

**T H E**

**E Y E**

**HOSPITAL**

L A S E R E Y E S U R G E R Y

I N F O R M A T I O N

# Welcome

Imagine the freedom of being able to do away with glasses and contact lenses. You too, may be suitable for laser eye surgery, freeing you from the use of visual aids – perhaps permanently.

Naturally, you will probably have many questions regarding laser eye surgery – some of which we will endeavour to answer here for you. Although, we also offer even more in-depth information on request. And, better still, a face-to-face consultation with one of our specialists will answer further questions about the treatment and how it relates to your specific case.



To date, several million patients have been treated worldwide. So why not discover the benefits The Eye Hospital can bring to your life.

### **What is Laser Eye Surgery?**

Laser eye surgery is used to treat short-sightedness, astigmatism, and small degrees of long-sightedness.

People who require glasses or contact lenses for distance vision may have this treatment, and may become much less dependent on optical correction, or in many cases, not require glasses or contact lenses at all. Laser eye treatment will not usually replace reading glasses.

The treatment involves reshaping the surface of the front of the eye. This is achieved with an instrument called an Excimer laser.

Because it is a surgical procedure, there are some inherent risks, although these are small. Only a careful examination by the ophthalmologist, who carries out this treatment, and a thorough discussion of the treatment possibilities and associated risks, can allow patients to make an informed decision.

The first laser eye treatments in Australia were done in 1993 in Melbourne and Sydney. Dr Downie was one of the first ophthalmologists to carry out this treatment in Australia.

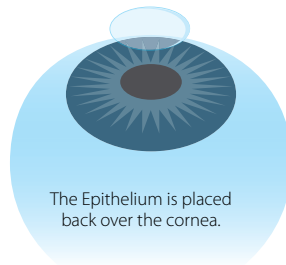
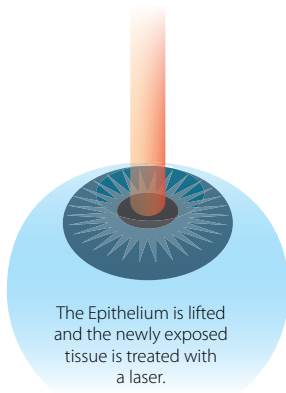
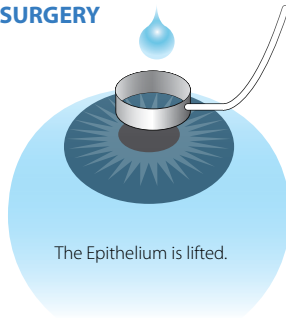
In 1998 an Excimer laser was installed at The Eye Hospital. Patients do not need to travel out of Tasmania for laser eye surgery.

The Eye Hospital has now installed the latest generation laser which allows a wider range of treatments.

The ability to change the optical power of the eye to eliminate or reduce the dependency on glasses or contact lenses. The refractive errors that can be corrected include myopia (short sight), hypermetropia (long sight) and astigmatism (when the optical power of the eye is greater in one meridian than another).

It is not possible to correct an unlimited amount of refractive error and the further the eye is from normal the more difficult the correction. Some refractive errors cannot be corrected at the moment. The most common of these is presbyopia (the need for reading glasses that occurs in the mid to late forties).

## LASEK SURGERY



## How is Refractive Surgery Done?

A variety of techniques are used to correct refractive errors depending upon each patient's problem. The most commonly used technique is called LASIK. In this procedure a thin film is lifted from the cornea with a hinge at one edge. The refractive correction is carried out with an Excimer laser and then the flap is repositioned. The Excimer laser can also be used directly on the surface of the eye. This technique, called LASEK, gives slower recovery and may be more painful post-operatively but may be more suitable in some circumstances. Incisions into the cornea can be made to correct astigmatism in the operation of Arcuate Keratotomy. A lens can be placed inside the eye (sometimes called a Phakic Intraocular Lens), and this technique may be particularly suited for patients with very high degrees of refractive error.

LASIK and LASEK are techniques using the Excimer laser. The ultraviolet argon fluoride laser produces a cold beam of energy which is used to reshape the surface of the cornea to change its curvature and optical power.

freedom...

to undertake any sort of activity without the hassle of  
breaking or losing spectacles



A close-up photograph of a smiling couple in a swimming pool. The woman, on the left, has dark hair and is wearing orange goggles on her forehead. The man, on the right, has a grey beard and is wearing pink goggles on his forehead. They are both smiling and looking towards the camera. The background is a clear blue sky.

enjoy...

the simple things like cycling in the  
rain or playing sport without the  
fear of breaking your glasses

### **Excimer Laser: When is Surgery Indicated?**

Refractive eye surgery is an elective procedure; it is not essential for health or survival. The following are reasons why some patients elect to have refractive surgery.

- Some patients with refractive errors wish to be independent of their spectacles or contact lenses.
- Some elect surgery to enable them to participate in certain sports such as windsurfing, swimming, mountain climbing, scuba diving, waterskiing, or for certain occupations where glasses or contact lenses are not permitted.
- Others feel visually and socially restricted by spectacles or contact lenses.

Your ophthalmologist will be able to answer any questions concerning the advantages and disadvantages of spectacles and contact lenses compared to laser surgery.

These are guidelines only and your situation should be fully discussed with your surgeon.

### **Surgery: Who is Suitable?**

Minimum age for LASIK, LASEK and Phakic Intraocular Lens is 18 years but there is no upper limit. Younger patients may be suitable for treatment in some unusual circumstances.

- Those who have had no significant change in spectacle prescription for the last 12 months.
- Very high degrees of myopia or myopic astigmatism may not be fully corrected.
- The patient is prepared to pay the cost of correction as it is not covered by health insurance or Medicare.

### **Who is Not Suitable?**

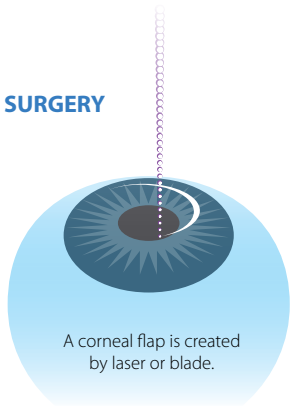
#### **Ocular contraindications:**

- Any active/residual/recurrent ocular disease
- Unstable/progressive myopia
- Irregular astigmatism
- Depressed corneal scars
- Severe dry eye with epithelial breakdown
- Exposure keratopathy
- Herpes zoster ophthalmicus

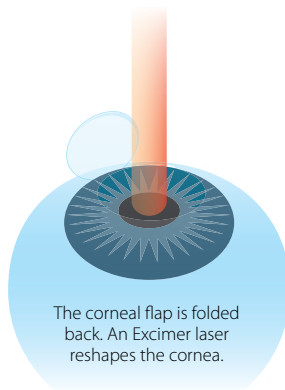
#### **General contraindications:**

- Poorly controlled Diabetes
- Atopy, if clinically significant
- Immunosuppressed/immunocompromised patient
- Autoimmune diseases, if poorly controlled
- Systemic illnesses affecting wound healing
- Pregnancy

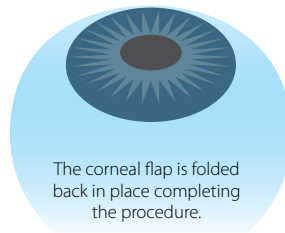
## LASIK SURGERY



A corneal flap is created by laser or blade.



The corneal flap is folded back. An Excimer laser reshapes the cornea.



The corneal flap is folded back in place completing the procedure.

# Laser In Situ Keratomileusis (LASIK)

## How Does LASIK Work?

LASIK offers remarkably fast healing and quick restoration of vision.

LASIK involves the creation of a very thin film or flap on the surface of the cornea. This can be made with a microkeratome or a femtosecond laser. The film is hinged on one edge. It is folded back and the excimer laser reshapes the surface. The flap is then replaced. During the creation of this film, the pressure in the eye rises and the vision may grey out.

The micro-keratome is a self propelled instrument; it is extremely fine and precise with delicate gears. It fits onto the suction rings and runs within its tracks. To form the flap, the micro-keratome passes over the specified area. You will not be able to see or hear the flap being formed. (This corneal flap is not completely removed from the eye; a hinge is left on the nasal side to enable it to be secured back over the eye after treatment with the laser). The flap is then folded back to expose the corneal bed, this is the area which will be treated with the laser in the same fashion as with the LASEK procedure.

After this has been performed, the flap is returned to cover the exposed area. Treatment is then complete.

Drops or ointment (or both) may be instilled into your eye and then a shield will be placed to keep the eye closed and protected. The flap is held in position by surface tension and the protective epithelial layer, which rapidly envelopes the cornea's surface. After a few days a firm seal forms along the flap edge.

You will be seen by the surgeon the following day.



relax...

without the dependency of spectacles or  
limitations of poor eyesight





confident...

that you can enjoy life to the fullest like millions  
of others who have enjoyed the liberation of  
laser eye surgery

## Laser In Situ Keratomileusis (LASIK)

You must avoid rubbing your eye or squeezing your eye forcefully shut for the first week. Although the epithelium has generally healed within 24 hours, you do need to take care to ensure you do not dislodge the flap.

The surface cells of the eye are the most sensitive in the cornea. When the surface of the eye is treated, as in LASEK, postoperative pain and scarring are more common. By going beneath these cells, the area treated by the laser is covered, and there is generally less pain or discomfort with this procedure and improved vision is generally achieved more quickly.

There are risks associated with this technique that relate to the creation of the flap. It is vital that the flap be the correct thickness and shape. If the surgeon is not happy with the way the flap has been formed, they may decide not to proceed with the application of the laser. The surgeon may decide to reposition the flap and allow it to heal for a period of time. After this has occurred, another attempt can be made some months later. Although this can be frustrating, it is in the patient's best interest not to proceed unless conditions are ideal. In moderate to severe cases of myopia and astigmatism where scarring and regression are more common, LASIK is usually the most suitable treatment choice.

### **What Side-Effects or Complications Can Arise?**

As with any surgery, complications are possible and long-term effects are still to be established. A list of some of the possible side effects and complications are available on request.

### **What is the Next Step?**

A more detailed information package is available for patients who wish to consider this treatment. The next step after that is to have a consultation to discuss the procedure.

Examination and discussion provides the knowledge to allow patients to make an informed decision.

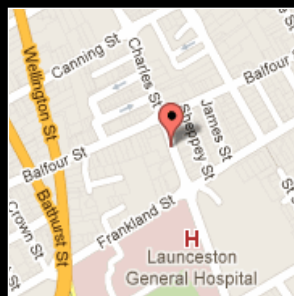
The approach of The Eye Hospital to this procedure is to treat it as a surgical operation.

The laser is installed in The Eye Hospital operating theatre. Patients are changed into operating theatre attire and full sterile precautions are taken.

If you decide to proceed to a consultation, please inform our staff when booking the appointment that it is for laser assessment, so the appropriate amount of time can be allocated.



**T H E  
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HOSPITAL**



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