

FACT SHEET

The IntraLase Method™ Revolutionizes LASIK

- There are two steps in the LASIK procedure. Recent advancements in LASIK laser technology reveal that the first step – creating a corneal flap – plays a significant role in the overall success of the procedure, including safety and visual outcomes.
- The IntraLase® FS laser is the first and only technology for a truly all-laser, blade-free LASIK procedure, replacing the hand-held microkeratome blade historically used in the first step of the procedure with a computer-guided ultra-fast femtosecond (fem-to-second) laser.
- This revolutionary advancement, called LASIK with the IntraLase Method, dramatically improves the safety of corneal flap creation by virtually eliminating almost all of the most serious, sight-threatening microkeratome-related complications.
 - *While LASIK is a successful and relatively safe procedure, the use of the microkeratome blade accounts for the majority of severe complications.*
- Clinical data reveal the IntraLase FS laser does more than create a safer, planar corneal flap. It also prepares an optimal corneal surface below the flap, providing for superior visual outcomes, especially among Custom/Wavefront patients.

Editor's Note: Wavefront is a map of the eye's surface indicating the minute high and low spots which affect crispness and clarity of vision.

- It is well documented that Custom LASIK has not fully met doctors' expectations for better outcomes and reduced higher-order aberrations. This is what the IntraLase Method™ delivers. (Durrie, Manche, Tran)
- Data show the IntraLase Method helps Custom LASIK deliver on its promise of better visual outcomes beyond 20/20 to 20/15 and 20/12.5. (Manche, Schallhorn, Durrie)
- Prospective, randomized evaluation of wavefront aberrations shows the IntraLase laser induces fewer higher- and lower-order aberrations (associated with night glare and halos), allowing for a corneal surface consistent with wavefront recordings taken pre-operatively. (Tran)
 - *If the corneal surface is left with microscopic high and low spots, the precision of the excimer tissue ablation (step two) can be compromised. Eliminating even minute inaccuracies on the corneal surface improves the visual outcome of the procedure.*
- A greater number of standard-LASIK patients also achieve visual results better than 20/20 with LASIK using the IntraLase Method. (Sloane, Durrie, Manger)
- The intentional planar architecture of the IntraLase flap and corneal bed, created with micron-level precision, significantly reduces the incidence of post-operative induced astigmatism – a microkeratome complication that occurs with some frequency. (Kezirian, Stonecipher)
- Patients with a preference in prospective, randomized clinical trials chose the post-operative vision of their IntraLase-treated eye up to 3-to-1 over their blade-treated eye. (Durrie, Manche)

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Advantages of the Blade-Free IntraLase Method

Better Vision: Patients achieve statistically better vision with LASIK using the IntraLase Method. (Durrrie, Schallhorn)

Improved Safety: Virtually eliminates almost all the most severe, sight-threatening LASIK complications. (Davis, Davison)

Fewer Retreatments: The number of LASIK retreatments (enhancements) required to perfect the visual outcome is significantly lower. (Manger)

Reduced Dry Eye Symptoms: In clinical studies, standard tests performed to diagnose dry eye show a reduction in symptoms by as much as 72 percent. (Christenbury)

Highest Degree of Predictability and Precision: Preserves corneal tissue with reproducible flap thickness within ± 10 microns, compared to reported variability of up to ± 40 microns with microkeratomes. (Binder)

Thinner Flaps: Patients previously contraindicated for LASIK due to thin corneas may now be candidates.

Technology of Choice: The IntraLase laser has become the technology of choice among the nation's leading LASIK surgeons and ophthalmic teaching institutions.

How the 4th Generation IntraLase FS Laser Works

The ultra-fast IntraLase FS laser uses an infrared light beam, generating 60,000 pulses per second, to prepare the intracorneal bed and create the corneal flap in the first step of LASIK.

- Using an “inside-out” process, the laser beam is precisely focused to a point within the cornea.
- The laser pulses then create thousands of microscopic bubbles which define the precise architecture* of the intracorneal surface, as well as the distinct beveled edge of the resulting flap.
- Along the edge, bubbles are then stacked up to the corneal surface to complete the flap.
- From start to finish, the IntraLase Method typically takes 15 - 30 seconds.
- The physician then exposes the prepared corneal bed for excimer laser treatment (the second step of LASIK) by lifting the flap.
- The LASIK procedure is complete when the flap is securely repositioned on its beveled edge.

*With the IntraLase laser, the surgeon can precisely control the critical first step of LASIK. Physician-programmed laser specifications include flap diameter, depth, hinge location and width, and side-cut architecture – factors which can be varied to meet patients’ needs. The IntraLase laser creates a distinctive beveled edge flap, which allows for precise repositioning, alignment and seating after LASIK is completed. This feature reduces the risk of flap displacement, a complication seen with microkeratome flaps.

- The IntraLase laser drives superior visual outcomes by optimizing the intra-corneal surface for refractive procedures like LASIK. Computer-guided technology provides for the highest-precision surgical control.

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Making LASIK Safer

- The IntraLase laser makes LASIK safer by replacing the hand-held microkeratome blade with the silent computer-guided precision of a laser, virtually eliminating almost all the most severe, sight-threatening blade-related LASIK complications as a result. (Binder)
- Data confirm that the IntraLase laser is dramatically less likely to produce seriously thin flaps or extremely thick flaps, events that could lead to devastating complications. (Wang)
- The use of the IntraLase laser improves the visual results of LASIK, be it Custom or standard. (Binder, Durrie, Schallhorn)
- When given a choice, 81 percent of patients choose LASIK with the IntraLase Method rather than the blade. (SM2 Consulting)
- Physician reports on approximately 1,000,000 IntraLase Method procedures performed globally by leading LASIK surgeons demonstrate an impressive safety profile.
- Microkeratome complications occur in up to 10 percent of all LASIK procedures, including the most serious complications that may affect the visual outcome of a LASIK procedure. The most common complications include buttonhole cuts, partial or improperly formed flaps, free caps, invasive corneal incisions, corneal abrasions, and subsequently blurred vision (Ambrosio and Wilson, Osman).

Editor's Note: See Clinical Studies Fact Sheet for details.

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