



## What is LASIK?

Laser Assisted In-Situ Keratomileusis or LASIK is an outpatient surgical procedure which combines surgical and laser treatment to treat myopia (nearsightedness), hyperopia (farsightedness) and astigmatism.

It is the most common type of refractive surgery, accounting for more than 90% of refractive surgery procedures performed today.

It uses an instrument called “Microkeratome” to first create a thin flap of cornea tissue, followed by the application of the excimer laser to reshape the cornea. The cornea flap is then folded back to its original position.

LASIK may decrease your dependence on spectacles and contacts, or allow you to do without them entirely.

## Possible risks and side effects

Some people experience temporary side effects after LASIK that usually disappear over time. These side effects may include:

- Temporary discomfort or pain
- Dryness
- Light sensitivity
- Hazy, blurry and fluctuating vision
- Under- or Over-correction
- Glare and halos

## What happens before surgery?

A thorough eye examination will be performed to measure your prescription and check for any abnormalities that may affect the procedure.

He will also check your eyes for unusual dryness, which could cause dry eye symptom post operatively, or unusually large pupils, which could affect night or low-light vision.

An appointment date will be allocated to you for the surgery after the examination.

Please refrain from wearing contact lenses 1 week before your eye examination. For hard lenses, please refrain from wearing for 2 weeks before assessment.

## How is LASIK done?

You will be lying on a bed under the operating microscope through which the excimer laser will be delivered.



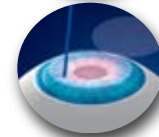
Step 1: Antibiotic and anaesthetic eye drops will be instilled onto your eye.



Step 2: The eye is then kept open with a self-retaining speculum (an eyelid holder) to prevent you from blinking.



Step 3: A micro surgical instrument called “Microkeratome” will be used to create a flap of paper-thin cornea tissue.



Step 4: The flap is lifted and folded back and you will be asked to look straight ahead on a light while the laser treats the exposed cornea tissue.



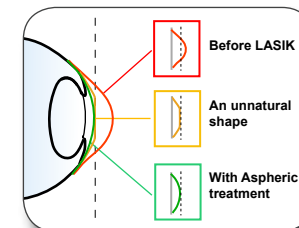
Step 5: After the laser has completed reshaping the cornea, the surgeon places the flap back to its original position. No stitches required.

## Advanced Treatment Modalities

Refractive surgery today combines advances in laser technology and surgical technology to give the best outcome. The following advanced treatment modalities are able to treat myopia, hyperopia and astigmatism.

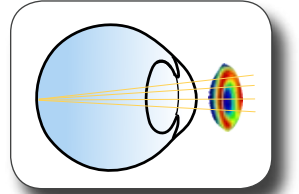
**Optimized Aspheric Treatment** personalizes the surgery according to the characteristics of the patient’s eye to retain the natural aspheric shape of the cornea.

**Advantage:** Reduces glare and night vision problems



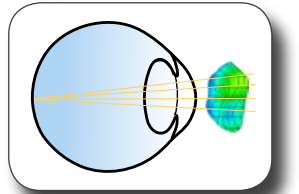
**Wavefront Treatment** uses the wavefront map of the eye to treat the lower and higher order aberration of the eye. Significant higher order aberrations can decrease the quality of your vision. The wavefront map, which is unique to each eye, is transferred to the laser system and the laser, guided by complex wavefront data from the aberrometer, precisely reshapes the cornea.

**Advantage:** Improves quality of vision



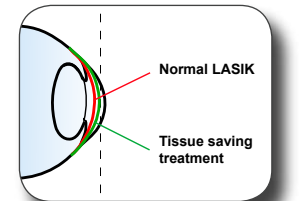
**Topography Treatment** uses the topography data of individual cornea and guides the laser to reshape the cornea to correct refractive errors, which is induced by abnormal or irregular cornea shape, for example, after injury to the cornea.

**Advantage:** Removes cornea irregularities to make it a smooth refractive surface.



**Tissue Saving Treatment** is a very useful treatment for Asian eyes where the refractive error is high and the cornea is thin. This modality minimizes the treatment depth and tries to maintain the natural shape of the cornea to the maximum possible extent.

**Advantage:** Saves cornea tissue



**Near Vision Treatment** gives hope to the presbyopia age group with or without other refractive errors (myopia, hyperopia and astigmatism) to manage their near vision tasks without near vision glasses. This is brought about either by “blended vision” or by increasing the “depth of focus” of the eye.

Your eye doctor will discuss with you the types of treatment suitable for your eyes after your eye has been assessed.

## What you need to know...

### Common Visual Problems

- Myopia (nearsightedness or short-sightedness)
- Hyperopia (farsightedness or long-sightedness)
- Astigmatism
- Presbyopia

### Types of Refractive Surgery

#### • LASIK

A procedure where a thin cornea flap is made by an instrument called “Microkeratome”, followed by the laser treatment, and then replacing the flap back without stitches required.

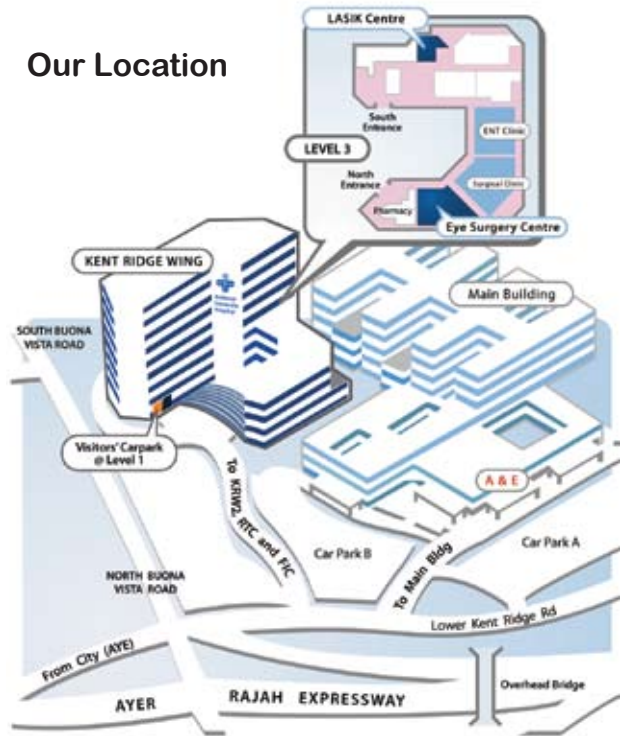
#### • PRK (Surface Ablation)

No cornea flap is made in this procedure. Instead, the first layer of the cornea cells are removed followed by the laser treatment to the cornea.

#### • Epi-LASIK

This procedure uses a very special equipment to make a very thin cornea flap in order to save cornea tissue required for treatment of higher degrees.

## Our Location



### NUH LASIK Centre

Kent Ridge Wing 2, Level 3

Appointments: 6772 2030  
Enquiry Tel: 6772 2020  
Email: info@nuhlasik.com

### NUH Eye Surgery Centre

Kent Ridge Wing 2, Level 3

Appointments: 6772 2002  
Enquiry Tel: 6772 5408  
Email: info@nuheye.com  
Website: www.nuheye.com

### National University Hospital

5 Lower Kent Ridge Road, Singapore 119074  
Tel: 6779 5555 Fax: 6779 5678  
Website: www.nuh.com.sg

Information is subject to revision without notice and correct at time of printing.

## The Excimer Laser System

NUH LASIK Centre is the first refractive surgery centre in Singapore to be equipped with the Excimer Laser system from Carl Zeiss. This new generation of laser system includes the MEL 80 Excimer Laser, the WASCA Analyzer (aberrometer), the TOSCA Analyzer (topographer) and the CRS Master (planning software).

### Faster treatment, improved accuracy

The advanced features of this laser system make laser treatment fast, safe and accurate. The MEL 80 is able to produce fast laser treatment at 250Hz, taking just 16 seconds to treat 500 degrees of myopia.

This reduces dehydration of the cornea and hence improves accuracy. The patented Gaussian beam profile with 0.7mm spot size and thermally optimized laser firing pattern protect the cornea and give a very smooth ablated surface.

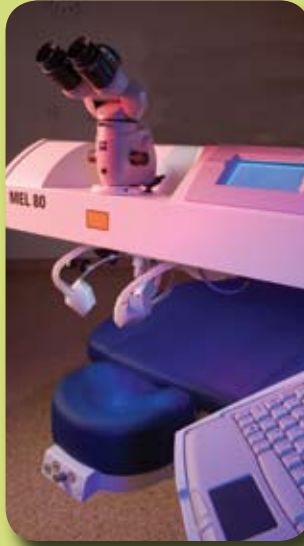
### Everything under control

The eye-tracker follows every minute movement of your eye, tracking at 250 times per second and responding in just 0.06 seconds. Together with automatic pupil recognition and limbus registration, exact positioning during treatment is achieved at all times, thereby enhancing safety and accuracy.

### Customized treatment for all patients

Patients at NUH LASIK Centre will each have their own customized treatment plan based on the results from the combination of the two diagnostic functions – Aberrometry and Topography.

The WASCA Analyzer (an aberrometer which measures 1,452 points within the cornea with a resolution of 0.21mm and a measuring time of 0.13 seconds), the Oculign Eye Registration (for exact positioning of the wavefront data) and the CRS Master (the planning software) ensure that the important details for customized ablation is never missed.



## Frequently Asked Questions

### 1. Are you a good candidate for laser vision correction?

- Be at least 21 years of age
- Have stable vision without significant increase in spectacle prescription for the past one year
- Not pregnant or breast-feeding
- With good ocular health, eyes free from complicating injuries or certain diseases such as significant retinal degeneration, severe eye dryness, etc
- Suitable range of refractive errors

### 2. How long is the procedure?

The whole procedure time is about 10 minutes for PRK and 15 minutes for LASIK. This is done as a day surgery procedure, and as such, there is no need for admission to hospital.

### 3. Is the procedure painful?

No, however, there may be a stretching sensation during the procedure as your eye lids are held open. You may also feel slight discomfort after LASIK procedure, or a scratchy feeling after PRK procedure for 1 or 2 days. It will gradually resolve by the second or third day.

### 4. How long will my eye take to recover?

The surface of the cornea takes about 2 to 3 days to heal and vision will improve thereafter. Fluctuations in vision are prevalent in the early stages after the procedure but will improve over the first few months.

### 5. How do I care for my eye after the procedure?

Avoid dusty environment, and try to reduce any external stress to the eye such as, putting on eye makeup, rubbing the eye and swimming. Use the prescribed antibiotic eye drops as directed by your surgeon and wear sunglasses under bright sunlight.

To find out more details, please call 6772 2020 or visit our website [www.nuheye.com](http://www.nuheye.com)



# LASIK

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