

## Chapter 8

# Non-Laser Surgeries

What are some non-laser surgery options?

### Automated Lamellar Keratoplasty (ALK)

ALK is a procedure in which the flap and underlying tissue are cut and sculpted by a microkeratome. Newer developments such as LASIK and LASEK have replaced the need for this procedure, but a variation of ALK is still used in certain cases for *corneal transplant* surgeries. Dr. Chynn also specializes in corneal transplantations and can tell you more about it if you are interested.

### Implantable Contact Lens (ICL)

For the ICL procedure, a prescription lens is surgically inserted between the iris and the natural lens of the eye. The patient must undergo a *peripheral iridotomy* a few days before the ICL. This is a procedure in which a special kind of laser known as a **YAG laser** is used to place microscopic holes on each side of the eye. The YAG laser is not used for visual corrective purposes, but the microscopic holes are necessary to facilitate fluid drainage in the eye after the artificial lens is implanted. The advantage of this procedure is that the implanted lens

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can be removed at any time, should some other type of treatment be desired. This is still under FDA investigation.

### **Intracorneal Lens Implants**

This procedure is similar to the ICL procedure described above, but differs in that a tiny plastic lens is implanted within the corneal tissue to correct myopia. There are two types of lenses under FDA investigation for the treatment of myopia. A third type of intracorneal lens is under FDA investigation for the treatment of presbyopia.

### **Clear Lens Extraction (CLE)**

This procedure is virtually the same as for the removal of cataracts and involves the implantation of a plastic prescription lens to replace the natural lens. The only difference is that the natural lens being replaced by CLE is clear, while a cataract lens is cloudy. Dr. Chynn is very experienced in this procedure because he performed it for research and development purposes, and will be able to answer any questions you may have.

### **Intrastromal Corneal Ring Segments (ICRS)**

This relatively new procedure involves the surgical implantation of two plastic ring segments, shaped like tiny arcs, in the peripheral area of the cornea. This flattens the cornea to the degree required, and is used to treat mild to moderate myopia. Reported results have been promising, but the company behind this development is currently bankrupt