



This leaflet is intended to provide you with general information. It is not a substitute for advice from your ophthalmologist. You are encouraged to discuss the benefits and risks of treatment with your ophthalmologist. This is an abridged version of the RANZCO patient education pamphlet: Refractive surgery – a guide for patients. The complete six-page pamphlet is available from your ophthalmologist.

The aim of refractive surgery is to reduce a person's dependence on glasses and contact lenses. This is achieved by treating nearsightedness (myopia), farsightedness (hyperopia), and/or astigmatism.

Most refractive surgery techniques rely on altering the shape of the cornea, the transparent outer layer on the front of the eye. The cornea serves as a fixed-focus lens. As the cornea is responsible for about two-thirds of the eye's focusing power, vision can be improved by permanent reshaping of the cornea. The kind of reshaping needed depends on the eye condition being treated.

Refractive surgery does not enable perfect vision for every patient. Some patients may still need weak prescription glasses or contact lenses. In some cases, results can be modified by further treatment.

Your medical history

Your ophthalmologist needs to know your medical history to plan the best treatment for you. Tell your ophthalmologist about any health problems you have. Some may interfere with surgery, anaesthesia, recovery and medical treatment following recovery.

A decision to have surgery

As you make the decision whether to have surgery, make sure that you understand the risks, benefits and limitations of surgery. Only you can decide if surgery is right for you. If you have any questions, ask your ophthalmologist.

Anaesthesia

Refractive surgery may be performed under local or general anaesthesia.

Refractive surgery using the excimer laser

The excimer laser uses ultraviolet light and energy pulses to reshape the cornea. Available procedures include:

- LASIK (Laser in situ keratomileusis) – the surgeon partially separates the top layer of cornea, and the corneal flap is folded back. The excimer laser then reshapes the cornea. The corneal flap is put back into position.
- LASEK (Laser epithelial keratomileusis) – as LASEK makes a thinner flap than LASIK, this procedure is suitable for people with thin corneas.
- Photorefractive keratectomy (PRK) – no corneal flap is made. The excimer laser removes tissue from the cornea's outer layer.
- Wavefront LASIK, LASEK or PRK – a light is passed through the eye. A sensor graphs the cornea's unique shape into a three-dimensional map. The laser is used to reshape the cornea.

Other surgical techniques

In patients not suitable for LASIK, LASEK or PRK, surgical options include:

- Conductive keratoplasty – pulses of radiofrequency (RF) energy heat and shrink the outer edges of the cornea.
- Refractive lens exchange – the natural lens is replaced with an artificial lens.
- Implantable intraocular lens implant (phakic) – an intraocular contact lens is implanted inside the eye.

Possible risks and complications

Refractive surgery is safe but does have risks of complications. These are more fully outlined in the complete RANZCO patient education pamphlet and should be discussed with your ophthalmologist.