

**Latest Development of Refractive Surgery**  
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To News Editors  
For Immediate Release

Refractive surgery has come a long way since the first sighted eye excimer laser surgery was performed in the United States in 1987. There are many options for the correction of refractive errors today and these include the use of the excimer laser platform - like photorefractive keratectomy (PRK), laser in situ keratomileusis (LASIK), laser subepithelial keratomileusis (LASEK), and EpiLASIK; and those that require the placement of an intraocular lens inside the eye. Each procedure, however, has pros and cons and the best procedure for a patient is ideally decided after a detailed examination of the eye by the surgeon.

Of these many options, LASIK is currently the most popular procedure and involves the creation of a thin corneal flap, after which the laser treatment is performed on the exposed corneal tissue. Because of the flap there is very little postoperative discomfort, with early recovery of visual function. Prof. Dennis Shun-Chiu Lam, Chairman of the Department of Ophthalmology & Visual Sciences (DOVS) of The Chinese University of Hong Kong (CUHK) said, "Refractive surgery (LASIK) has advanced to such a stage that interested individuals can consider it, but the decision requires a thorough assessment of the pros and cons."

Although recent advances in laser technology allow good safety and accuracy, the cutting of a corneal flap can sometimes result in problems. The newly introduced femtosecond laser can be used to cut the corneal flap and is thought to have a lesser incidence of problems during flap creation. Prof. S. K. Rao stated, "Experience with this exciting technology is still accumulating. While this laser may reduce the chance of problems during flap creation, its ability to reduce other interface problems is still being evaluated. Due to cost and other considerations, the gold standard for flap creation around the world is still using the automated microkeratome – with the use of a surgical steel blade."

Another approach to performing excimer laser surgery without cutting a corneal flap is the use of a diluted alcohol solution to weaken the attachment between the most superficial layer of the cornea – the epithelium, and the rest of the corneal tissue – to allow laser ablation. This is called LASEK and this modification also allows treatment in eyes with thin corneas and those with high myopia that are not treatable with conventional LASIK surgery. Dr. Arthur Chak-Kwan Cheng mentioned, "This technique provides additional safety as this flap can be regenerated in about 1 week even if torn or distorted. A more recent technique, EpiLASIK uses a microkeratome design that is able to create a flap of epithelium and therefore avoids cutting a corneal flap."

The CUHK and the Hospital Authority (HA) have organized a special service for those who have a medical indication for refractive surgery (LASIK) – severe myopia (8 diopters or more); anisometropia, or a difference in refractive error more than 3 diopters between the two eyes; and those who have had past corneal surgery such as cornea transplant. Suitable patients can go to their respective HA eye teams for suitable information, or call our telephone hotline 2632 3316 or 2637 1343 during office hours.