### Mini-Medical School



# LASIK Surgery 近視雷射手術(英文)

# Safety of LASIK Surgery

Ever since LASIK offers another option for patients with myopia, it also draws the concern from some people: Why do ophthalmologists always wear glasses and is there unknown risk to the surgery itself.

In fact, like the one with myopia, there are ophthalmologists who choose to improve their myopia with LASIK surgery. It is not that the ophthalmologists oppose to such surgery. Such misunderstanding comes from the misconception that for the entire group of myopia patients, most people choose eyeglasses or contact lenses to improve vision and so do the ophthalmologists. However, the number of ophthalmologists is minority when compared with the vast number of myopia patients. Subsequently the public misbelieves ophthalmologists refuse to receive LASIK surgery, which is only the difference in ratio

It is one' s choice to receive surgery or not and everyone has different point of consideration due to comestic, occupational needs or convenience. The ophthalmologists will not advocate the patients to receive the surgery in order to make money. All patients receiving surgery are under their own will and would be arranged for LASIK after careful examination of suitability of surgery.

Every surgery comes with certain risks. It is not fully exempt from sequela or complications. In the more than 10 years of experience in LASIK, the success rate of clinical research is about 95%, with considerably high success rate compared with all other surgeries. However it is a surgery by choice rather than an absolutely necessary surgery with the urgency and threatening of life and health. If the sequela such as Keratoconjunctivitis sicca (KCS, dry eyes syndrome) or vision degeneration ocurr, it is increasingly difficult for the public to accept.

Hence the pre-operative communication and cognition are very important. The ophthalmologists expect to have perfect post-operative conditions in patients and hence will give patients suggestions based on thoroughful examination and evaluation. However, unexpected situations could occur under certain unforeseen circumstances regardless of how detailed the pre-operative evaluation is.

In October 1995, the U.S. FDA (Food Drug Administration) officially proves the effect and safety of LASIK surgery before extensively applying it in clinical therapy. In the U.S., there are 1 million cases of surgery. This is currently known as the safest surgery among the corrective surgeries for myopia. Nonetheless because this is a choice-based surgery, the patients will also need to have right decision for such choice apart from the professional consultation and treatment provided by the ophthalmologists. Patients should not only think about how to throw away eyeglasses and receive surgery as soon as possible but neglect the knowledge on the surgery itself. Even if LASIK has 95% of high success rate, it does not mean the rest of 5% does not exist. Patients would complain about LASIK being a dangerous surgery in case of any dissatisfaction after the surgery.

Patients should know about all risk associated with the surgery before the operation. Patients should also understand the professionalism and trustworthiness from the commutation with the ophthalmologists and the LASIK instrument adopted by the hospital. Patients should not overlook the preparation since they have chosen to receive the surgery but should evaluate the need and level of risks after understanding and consulting, in order to have win-win situation after the surgery.

# Some questions that most people ask

· Infection

In general, the risk of post-LASIK surgery infection is lower than 0.1 %. Bacterial infection only causes discomfort and delayed healing without long-term sequels.

· Under- correction or Over- correction

To perfectly and precisely predict the refractive status after LASIK is impossible. Under the circumstances of under-correction or over-correction, the patients may need to wear glasses to correct the residual myopia after LASIK. In some cases, the second surgery may be needed to improve the refractive condition.

· Cloudy cornea

Cloudy cornea is normal healing process after PRK surgery. In most cases, cloudy cornea does not affect the ultimate vision while cloudy cornea is only observable through microscope.

However the cloudy cornea in some cases is too severe and affects the vision. Under the circumstance, any insufficient correction could require second surgery to improve the cloudy status.

#### · Loss of vision

In some cases, the effect of surgical correction gradually disappears in few months and this is same with the situation of insufficient correction, a second surgery will solve this problem.

## · Halo phenomenon

Halo phenomenon is a visual condition that is only detected in dark room. Halo phenomenon refers to the loop of light halo surrounding the object, which is caused by the peripheral cornea.

In some cases having received PRK or LASIK, such phenomenon will affect their vision when one drives at night. The latest technology can substantially reduce the occurrence of this phenomenon.

## · High intraocular pressure

The patients will use topical steroid for 1~2 weeks after the surgery and a few people who are respond to steroid will have increased intraocular pressure. If the patients follow the instructions to routinely receive post-operative examination, the intraocular pressure can be monitored through the ophthalmic measurement and be controlled medication to control.

## · Post-operative corneal flap displacement

In one year after the surgery, the corneal flap still could not be poked and rubbed with force. Hence it is important for patients to wear protective glasses during exercises or in other activities. It is because the ball, elbow, fists or other objects could hit the eye and damage it during exercise. Nonetheless even corneal flat displacement happen, it could be corrected by simple surgery.

#### · Conical Cornea

If Cornea is ablated excessively, the eyeball will protrude because of ocular pressure, thus forming conical shape.

- · Apart from medical reasons, high myopia is one important factor that will cause serious risk. High myopic eye is more sensitive to ocular pressure and therefore, some unexpected conditions after operation may occur. Even though LASIK corrects the refractive errors, the pathologic change in myopic eye could not eradicated by laser. This is reason why patients require detailed pre-operative examination in order to screen persons with conical cornea risks.
- · Problems could still exist under perfect surgery.

Even if LASIK is performed perfectly, there are still some factors that could cause unsatisfactory results. The elderly should know that LASIK could not correct presbyopia. patients could still require reading glasses after surgical correction.

## In case of the following condition, surgery is not recommended:

- · Progressive myopia.
- · Insufficient corneal thickness for providing the cutting degree of LASIK.
- · Acute iritis.
- · Severe lagophthalmus, keratoconjunctivitis sicca ( KCS, dry eyes syndrome ) and blepharitis.
- · Severe eyelid abnormalities that affect cornea epithelial regeneration.
- · Severe corneal neovascularization in the central LASIK cutting area.
- · Serious chronic cornea diseases and other corneal ectasia problem.
- · Corneal degeneration.
- · Patient with history of autoimmune and connective tissue diseases.
- · Pregnancy.

The effect of LASIK surgery is determined by the myopia diopters, astigmatism diopters, cornea arc angle, wound healing capacity, and level of postoperative corneal opacity and other related factors. The surgeon will help the patients to get perfect vision however the patient factor could not be completely excluded. Only with good communication and understanding can let LASIK surgery attain its advantages and benefits. Medical advances bring benefits for many patients. If one thinks that LASIK is nothing but harmful, it will erase the advantages and benefits. People will not put it off and it is as same as

medicine. Even if few unssucessful cases, we expect to emphasize more on how to prevent such cases from occurring rather than ignoring its value. The physician and patients both expect to have successful LASIK surgery and it is the goal which the ophthalmologists look forward to.

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