

Corneal Modifications for Improved Vision

PRK

In Photorefractive Keratectomy, the doctor uses an excimer laser to remove a thin layer of tissue from the centre of the cornea. The laser produces a uniform, concentrated beam of high energy ultraviolet light that is precisely focused onto the cornea. During the procedure, the laser's light energy is converted into chemical energy which evaporates molecules of corneal tissue in very precise amounts. By altering the curvature of the cornea in this way, PRK helps reduce or eliminate moderate nearsightedness and astigmatism. Candidates for PRK should be at least 18 years old, have stable vision and no abnormalities of the cornea or external eye.

RK

In Radial Keratotomy, the doctor surgically flattens the cornea by making a series of small, radial (like the spokes of a wheel) incisions in the periphery of the cornea. This flattens the cornea and changes its focusing power so that light rays fall precisely on the retina. Radial keratotomy is used to treat nearsightedness and some forms of astigmatism. Candidates for RK should be at least 18 years old, have stable vision and no abnormalities of the cornea or external eye.

LTK

In Laser Thermokeratoplasty, the doctor uses a laser to heat a series of small, dot-shaped areas of the cornea. This causes the corneal tissue to expand and the curvature of the cornea steepens. LTK is used to treat people who are farsighted. Candidates for LTK should be at least 18 years old, have stable vision and no abnormalities of the cornea or external eye.

Lasik

The LASIK procedure uses both surgery and a laser to treat nearsightedness, farsightedness and astigmatism. In LASIK, the doctor surgically creates a flap of tissue on the front surface of the cornea. The flap is folded back and a laser is used to reshape the layer of tissue underneath (the middle layer of the cornea). Once this is completed, the flap is repositioned and allowed to heal. Candidates for LASIK should be at least 18 years old, have stable vision and no abnormalities of the cornea or external eye.

ALK

In Automated Lamellar Keratoplasty a thin layer of tissue is removed from the front surface of the cornea. Then, to reshape the cornea, the doctor removes tissue from the middle layer of the cornea using an instrument called a

Factsheet

The Eyecare Trust is a registered charity that exists to promote awareness of all aspects of eye health. For more information call our public information line on 0845 129 5001 or log on to www.eyecaretrust.org.uk



Corneal Modifications for Improved Vision

microkeratome, which functions similarly to a carpenter's plane. Finally, the top layer of tissue is replaced. ALK is usually reserved for patients with severe nearsightedness or low degrees of farsightedness.

Ortho-K

Orthokeratology is a non-surgical procedure that involves the wearing of a series of specially designed rigid contact lenses to progressively reshape the curvature of the cornea over time. The results of the painless procedure are not permanent; thus, retainer contact lenses must be worn periodically to maintain improvements made in vision. Ortho-K is used to treat low to moderate nearsightedness and low degrees of astigmatism.

Factsheet

The Eyecare Trust is a registered charity that exists to promote awareness of all aspects of eye health. For more information call our public information line on 0845 129 5001 or log on to www.eyecaretrust.org.uk

