On the ‘wavefront’ of Lasik

The issue of waking up to blurred vision, formerly bespectacled Tien Tinh Sng took the plunge last month by going for a Lasik operation.

Now, the 31-year-old sales manager is loving his crystal-clear vision, or what he calls “Superman” vision.

He said: “It was really troublesome to wear glasses when I went jogging or swimming. It feels great to have clear vision from the moment I open my eyes.”

After undergoing customized Lasik surgery, he now has an eagle-eyed vision of 6/5. This means that his new vision is better than that of 6/6, the benchmark for perfect vision.

His ophthalmologist, Dr Natasha Lim, 42, revealed that this was made possible with personalized laser eye surgery called wavefront-guided Lasik.

Here’s how it works: She creates a 3-D map of the eye using a high-resolution eye scanner called iDesign. During surgery, the scan is superimposed on the cornea to serve as a guide for the laser treatment.

The experienced ophthalmologist, who runs Dr Natasha Lim Eye Centre at Mount Elizabeth Novena Specialist Center, said: “Without the map created by iDesign, Lasik can treat the eye only for short-sight and astigmatism.”

“This machine goes one step further to detect optical disturbances inside the eye.”

These disturbances usually affect one’s vision at night, and include glares, halos and starbursts of light. For instance, a person may see halos surrounding a traffic light.

Dr Lim added that the new eye scanner at her clinic has a resolution five times higher than that of its predecessor.

This means that the new scanner can pick up even more optical disturbances within an eye which the surgeon can zap away during surgery.

Those with corneas deemed too thin for Lasik can now undergo it with this method, said Dr Lim.

She added: “Using the older Lasik technique, in which the corneal flap is cut with a blade, cornea flaps are cut significantly thicker, which means the patient ends up losing more tissue from the operation.”

The femto second Laser technique used by Dr Lim cuts a super-thin flap in the cornea.

She said: “The more cornea thickness is left behind after your Lasik operation, the stronger the long-term biomechanical stability of the eye.”

Also, the laser cuts a super-thin flap in only 10 to 12 seconds, with the cornea receiving much less energy.

Hence, there is very little inflammation post-op and recovery of vision is fast.

Dr Lim said: “Many patients report clear vision within half an hour of the operation, which tends to get better and better every hour.”

Though the operation can be performed in 10 minutes for each eye, the rigorous pre-assessment done by Dr Lim and her team can take up to three hours.

The assessment includes measuring the exact geometry of the corneas as well as their thickness, and testing the size of the pupils to ensure that surgery will not cause problems of glare and halos at night.

Dr Lim said: “A patient’s safety is of utmost importance to me. I personally spend a lot of time checking his suitability to undergo this procedure safely.”

Many patients report clear vision within half an hour of the operation, which tends to get better and better every hour.”

OPHTHALMOLOGIST NATASHA LIM

HELP DESK

Clear vision: 视力清晰 shì lì qīxī
Ophthalmologist: 眼科医生 yǎnkē yīshēng
Corneas: 角膜 gǎojié mó
Biomechanical: 生物力学 shēngwù lí xué