

Department of Ophthalmology 眼科部

For enquiries and appointments,
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Services Hours (By appointment only)

Monday to Friday: 9:00 am to 1:00 pm
2:00 pm to 5:00 pm

Saturday: 9:00 am to 1:00 pm

Closed on Sundays and Public Holidays

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Femtosecond Laser

The World's Leading Technology in
Refractive Surgery & Corneal Surgery



養和醫院
Hong Kong Sanatorium & Hospital

陳蔭樂視力矯正中心

Guy Hugh Chan
Refractive Surgery Centre

Femtosecond laser is the world's most advanced laser technology in refractive surgery. It can provide higher accuracy and safety in vision correction surgery. As a local pioneer in LASIK surgery, Guy Hugh Chan Refractive Surgery Centre first introduced Intralase Femtosecond Laser in October 2004. Over the last few years, we have been keeping abreast of the latest advance in the technology with continuous updates. To date, femtosecond laser is widely used in such complicated surgeries as corneal transplantation and ICR (Intracorneal Ring) implantation, achieving faster healing and better visual results.

All-Laser, Computer-Controlled Approach to LASIK, Corneal Transplantation & ICR Implantation

LASIK

Our Centre is the first one in Hong Kong to employ LASIK surgery techniques to correct refractive errors including myopia, hyperopia and astigmatism. It is carried out in two steps:

1. Cutting corneal flap
2. Removing corneal tissue with excimer laser to reshape corneal curvature.

Compared with microkeratomes, femtosecond laser can now cut the corneal flap with micron level accuracy, resulting in far less tissue wastage and reduced risk of corneal degeneration.

Each single step is controlled by computer with unparalleled precision to minimize flap complications and achieve better visual results.

Corneal Transplantation

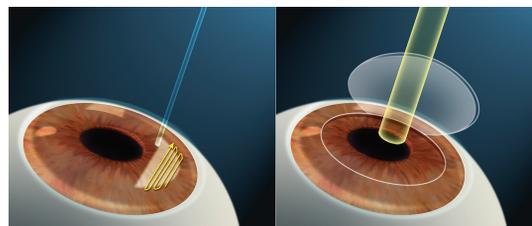
Before the advent of femtosecond laser, corneal transplantation was performed using a bladed trephine. The transplanted tissue requires multiple sutures, which usually stay in the eye for over a year and delay full visual recovery. To date, surgeons can control the laser using a patented computer interface. The laser's infra-red beam is focused upon a point within both the diseased cornea and transplant tissue to create precise, interlocking edges. The transplanted graft and existing tissue will have much better stability and strength, allowing faster recovery and better sight restoration.

ICR Implantation

ICR is a semicircular plastic ring, specially made for implantation within the cornea to reshape corneal curvature. It is effective in correcting irregular cornea without tissue removal.

In the treatment of keratoconus, femtosecond laser can achieve better safety and precision with the creation of corneal stromal tunnels. Compared with mechanical microkeratomes, femtosecond laser can reduce the risk of perforation in deep dissections and allow more accurate placement during ICR implantation. The laser channel carving also allows symmetry of ring placement, thus enabling more accurate results and better vision.

Using femtosecond laser, ICR implantation is better tolerated with less postoperative discomfort, faster recovery and better restoration of visual acuity.



Intralase Laser Corneal Flap Cutting

Excimer Laser Application

Benefits of Femtosecond Laser

- Revolutionary laser technology for flap cutting
- Completely computer-controlled
- Extremely precise
- Excellent safety profile
- Surgical outcome further improved
- Customizable for each patient
- Especially beneficial to patients with high myopia, thin cornea and large pupil
- Less dry eye after surgery

A Better Choice for You

Your doctor will discuss the technology with you on the basis of your situation and needs for your best interests and best visual results.