surgery

A patient at Saint James Hospital Eye Clinic having refractive laser surgery.

A step ahead in laser treatments

Developments in technology have affected and improved treatment in many medical fields, not least in eye surgery. **Stephanie Fsadni** learns about the latest laser eye surgery procedures to correct eye vision available at the new Saint James Hospital Eye Clinic in Birkirkara.

Refractive laser surgery

Consultant ophthalmologist FRANCO MERCIECA explains who can undergo refractive laser surgery and the advantages of the latest technology.

How popular is laser surgery in Malta?

Refractive laser for eyesight correction has been in use since 1994 when Saint James Hospital had purchased the first Excimer laser machine, the Summit laser. The number of individuals undergoing this procedure has been quite constant and stable for the last 10 years.

Who can be treated with laser surgery?

It's very important that people understand that Excimer laser is not suitable for all individuals who wear corrective glasses. The best results are for short-sighted individuals up to around -9 to -11. Also, astigmatism can be eliminated with this treatment. As regards to farsighted individuals, the results are a bit less reliable and reproducible and, therefore, we only treat patients with up to +3/3.5 corrective lenses.

What we've definitely learned over the years is that we have to be strict with the entry criteria in order to improve results and avoid complications. In fact, we have a strict protocol with a detailed pre-laser assessment which includes the calculation of the refractive error in three different ways apart from a corneal topography, abermetry, pachymetry, pupillometry and detection of ocular dominance. Only after all these tests are done can we say that an individual is or is not suitable for laser correction.

What can ineligible patients do?

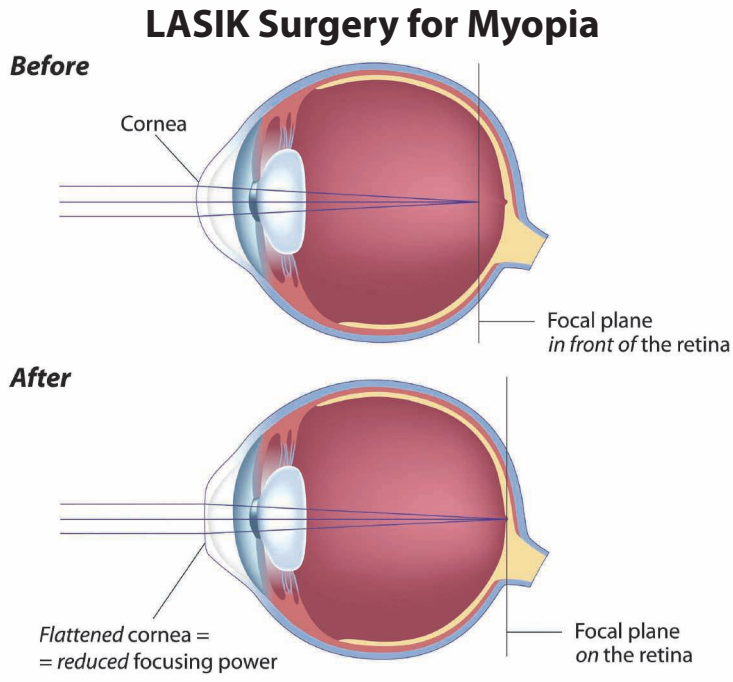
Patients who are ineligible, either due to thin cornea or very high powers e.g.-10 to -22 error, can have Phakic implants where we insert a lens in the eye to correct the error either by clipping it on to the iris or placing it in front of the natural lens.

Other individuals, especially farsighted individuals who are over 45 years and therefore presbyopic (blurred near vision when reading or working on computer), would benefit greatly from lensectomy with either monofocal or multifocal intraocular lenses.

What are the advantages of this new technology versus the older type of laser surgery?

Both types of refractive laser treatment methods lead to the same results according to major review articles. However, the method used earlier, i.e. Lasek or PRK, was associated with a lot of irritation or even pain for a few days post-operatively as it required the healing of the surface skin (epithelium). Also due to the time required for healing, the vision in certain cases took more than a week to recover and much longer to stabilise. Surface ablation (Lasek/PRK) has a significant incidence of corneal haze formation which could affect the end result.

In contrast, Lasik is associated with much quicker recovery with most patients having almost 95 per cent of their vision restored within less than 24 hours and a relatively pain-free post-operative period. Most individuals can resume their duties the next day. Since Lasik is an intrastromal treatment, there is much lower incidence of haze. Lasik is also related with a lower incidence of regression of treatment effect.



How safe is it?

Lasik is by far the most commonly performed refractive laser procedure worldwide. It is a very well-thought, safe and reproducible procedure. With the advent of the femtosecond lasers (ultrashort pulse lasers), the creation of the corneal flap is more accurate and safer, with certain risks previously encountered almost eliminated completely.

What are the possible side effects?

Every procedure has its own risks. Since Lasik involves the creation of a corneal flap ranging between 80 to 120micron thickness, the procedure has risks related to the flap. This can develop wrinkles in it and inflammation underneath, which has to be treated quickly. Fortunately, these problems are quite uncommon and are highly treatable. However, they require early detection and therefore we need to see patients more often than with Lasek/PRK.

Lasik is also related with a higher incidence of dry eye symptoms.

Are there other advantages tied to the new technology?

The new femtosecond laser opens up the possibility to various other procedures which we will embark on in the near future, these including SMILE (small incision lenticular extraction), which is another form of corrective laser surgery, and insertion of intacs to improve vision in patients suffering from keratoconus (a condition in which the cornea bulges outward).