

Laser Refractive Eye Surgery

Ele382, Biomedical Engineering Seminar, October 26, 2003
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A refractive error in eyesight is caused by misshapen eye structures, which thus cannot properly bend light for focusing. The retina acts like film in a camera, and as such clear vision can only be achieved if light from an object is precisely focused onto it.

Laser refractive eye surgery is a type of elective surgery, intended to correct common eye disorders or refractive errors, such as myopia (nearsightedness), hyperopia (farsightedness), and astigmatism (distorted vision). There are other surgical methods used to correct these eye disorders, but laser refractive eye surgery is proving to be the most technologically advanced, according to the American Academy of Ophthalmology.

Only 20% of physicians are trained in the operation of laser eye surgery. These physicians are usually trained in two types of laser eye surgery: photorefractive keratectomy (PRK) and laser in-situ keratomileusis (LASIK). LASIK is found to be a more complex procedure.

PRK is performed as a general outpatient procedure using local anesthetic eye drops. The procedure typically takes a few minutes, and patients are able to return to full normal activity within 3 days. This procedure involves the removal of the top surface (called the epithelium) and the reshaping of the cornea. The epithelium is removed with a cool, computer-controlled ultraviolet beam of light.

LASIK is performed for all degrees of nearsightedness. A microkeratome is used to create a corneal flap, which is lifted to allow for UV light to remove the underlying tissue and is then replaced. Whereas PRK requires no needles or incisions, LASIK requires the skill of the Surgeon, who does in fact perform an incision.

Some of the advantages of LASIK include:

- The procedure is suitable for correcting most severe refractive errors.
- The recovery time is faster than that of PRK.
- LASIK patients are capable of driving immediately after the procedure and have good vision within one week.
- No stitches are required, as the natural pressure of the eye maintains the flap there.

Some physicians recommend that their patients undergo radial keratotomy (RK) as opposed to laser eye surgery. For the RK procedure, incisions are made in a radial pattern with a blade along the outer portion of the cornea. These incisions help flatten the curvature of the cornea, allowing for light rays entering the eye to properly focus on the retina. The quantity of correction attained is determined by the number and length of incisions made.

Some physicians argue that since about 90% of the cornea is penetrated during this procedure, the structure of the eye is weakened. Another disadvantage of this procedure is that once it is done, one cannot repeat it or have PRK done.

Laser eye surgery is not suitable for everyone. In some cases, it can even worsen eyesight. For example, those who have ongoing medical conditions, such as glaucoma or diabetes, and those who are slow healers are not good candidates for this procedure.

http://www.pueblo.gsa.gov/cic_text/health/laser-surgery/498_eye.html

<http://www.lasik1.com/>

<http://www.fda.gov/cdrh/lasik/>

<http://www.allaboutvision.com/visionsurgery/lasik.htm>

<http://www.nyboer.com/laser/sshow.htm>