

## OUR LASIK TECHNOLOGY

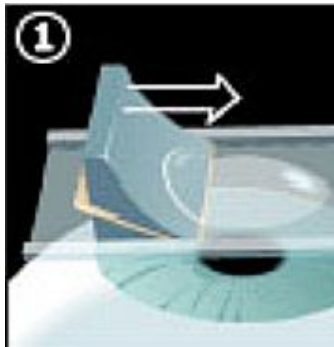
At the Cornea Genetic Eye Institute at Cedars-Sinai Mark Goodson Building we pride ourselves in that we have the very best technology available anywhere in the country. We are the only LA laser eye surgery center to have three lasers on site to match the very best laser technology available to your individual eye. Many other centers will offer you LASIK with a bladed microkeratome and only one laser as a one size fits all deal. At the Cornea Genetic Eye Institute we were the very first center in Los Angeles to offer the Intralase Laser for creating corneal flaps in LASIK. We have the two most modern FDA approved lasers for vision correction in the world, the Allegretto wave for 'Wavefront-optimized treatments' and the VISX Star S4 for 'Wavefront-guided treatments'. At your consultation, **Yaron Rabinowitz, MD** will determine which laser is best for your individual eyes.

- **Intralase Laser**
- **Allegretto Wave Laser**
- **VISX Star S4 Laser**



### INTRALASE LASER:

LASIK is a two step process. First a thin flap of the eye's corneal tissue is created and folded back, then a laser reshapes the interior of the eye and the flap is replaced. In regular LASIK surgery the flap is created with a hand held device housing a blade, called a microkeratome. While this has produced good results, most complications in LASIK are attributed to the blade.

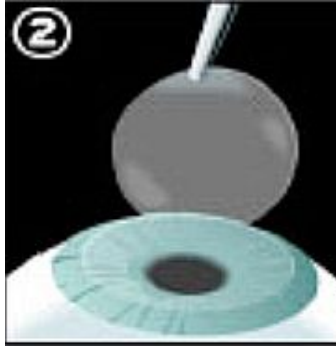


#### **Traditional Microkeratome - Step One:**

The microkeratome is a razor like device operated by hand or a motor. The blade slices off a portion of the cornea, leaving an uncut section to serve as the flap's hinge.

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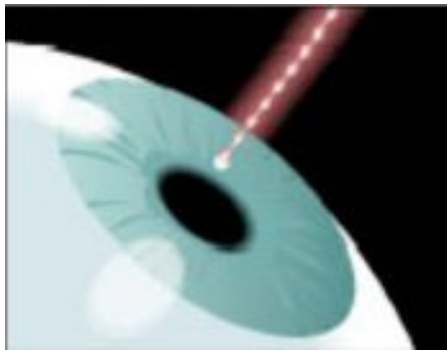
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**Traditional Microkeratome - Step Two:**

The sliced section is then folded back to expose the underlying corneal layer. Although microkeratomers generally provide good results, they are a recognized source of minor and even severe complications.

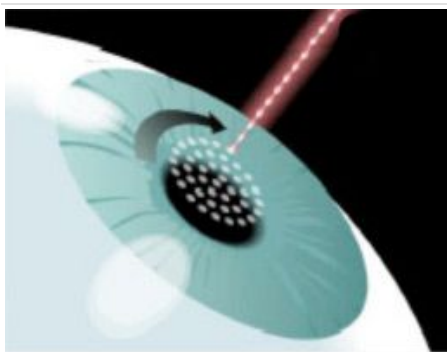
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IntraLASIK is a revolutionary bladeless technology that does not use a blade to create the corneal flap. Instead the IntraLase (femtosecond) laser's energy passes through the outer layer of the cornea until it reaches its exact focal point in the central layer. The laser then works in an 'inside out' process, precisely defining a flap and the amount of tissue below that plane. The resulting corneal flap is folded back and vision correction treatment is accomplished as usual. Then, the corneal flap is folded back onto the eye to complete the surgery.



**IntraLASIK - Step One:**

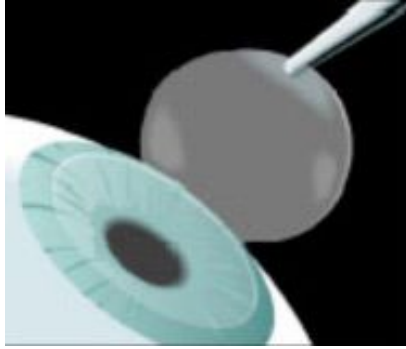
IntraLASIK software directs the INTRALASE FS Laser to optically focus its beam into a tiny, 3 micron spot of energy that passes harmlessly through the outer layers of the cornea until reaching its exact focal point within the stroma (central layer of the cornea).



**IntraLASIK - Step Two:**

In an "inside out" process, the laser beam creates a dissection plane by forming an interconnecting series of bubbles (made of carbon dioxide and water vapor).

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### **IntraLASIK - Step Three:**

The laser beam stacks a pattern of bubbles along the periphery of the ablation plane, leaving an uncut section of tissue to act as a hinge. As with a traditional LASIK approach, the surgeon then folds the tissue back to expose the underlying corneal layer to prepare for the excimer laser treatment that will re-shape the cornea.

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## **The ALLEGRETTO WAVE Laser: Wavefront-Optimized Treatment**



The ALLEGRETTO WAVE system is the fastest laser system available in the United States today. Because of its high quality German engineering, it is also referred to as the Mercedes Benz of Lasers. It uses Perfect Pulse Technology to safely and accurately controls every single laser pulse from start to finish. Faster treatment time means less anxiety, less time under the laser, and a more comfortable procedure.

Treatments with this laser are called "Wavefront-Optimized" i.e. they are optimized to maintain the natural shape of the cornea.

When we combine this treatment with the Intralase we have dubbed it the new "LASERWAVE" technology. With the new LASERWAVE technology you have a greater chance of getting to 20/20 (many patients even get 20/15), have less potential for night vision problems and have good quality vision that often exceeds that of your glasses and contact lenses.

The majority of our patients who do not have higher order 'aberrations' are candidates for this revolutionary new " Wavefront Optimized technology." Every procedure is tailored to the patient's corneal curvature and refraction with the intention to preserve the natural aspheric cornea shape and to maintain or improve quality of vision and visual acuity.

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**Perfect**  **Pulse**<sup>™</sup>  
Technology

### **Eye Tracking - ACCURATE FAST-TRACK**

Such a high-speed laser must also have an ultra-fast eye tracking system to follow eye movement during the procedure. The ALLEGRETTO WAVE captures the current position of the eye 200 times per second. It then only takes the laser a fraction of a second to reposition the laser putting it exactly into the desired location on the eye.

Should the eye ever move too fast or out of range, the laser will automatically stop and wait until the eye is back in position. So you can simply relax, knowing that your eye is being followed at all times. Working at such high speed, the ALLEGRETTO WAVE relies on its Perfect Pulse Technology to accurately control the exact placement of every pulse as it reaches the eye.

This is critical as the ALLEGRETTO WAVE operates at high speed with 200 laser pulses per second. Every laser pulse thinner than your fingernail in order to precisely sculpt the corneal surface. Therefore, Perfect Pulse Technology uses advanced high speed eye tracking to follow the eye's fastest movements and ensures accurate placement of every laser pulse.

During the treatment the energy stability of every pulse is controlled with a smart energy control program. This program automatically balances the energy levels during the treatment to ensure that every laser pulse creates the same result.

### **The VISX STAR S4 Laser - Custom Vue Wavefront-Guided Treatment**



**STARs**<sup>™</sup>  
EXCIMER LASER SYSTEM **4**<sup>™</sup>

About 10% of our patients have higher order aberrations. For these patients we use customized treatments with the VISX Star S4 laser to remove these higher order aberrations that cause night vision problems. Every patient who comes in for a consultation gets a Custom View map to determine whether they should have treatments with the VISX Star S4 or with the Allegretto Wave, this is the advantage of our center since we have multiple technologies and can determine which laser is best suited to your individual eye.

Dr. Rabinowitz uses the WaveScan™ computer to make a detailed map of your cornea; these measurements, 25 times more precise than conventional LASIK methods, can help the laser to correct so-called "higher order aberrations" that are responsible for such unwanted effects as glare and halos around lights. Measurements are kept accurate because they are sent directly from the WaveScan™ computer to the VISX Star S4™ ActiveTrak™ laser, ensuring the best possible results.

The result of CustomVue™ LASIK is correction that is completely unique and tailored to your needs.

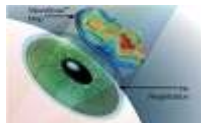


### What is iLASIK and how does it work?

iLASIK is the combination of Wavescan diagnostic eye-mapping, Iris Registration technologies, IntraLase flap creation and CustomVue LASIK treatment. It allows unprecedented customization and accuracy making it possible for the actual laser treatment to be fully customized to the unique characteristics of each of your eyes.

### Here's how it works:

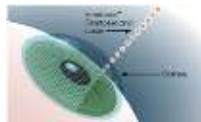
1. Customized Measurement



#### iLASIK Step One:

Wavescan 3D mapping creates a blueprint of your eye and Iris Registration reads the specific characteristics of your iris to accurately align the Wavefront treatment.

2. Laser-Created Flap



#### iLASIK Step Two:

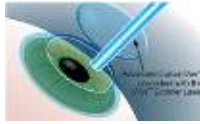
The IntraLase FS laser is a computer-guided, ultra-fast laser that is used to create the thin corneal flap for the iLASIK procedure.

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#### iLASIK Step Three:

Wavefront-Guided Vision Correction

3D eye tracking ensures that even if your eye moves, your treatment remains exact and specific to your customized iLASIK procedure.



**iLASIK is the final frontier of LASIK**



NASA recently approved the LASIK procedure for its astronauts following review of extensive military clinical data, which showed the use of two lasers (femtosecond & wavefront-guided) In fact, all branches of the U.S. military have approved LASIK for their servicemen and women, including Naval aviators and Air Force pilots.



Every year, numerous Santa Clarita LASIK patients come to Dr. Rabinowitz to undergo advanced vision correction procedures. In addition to being renowned as a talented laser eye surgery specialist, Dr. Rabinowitz enjoys a reputation as a leading corneal transplants Lancaster and cataracts Beverly Hills expert. Please explore the respective pages to obtain more information about these procedures.