Lasik Eye Surgery

Kyle Torres Biomedical Engineering October 22, 2007

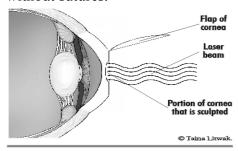
Approximately 61% of the 278 million people in the U.S. in 2001 wore some form of vision correction. Lasik eye surgery which stands for laser in situ keratomileusis means to reshape the cornea using a laser underneath a corneal flap. The procedure uses a highly specialized laser called an excimer laser which emits highly concentrated light in the Ultraviolet region of the spectrum.

Lasik like any other surgery also has its share of risks. Some of these risks consist of over or under-correction, eye infections or irritation, improper replacement of the hinged flap in the cornea. While there are definitely some risks involved, reports of serious complications in the recent years can be held well below 1% with properly selected candidates.

Eye surgeons look for very specific things when picking their patients to make sure that complications are significantly less likely to arise after the surgery. Some things that are deterrents are patients with high prescriptions as too much of the corneal tissue would need to be removed for the procedure. Abnormal shape or curvature of the cornea could mean that ones cornea is weaker than that of the average person and could make for complications with the surgery.

During the LASIK procedure, an eye surgeon first creates a precise, thin hinged corneal flap using a microkeratome. The surgeon then pulls back the flap to expose the underlying corneal tissue, and then the excimer laser reshapes the cornea in a unique pattern for each patient. The flap is then gently

repositioned onto the underlying cornea without sutures.



There are also other types of refractive surgery available which may be more appropriate for certain patients. Phakic intraocular lenses which are mainly designed for patients with extreme myopia (nearsightedness) implants a lens inside the eye and can correct nearsightedness up to -20 diopters. Conductive Keratoplasty involves using radio frequency waves in the peripheral cornea to cause shrinkage. While the procedure is very safe, regression offer occurs after a few years.

Sources:

Prevalence and causes of visual impairment according to World Health Organization and United States criteria in an aged, urban Scandinavian population The Copenhagen City Eye Study.

Ophthalmology, Volume 108, Issue 12, Pages 2347-2357 H. Buch

http://www.medicinenet.com/lasik_eye_ surgery/article.htm#what

http://www.allaboutvision.com/visionsurgery/