

Eye Institute first in Australasia with new corneal and refractive laser

The new 5th generation IntraLase femtosecond technology, the iFS Advanced Femtosecond Laser system from Abbott Medical Optics (AMO), has found a new home at Eye Institute, and is the first in New Zealand and Australia.

This new laser, combined with the iLASIK technology suite, provides the refractive surgeons, Drs Trevor Gray, Peter Ring, Tony Morris and Adam Watson, at Eye Institute with the most advanced technologies to give their patients the safest and best outcomes.

The iFS, which is part of AMO's complete refractive solution, is capable of creating a corneal flap during the LASIK procedure in less than 10 seconds. It can produce a unique inverted bevel-in side cut angle designed to provide a virtually effortless flap lift, increase post-operative flap adhesion and enhance the biomechanical stability of the post-LASIK cornea – all of which further add to patient safety.

With full customisation capabilities, it also produces an elliptical flap to enhance surgical options and IntraLase-Enabled Keratoplasty (IEK).

“The iFS Laser takes refractive surgery, and more specifically, LASIK flap creation, to a whole new standard of safety, speed and control,” explains Dr Adam Watson. “It's designed to deliver biomechanically engineered flaps that can be customised for every individual cornea, and includes comprehensive IEK and ring-channel formation capabilities.”

A remarkable feature of the new iFS is the proprietary inverted bevel-in side cut.

“With the 4th generation IntraLase the side cut was only programmable from the ranges of 30°- 90°,” said Dr Watson. “Now with the new iFS you have the option of programming the side cut angle up to 150°. It has been shown that this new bevel-in side cut provides LASIK flaps with greater resistance to traumatic dislocation.”

The benefits to having a bevel-in side cut are better wound healing for the best biomechanical stability of the post LASIK cornea; increased flap adhesion post-operatively for optimal wound healing; virtually effortless flap lift, replacement, and positioning for optimal flap stability; and significantly reduced flap gutter.

Additional features include a higher repetition rate, tighter spot separation and therefore lower energy.

“The new advanced iFS is 2.5x faster than our 4th generation laser and most impressively, it can create flaps at an unprecedented speed of approximately 10 seconds,” said Dr Tony Morris. “The higher repetition rate allows for lower energy which provides a tighter spot separation, 2.0 - 8.0 microns with the new iFS compared to the 4th generation 4.0 - 10.0 microns therefore allowing for greater ease in flap lifting.




The refractive surgeons at Eye Institute with the iFS Advanced Femtosecond Laser system. From left: Drs Peter Ring, Tony Morris, Adam Watson and Trevor Gray

“Furthermore stromal bed smoothness with femtosecond lasers can also be attributed to the pulse energy used. The lower the amount of energy produced by the laser equates to a smoother stromal bed and may provide less chance of tissue inflammation.”

Also part of the iFS package is a high resolution digital video microscope, new contemporary user interface, keyboard and touch screen and an ergonomic design for maximum surgeon comfort.

“It's exciting to be able to bring this technology to New Zealand,” enthuses Dr Peter Ring. “The benefits are many, not just in improved safety and outcomes in LASIK but for new approaches to corneal transplant surgery and the better visual outcomes that the iFS laser may help us provide.”

“The iFS laser builds upon an eight-year history of innovation and more than two million IntraLase femtosecond procedures performed worldwide,” said AMO Chairman and CEO Jim Mazzo. “This technology is an integral part of AMO's proprietary iLASIK technology suite and a tangible example of our commitment to not only maintain a substantial advantage over competing systems, but also to provide technologies that advance the standard of vision care medically.” 



A remarkable feature of the new iFS is the propriety inverted bevel-in side cut for fully customised biomechanically engineered flaps