New, Improved Lasik Eye Surgery Is Safer

By Dr. Dean Edell

If you are considering Lasik surgery, you need to know there’s a major advance in the safety and accuracy of this eye surgery called IntraLASIK. But most doctors are not using it yet. Dr. Dean Edell reports on the benefits of this new procedure.

Mei-ling Wiedmeyer, IntraLASIK patient: I’m really active and run and play a lot of sports and it’s really difficult to do that with glasses so that pushed me over the edge to wanting to get surgery.

Mei-ling loves to jog and play soccer, but hates her glasses. So today she’s having Lasik eye surgery, but this Lasik surgery is entirely new.

Ella Faktorovich, M.D., San Francisco ophthalmologist: “This technology is revolutionary because it adds a new level of safety to the procedure that millions of people are interested in.”

Most people don’t realize that in standard Lasik, doctors push a mechanical blade similar to a wood planer across the eye partially shaving off a thin slice that is folded back before the laser starts zapping. But this mechanical blade can sometimes be imprecise.

Dr. Factorovich; “For example if I’m planning the flapness to be a certain thickness, it could be significantly thicker or significantly thinner than I had planned.

She says this is a better way. Dr. Factorovich is one of the first Bay Area doctors to use the interlase - a laser to create a flap far more safely and accurately.

The laser blasts tiny air bubbles in a precise circle around the eye, then the flap releases. Studies show the interlase may be 100 times more accurate than a blade in creating exact flap thickness.

Next, Mei-ling is moved to a different room and a different laser for the actual correction. Dr. Factorovich says ultimately using lasers for both steps reduces halos and other problems and improves the outcome.

Dr. Factorovich: “The results are better with IntraLASIK, more precise when the first step is performed with the laser.”

Because the interlase make such a thin cut, it allows surgeons to perform Lasik on patients with thinner and flatter corneas who were previously not considered good candidates. And remember, the procedure is pretty new and not all doctors are using it yet.

Research Summary

Why IntraLASIK?

While the risk of complication with traditional LASIK is minimal, all surgery carries some degree of risk. Now, an advanced computer controlled laser technology is available that significantly reduces the risk of complications - it is known as IntraLASIK. The IntraLASIK laser is uniquely safe, uniquely precise and offers patients predictably better visual results. The advanced IntraLASIK technology has given many patients more confidence when considering laser vision correction. Surgeons frequently prescribe the INTRALaser FS laser because it provides micron level accuracy and significantly reduces the possibility of risk and unpredictable outcomes. How is IntraLASIK different from traditional LASIK?
LASIK is actually a 2 step process. First, a flap of corneal tissue must be created and then folded back. The cornea is the transparent dome-like structure that covers the iris and pupil of your eye. By creating a flap in the cornea, the surgeon is able to perform the laser vision correction treatment on the inner layer of the cornea, which practically eliminates any patient discomfort and allows for a rapid visual recovery.

Traditionally, the surgeon has created the corneal flap with a hand-held mechanical device which utilizes a surgical blade - a microkeratome. This method has worked well over the years; however, the performance of these devices can be unpredictable. And although LASIK complications are rare, this mechanical device is frequently the source for many of the reported complications.

With the IntraLASIK laser, the surgeon uses the precision of a laser to create the corneal flap. The accuracy of the laser (100 times more accurate than a blade) is unparalleled by any other technology in vision correction surgery. This advanced technology allows the surgeon more control during the procedure, and even allows customization of the corneal flap for every individual patient. Because of its consistent accuracy, IntraLASIK now makes it possible to treat many patients who were dismissed as candidates for laser vision correction due to thin corneas.

Is this the same as the customized procedure I have heard so much about? It’s the critical first step of the customized procedure. There has never been a combination of technologies that have allowed for this type of personalized vision correction. The most exciting part is that while offering the ability to get the best results, it can now be done with unprecedented safety and precision.

Every patient’s eyes are different and therefore need to be evaluated independently and uniquely treated. Now all steps of the laser vision correction procedure may be customized to the individual: custom diagnosis (before the procedure), custom flap (to start the procedure), and custom treatment (to complete the procedure).

**Is IntraLASIK safer?**

Most surgeons acknowledge that the main safety issues in laser vision correction are related to the use of the mechanical device used to create the corneal flap. Multiple studies which compare the incidence of complications when using the IntraLASIK laser versus the microkeratome device have shown a significant decrease in the events that adversely impact safety.

The IntraLASIK laser provides a unique level of safety because of its micron level precision. Clinical studies establishing the precision and accuracy of the INTRALaser FS laser have led researchers to proclaim IntraLASIK technology as 100 times more accurate in creating the flap (the first step of the LASIK procedure) than the traditional approach with a surgical blade. The statement is founded upon comparative studies that report the likelihood of inaccuracy with the mechanical device as compared to that of the INTRALase FS laser.

This precision was also documented in studies conducted for the FDA clearance of the laser, where the accuracy of flap thickness was demonstrated at +/- 10 microns. Precise flap thickness is critical to a successful LASIK outcome, and this degree of accuracy is unprecedented in flap creation technology to date.

Finally, greater flap stability was also demonstrated with the IntraLASIK laser in studies for the laser’s FDA submission. The assurance that the flap will be securely re-positioned without incident provides added peace of mind for many patients.

**Is traditional LASIK unsafe?**

No, but IntraLASIK reduces the risk of complications reported with traditional LASIK, and we feel that it is very important for all patients. The advanced IntraLASIK technology has given many patients more confidence when considering laser vision correction. Surgeons are recommending the INTRALaser FS laser for their patients because it provides greater precision and may significantly reduce the possibility of risk. children, who still need reading glasses.