



LASER SURGERY



ASHFORD ADVANCED EYE CARE

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LASER SURGERY INFORMATION

Laser surgery is surgery to reduce or eliminate the requirement for glasses or contact lenses for clear vision.

Procedures now exist for nearly all forms of refractive error. (A “refractive error” is the optical term for a requirement for glasses or contact lenses, i.e. short-sightedness (myopia), long-sightedness (hyperopia) or astigmatism (where the eye surface is oval rather than spherical)). These errors are measured in units called “dioptres”, the larger the number the greater the error. The number is also given a sign, plus or minus, plus for long-sightedness, minus for short-sightedness.

If you are short or long-sighted you may also have a degree of astigmatism. Your surgeon will tell you if this is a significant part of your refractive error.

To explain short-sightedness: the eye is like a camera, it has a light focusing system at the front (the cornea - the clear curved window at the front of the eye, and the lens, which is inside the eye) and a sheet of nerves (the retina) lining the inside of the eye. The retina acts as the film in the camera, doing the actual seeing. In short-sighted eyes the cornea is too steep. To treat this the cornea can be flattened using the Excimer Laser.

To explain long-sightedness: the eye is like a camera, it has a light focusing system at the front (the cornea- the clear curved window at the front of the eye and the lens, which is inside the eye) and a sheet of nerves (the retina) lining the inside of the eye. The retina acts as the film in the camera, doing the actual seeing. In long-sighted eyes the cornea is too flat. To treat this the cornea can be steepened at its centre using the Excimer Laser.

PRK (Photorefractive Keratectomy)

PRK is a treatment for low to moderate short-sightedness (up to 4 dioptres). This treatment has been in clinical use since 1988. It is carried out under anaesthesia provided by drops placed on the eye immediately before the procedure. The eye is prevented from blinking by a special eyelid holder and the patient is asked to look at a light in the machine. The laser is used to shave a minute amount of tissue off the surface of the cornea. Before this can be done a layer of cells called the epithelium - the skin of the eye - is first pushed aside over the area to be treated. This grows back over about two days. The actual lasering takes about a minute in most cases. The whole procedure lasts about five minutes. If you have significant astigmatism, it can be treated at the same time.

What are the chances of success?

Success in this field is very subjective. What is good vision for a jeweller is very different to what is good vision for a pilot or what is good vision for a gardener.

Though success is very subjective, to express it in terms of a percentage success rate, internationally recognised standards have been decided upon (usually 6/12 in numerical terms). Your surgeon will give you an estimate of what the chances of success are for your particular refractive error. But please note that it is very important to understand your ability to read without glasses, which varies with your age, and how this may change after treatment. Your surgeon will explain this for you also.

In general, 95% of eyes achieve 6/12 vision or greater without glasses for errors up to 4. For greater errors, the predictability of this procedure falls off to an extent that it is recommended only in unusual circumstances.

Complications

All surgery carries the risk of complications. PRK is no exception. The 5% of unsuccessful cases arising from a PRK procedure are discussed extensively at the time of your assessment. The commonest problem is with healing that does not follow the usual pattern causing the focus of the eye to be off target. This can require top-up treatment. If you would like further information before assessment, please visit our website at www.ashfordadvancedeyecare.com.au

How soon after PRK does the eye recover?

Immediately after the procedure, the eye is padded for your comfort. During the following two days the eye is quite sore and watery. You will be given enough pain relieving medication to deal with this. Drops to prevent infection are used in the first two or three days and some artificial tear drops can be used after that for minor grittiness or discomfort should it arise. While the epithelium is healing, the vision is quite poor. Between 2 and 4 days later the vision starts to recover, first for distance and then for near. By 3 months after the treatment the vision present is close to the final result. It may change during the following 3 months but usually not significantly.

During the two to three month recovery period, most patients experience some glare. This may be particularly noticeable while driving at night. It is usually gone by 6 months.

You should be able to return to work, though you will have blurred vision in the treated eye initially, from about 4 days after your procedure. Recovery is, of course, influenced by having treatment for two eyes at the one time or one eye at a time. Your surgeon will discuss this with you.



LASIK

(Laser assisted in-situ Keratomileusis)

Laser assisted in-situ keratomileusis is reserved, at this clinic, for refractive errors that cannot be treated with a sufficiently high success rate by PRK (in most cases, over 4 dioptres of short-sightedness and all long-sightedness). It has been used clinically since 1996. Using a motorized device called a micro-keratome, an extremely thin flap is created from the cornea. The micro-keratome itself is used as the precision and thickness of the flap that is being created is impossible to achieve by hand. The flap created is then folded back, and the excimer laser applied to the underlying corneal tissue. The flap is then returned to its original position over the top of the newly treated cornea. No stitches are required to hold the flap since it adheres back into place within 2-3 minutes. It has been found that treatments done in this manner, for these kinds of eyes, are more stable long-term.

There are some short-term benefits to **LASIK**

1. Visual recovery is speedier after **LASIK** than **PRK**, recovering in some instances as early as the same day. Visual recovery after **PRK** may be nearer to 3 or 4 days.
2. During the first day or two, the eye is relatively more comfortable after **LASIK** than **PRK**.

Despite these benefits, though **LASIK** works for short-sightedness of less than 4 **dioptres**, we are more selective about its use because of the inevitably slightly higher risk associated with the extra surgical procedure involved (the cutting of the flap). Every procedure has its risks; no surgery is free of risk.

What are the chances of success with the LASIK procedure?

International experience with **LASIK** is slightly shorter than with **PRK**. In this clinic, we reserve **LASIK** for eyes with short-sighted errors between 4 and 12 dioptres and for all long-sightedness. The inherent unpredictability of the

healing process is greater for these errors. These facts combine to give a success rate reported internationally, and by our own experience, of about 95% at the first treatment (defining success as outlined for **PRK**). This means that as many as 1 in 20 eyes need a “top-up” treatment to get a successful result. Top-up treatments can be done at about 3 months following the original **LASIK** because the result stabilises very quickly. They involve the lifting of the flap without the necessity to recut it (it does not seal down for about 6 months). Further laser is then applied as necessary.

Complications

All surgery carries a risk of complications. **LASIK** is no exception. The 5% of unsuccessful cases arising from a **LASIK** procedure are discussed extensively at the time of your assessment. The commonest problem is with healing that does not follow the usual pattern causing the focus of the eye to be off target. This can require top-up treatment. If you would like further information before assessment, please visit our website:

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How soon after LASIK does the eye recover?

One of the advantages of **LASIK** is the speed of recovery. Useful vision can be present from as early as a day or two. The eye is covered with a shield for a day. After that you are instructed to avoid swimming for two weeks, wear the shield at night in bed for two weeks and not to rub the eye for a month. From about a month, one can be fairly certain that a stable outcome has been reached. Second eye treatments or “top-up” procedures (if found to be necessary) can be carried out at three months.

Pain is not a feature of this procedure, most patients complaining of some grittiness only, the day after their procedure. Return to work can be at about four days, post-operatively. Routine reviews are needed on the first post-operative day, and at one month, three months and sometimes six months. Recovery is, of course, influenced by having treatment for two eyes at the one time or one eye at a time. Your surgeon will discuss this with you.

Those participating in adventurous sports should wear the normal eye protection necessary for these types of activities.

Assessment Criteria

To undergo these procedures, you require stable **refractive error for at least 1 year**. Because of the tendency for refractive errors to change in the early teen years, we only advise surgery in people **21 years of age or older**. There is no upper age limit.

On Assessment

1. **Leave contact lenses out for 1 week before your appointment** if you use soft lenses and **2 weeks** if you use hard lenses. This is to allow reversal of distortions of the **cornea** (the clear curved window at the front of your eye) that may be induced by contact lens wear. Failure to allow these distortions to resolve can lead to errors in treatment.
2. Bring your glasses and/or contact lenses with you – a glasses and/or contact lens prescription is often helpful but not essential.
3. You will require drops in your eyes that may blur your vision for several hours. In some cases this can lead to difficulty in reading and driving. A pair of sunglasses may be helpful as you will be susceptible to light. **You will be unable to drive** after the assessment so please organise transport.
4. Bring your **referral letter** from your local doctor or optometrist.
5. The assessment will take **approximately 1 hour**.

You will be assessed by an eye specialist who is trained and experienced in these techniques. Your eyes will be fully examined and you will be advised regarding your suitability for treatment. If you are suitable, your best treatment options will be explained to you. After your surgery, all follow-up care will be carried out at Ashford Advanced Eye Care.

Please understand that refractive surgery will not improve your vision if it cannot be corrected by conventional means ie. contact lenses or glasses. Refractive surgery is aimed at reducing dependence on spectacles. It cannot be guaranteed to eliminate the need for spectacles and/or contact lenses.

The Costs

Initial Assessment	Medicare Benefits Only
Photorefractive keratectomy (PRK – a corneal surface excimer laser treatment)	\$2600.00 per eye
Laser in-situ keratomileusis (LASIK – a deeper corneal excimer laser treatment)	\$2600.00 per eye

If you are having a procedure, **settlement of your account on the day of surgery is required**. All major credit cards accepted (except Amex and Diners), cheques and cash.

These fees include:

- the surgical procedure
- all follow-up consultations
- any supplementary refractive procedures (enhancements) that may be required for the duration of 5 years following the initial procedure provided post operative instructions are followed accordingly

The initial assessment fee may be claimed from Medicare. In order for the fee to be rebated by Medicare, **you need to be referred** to us by either your GP or optometrist. Please ask your GP or optometrist to give you a referring letter naming the specific doctor with whom you have your appointment. Apart from the initial assessment fee, none of the surgical costs can be rebated from your private health fund (unless you have Mutual Community Ultimate cover for a minimum of 3 years or Defence Health), or Medicare. However, a portion may be claimed against your tax but this may be subject to Federal Budget changes each year. If you require more information regarding this please telephone either your accountant or the Australian Taxation Office.

If you need further information, please feel free to telephone Ashford Advanced Eye Care on **8293 5200** and we will answer any questions you have. Alternatively, you can visit us on the web at **www.ashfordadvancedeyecare.com.au**

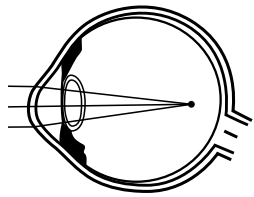
PAYMENT PLANS ARE AVAILABLE

Key Terms

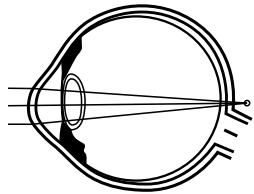
Refractive Error – this is the optical term for a requirement for glasses or contact lenses.

Cornea – this is the clear curved window at the front of the eye. The eye is like a camera and the cornea acts as the light focusing system at the front of the eye and provides most of the eye's optical power.

Retina – this is the sheet of nerves lining the inside of the eye. The eye is like a camera and the retina acts as the film, doing the actual seeing.



Myopia –this is the optical term for short-sightedness. In short-sightedness the cornea is too steep therefore bringing light rays to a point of focus in front of the retina rather than on it causing problems with distance vision. To treat this there are a number of ways the cornea can be flattened. The most predictable and stable treatments involve the Excimer Laser.



Hyperopia – this is the optical term for long-sightedness. In long-sightedness the cornea is too flat therefore bringing the light rays to a focus point behind the retina rather than on it causing problems with distance and reading vision. To treat this the cornea needs to be steepened at the centre. Currently the most predictable and stable treatment is with the Excimer Laser.

Astigmatism – the term used when the surface of the eye is oval rather than spherical therefore bringing light rays to two focal points on the retina rather than one.

Diopters – this is the optical measure of refractive power in glasses or contacts. It is measured as a positive, e.g. +3.50, if you are Hyperopic (long sighted) and as a negative, e.g. -3.50, if you are Myopic (short-sighted). The larger the number the greater the refractive error.

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