

Notice Board

Asian Laser Forum 2003

The Asian Laser Forum 2003 was successfully held on 16 November 2003. There are a total of 152 registrants in which 50 were members or speakers and 101 were non-members. The Forum attracted very much attention from media and were widely covered by two electronic media (ATV & Commercial Radio) and 8 dailies.



Result of the Dr. Timothy K.C. Liu Memorial Scholarship, 2004

The Association has set up a scholarship in memory of Dr. Timothy K.C. Liu. It provides opportunities for current members for acquisition or furtherance of surgical laser knowledge and skills. The selection board has granted the scholarship of 2004 to Dr. Lam Kin Yip in assisting his overseas study on microlaryngoscopic surgery and laser technique. Dr. Lam will report his training experience at the Annual Scientific Meeting of the Association in 2005.

Hong Kong Surgical Laser Association

Newsletter February 04



Committee Member of the Association (2003-2004)

President:	Dr. Mok Chun On
Vice President:	Dr. Ronald Leung
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	Dr. Chow Pak Chin
	Dr. Alec Fung
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	Dr. James Hwang
	Dr. Kenneth Mao

President's Message

Dear Members,

Despite the impact of SARS on Hong Kong last year, the Hong Kong Surgical Laser Association has achieved a few successful events and received overwhelming support from its members in the year 2003. With the hard work and support from the council members, the Asian Laser Forum 2003 was successfully organized with attendance of 152. The press conference on Laser Safety and Regulation on the same day has attracted wide coverage from media and also conveyed the important message of laser safety to the public. I am optimistic that it will be another fruitful year for the association and its members in the year 2004.

Dr. Mok Chun On, President

LASER & Ophthalmology- Applications in Refractive Surgery

Myopia is a very common eye problem in Hong Kong. In one study, it has been shown that over 90% university students are myopic. There are many different corrective means for myopia but none are perfect. Spectacles are inconvenient and reduce image size in patients with high myopia. Image distortion is also common complaints among high myopes.

Contact lenses have been available for many years and are good alternative. With the development of new materials and lens design, contact lenses are becoming more reliable and economical. However, wearing contact lens is not without risks. Infective keratitis and hypoxic damage are not uncommon problems seen in eye clinic. This is especially important to those who have been wearing contact lens for a long period of time. The history of refractive surgery goes back a long way. However, the initial surgical technique was not very accurate and the outcomes were very unpredictable. At that time, refractive surgery was not popular. Radial keratotomy is one of the very first types of refractive surgery. During the surgery, 8 - 12 radial incisions are made on the cornea to allow the cornea to change its shape. However, the same technique also weakens the cornea, making it susceptible to trauma. In some cases, the incision is so deep that the cornea can perforate during the operation. After all, the result of this procedure is not very accurate.

Then comes the era of laser refractive surgery (PRK). In PRK, the epithelium of the cornea is removed and laser is directly applied on the stroma to shape the refractive outcomes. Because it takes about a week for the most superficial layer to heal up, this procedure is quite painful and the possibility of postoperative haze is higher among high myopes. Regression is also a big problem among the high myopes.

With the advancement of corneal incision technology using microkeratome. LASIK has become very popular since around 1995. The microkeratome is a mechanical shaver that contains a sharp blade that moves back and forth at high speed. This shaver is placed in the guide tracks of the suction ring and is advanced across the cornea using gears at a controlled speed. This process creates a partial flap in the cornea of uniform thickness. The flap is created with a portion of the cornea left uncut to provide a hinge. After the suction ring and microkeratome have been removed, the corneal flap is folded back on the hinge exposing the middle portion of the cornea. The excimer laser is then used to remove tissue and reshape the center of the cornea. The amount of tissue removed is dependent upon the degree of shortsightedness that is being corrected. This portion of the LASIK procedure is almost identical to the PRK procedure, except



that in the PRK the surface of the cornea is treated without the creation of the corneal flap. In the final step, the hinged flap is folded back into its original position. The front surface of the eye is now flatter since the flap conforms to the underlying surface. Because the corneal flap is replaced after the operation, minimal pain is associated with this technique and the outcomes are very repeatable and predictable. It is estimated that in US alone, there are about 1 million cases done each year.

The latest development in refractive surgery is the application of wavefront technology. Other than myopia and astigmatism, there is a second category of optical defects, called higher-order aberrations that represent residual irregularities in the optical structure of the eye. Higher-order aberrations affect the quality of vision, and are primarily responsible for problems of contrast, night glare, halos, and other disturbances. The goal of Wavefront LASIK (also known as Custom Ablation) is to improve a patient's overall vision quantity and quality by, one, eliminating the lower order aberrations of nearsightedness, and astigmatism, and two, by reducing, or at least not increasing, higher order aberrations. With this technology, laser is aimed to correct all the imperfections on the corneal surface by assessing the eye as a whole. However, being a relatively new technique, further evaluation is required to assess its effects. LASIK has become a very popular operation in Hong Kong and attached below are a number of frequently asked questions that you may find useful for your patients.

Q: Some say that high myopia is associated with retinal detachment. Would the operation eliminate this risk?

A: Refractive surgery aims to replace spectacles and contact lenses. It does not eliminate the potential problems associated with high degree of refractive error. In other words, refractive surgery does not reduce patients' risk for retinal detachment, glaucoma and macular degeneration.

Q: Any risk associated with the operation?

A: At present, LASIK is one of the best means for correcting refractive errors especially among the high corrections. However, all operations carry certain risks and LASIK is no exception. Even with utmost care, complication can still occur and it is important that you talk to your treating doctors about the risk that you have to go through when deciding to have the operation.

Q: Am I suitable for LASIK?

A: In general, LASIK can correct 1200 - 1500 degree (12 - 15D) of myopia. But for those with correction more than 1000 degree (10D), you may also advise other options like intraocular lens implant. The best option is determined by examination findings.

Q: Who cannot have LASIK?

A: Patients with severe dry eyes, those with autoimmune diseases, patient with certain corneal disease like keratoconus, those on long term steroid, pregnancy, thin cornea, unstable refraction, corneal infection are not suitable for LASIK Surgery.