimal correction within a few days.

What is PRK?

PRK stands for Photorefractive Keratectomy. PRK reshapes the surface of the cornea via photoablation just like LASIK, however, no flap is created. Instead, the surgeon removes the superficial layer of the cornea with a brush or alcohol solution, then uses the excimer laser to reshape the underlying cornea. A contact lens is then placed while the superficial epithelial cells grow back over the ablated cornea in three to five days. PRK has a longer recovery time but most patients are very functional within one week from surgery. Vision will continue to improve over the next few weeks.

What is ICL?

ICL surgery is the latest surgical option to come to Fort Belvoir to address many candidates who are not eligible for refractive surgery, either due to corneal problems or high corrections not treatable by the

excimer laser. By implanting a lens into the eye, between the iris and one's natural lens, we can eliminate near-sightedness in many service members who may not be eligible for PRK or LASIK.

This option is only offered to patients who are not candidates for Laser Refractive Surgery and is not offered as an option to, or instead of laser refractive surgery. Visual recovery is fast and pain is minimal after ICL surgery, however, ICL surgery requires making one or two holes in the upper iris with a laser at least two weeks prior to implantation of the ICLs into the eyes, which necessitates one or two more preoperative appointments than PRK or LASIK, but the visual outcome is often similar than one achieves after PRK or LASIK. ICL surgical patients are non-deployable for 90 days after surgery and we recommend four days of convalescent leave after ICL surgery.