LASIK SURGERY WITH DR. YARON RABINOWITZ

LASIK stands for laser in-situ keratomileusis (LASIK) "Keratomileusis" is derived from the Greek word that literally mean "to shape the cornea." "In-situ" means "in place." Therefore, the term LASIK means "to reshape the cornea in place using a laser.
The LASIK procedure combines two sophisticated techniques of surgery to correct refractive errors. The first technique involves the use of the Intrlase laser, to create a thin protective layer of corneal tissue that covers the area to be sculpted by the laser. This flap allows for rapid recovery of vision and reduces discomfort after surgery. The second technique uses a computer-controlled excimer laser -- a cold, invisible, ultraviolet laser -- to sculpt the underlying cornea, correcting the refractive error. This is the same laser that is used in **PRK**. The protective layer of tissue is repositioned without sutures and is secure after a few minutes so that a patch is not required. Visual recovery is typically rapid, and there is little or no post-operative pain. Eye drops need only to be taken for a week.

History

Excimer laser vision correction has come a long way since it was first invented 25 years ago. First we started doing PRK to reshape the cornea to correct vision problems. While this was successful, visual recovery was long and there was postoperative discomfort. So LASIK was born, which is essentially the same procedure as PRK, just it was done under a flap. This eliminated the postoperative discomfort and allowed for rapid visual recovery with all patients being able to return to work the day after surgery. The flap was created with a device called a mickrokeratome, because this involved the use of a blade which had the potential for serious problems, a new technology the Intralase technology evolved. So now flaps are created with a laser so the procedure is 100% blade free. Early on there were night vision problems such as haloe's and glare. To address this issue Wavefront technology evolved with sophisticated algorithms and large treatment zones which virtually eliminates the potential for haloe an glare. Now with the combination of the Intralase and Wavefront technologies each individual treatment can now be customized to treat each individual eye with many patients seeing better than they ever saw with their glasses or contact lenses. The technology is now so safe and accurate that it was recently approved for Navy fighter pilots and for NASA astronauts.

Results

20/40 is the vision required to pass the driver’s test in the State of California. Recent FDA studies for the Customvue demonstrated 20/20 vision in 98% of patients studied. With Wavefront Optimized treatments over 50% of our patients get better than 20/20, i.e. 20/15 vision. A combination of the intralase and new wavefront technologies has the potential for getting even better results.

Complications

In experienced hands the complications of LASIK are extremely rare. Most of the complications relate to the creation of the flap and are thus dependent on surgical skill. However now with the new bladeless intralase

technology these complications are almost non existent. The worst possible complication would be an infection with a permanent central opacity or a wrinkled flap requiring a cornea transplant. Since Dr. Rabinowitz is an experienced cornea transplant surgeon and often has to fix up other surgeons problems he is ideally suited to deal with any serious complications relating to the flap and since he routinely performs Cornea Transplants on a weekly basis he would be best suited to deal with this problem which to date has not occurred in any one of our LASIK patients. Other complications beside the flap relate to the Laser itself.

Possible side Effects

Even though the refractive error may be corrected and the visual acuity may be good after LASIK, some patients experience one or more of the following side effects of the procedure:

- **Optical Aberrations:** As with any refractive procedure, it is common for patients to notice halos, ghost images, shadows, and slight distortions for the first months after surgery. In unusual circumstances, these optical aberrations may interfere with normal visual activities. The new ***wavefront technologies*** has all but eliminated this problem.
- **Night myopia:** Because only the central portion of the cornea is reshaped, eyes may become more nearsighted when the pupil dilates and allows light to enter through the peripheral cornea that had not been reshaped. Even if excellent unaided vision is obtained during the daytime, a thin pair of glasses may be required at night for optimum vision in rare instances.
- **Dry Eye**: During the healing process, your eye may feel dry, and you may need to use artificial tear replacement for comfort temporarily. In 7% of individuals dry eyes can persist for 6 to 8 weeks. This is because we cut through corneal nerves which send a signal to the gland that makes the tears and this signal is interrupted. Fortunately these nerves grow back and normal tear function is restored. If your eyes are dry after LASIK you will be treated with drops and plugs if necessary. You will undergo a thorough evaluation prior to LASIK to make sure your eyes are not too dry or whether they may need to be pretreated to increase your tears prior to the LASIK procedure

Discomfort

Most of the discomfort following LASIK occurs within the first 24 hours and can easily be controlled with frequent artificial tears. The eyes may be transiently more sensitive to sunlight following surgery.

Advantages

Consider these important points when you are making your LASIK vision correction decision.

- **Rapid Recovery** -- Most patients are back to work the day after surgery. There is typically very little pain, and patients recover vision within the first 24 hours, because the epithelium is minimally disrupted. RK and PRK are more uncomfortable.
- **Correction of all refractive errors –** Myopia, Hyperopia and Astigmatism(up to -12D for Myopia, 4D for Hyperopia and 4D for Astigmatism)
- **Repeatability** -- In the case of under-correction or overcorrection, LASIK may be repeated by lifting the pre-made flap and adding additional laser treatment.
- **Long-term Stability** -- Because there is minimal disruption of the normal corneal architecture and minimal wound healing, it is likely that there will be minimal refractive change over time.

- **Structural Integrity** -- The flap is secure after the first day, and the eye is not weakened as it is with RK.
- **No Scarring** -- There is little or no scarring in the central cornea, as can occur with PRK.
- **No Need for Long-term Post-operative Eye Drops** -- There is no need to suppress wound healing with the use of steroids as there is with PRK. LASIK patients can stop much more rapidly after surgery.

Disadvantages

While when weighed against the many advantages, the potential disadvantages to LASIK vision correction are few, they should be considered nonetheless.

- **Requires a Skillful Surgeon** -- Because of the complexity of the microkeratome, manual dexterity and operative experience are required.
- **Cost** - LASIK is typically more expensive than PRK.

Bladeless Intralase Technology

This very latest technology creates the flap with a laser which offers several advantages over regular microkeratomes:

- reduced risk of vision threatening complications
- more accurate depths of flap (very important in thin corneas)
- more accurate and reproducible results
- less need for enhancement
- true individualized customization of treatment