Royal Berkshire
NHS Foundation Trust

Arcuate keratotomy surgery

This leaflet provides information about AK surgery and includes risks, benefits and aftercare information. If you have any questions or concerns please speak to your eye specialist.

What is arcuate keratotomy?

Arcuate keratotomy (AK) is the creation of a pair of curved, partial thickness cuts in the cornea. This aims to balance the corneal shape and reduce astigmatism (part of the glasses prescription). The procedure is usually used in eyes that have had corneal transplant, but may also be used in natural astigmatism, or in combination with cataract surgery.

What are the possible risks of surgery?

- Infection of the cornea.
- Corneal graft rejection and/or failure.
- Corneal perforation, needing corneal stitches.
- Over or under-correction of astigmatism. This may then require a glasses prescription, contact lens fitting or further surgery.

Before surgery

Pre-operative tests will be needed, including corneal shape scan and refraction (glasses test), to decide on the positioning of the cuts.

What happens on the day of surgery?

- Arcuate keratotomy is usually carried out under local anaesthetic, using eye-drops to numb the eye.

- Once the eye is numb, a small pen mark is placed on the eye with you sitting up. This mark is used during surgery as a reference point from which to measure the position of the cuts.
- Before the operation, the eye and eyelids will be cleaned, and a sterile drape placed over the face. This does fit closely, but will be lifted up off the mouth and nose, with fresh air blown gently underneath the drapes.
- The procedure itself is not painful, but the operating light may appear very bright, and you will be aware of fluid washing over the eye, and most likely spilling down your cheek.
- The procedure will take around 10 minutes to perform, most of which is taken up by measurement and marking of the eye.

What to expect after the surgery

- The operation is not usually painful afterwards, but you will have a scratchy sensation as if something is in the eye. If there is pain, then non-steroidal medicines such as ibuprofen may be helpful.
- You will be given eye-drops to take after the operation. These include antibiotic (to prevent infection), steroid (to prevent corneal graft rejection), and lubricants (to help smooth over the incision). The drops will come with instructions to follow.
- You will have a post-operative check-up 1 week after surgery, checking for infection and graft problems. The effect of the procedure will be assessed at about 6 weeks later, with measurements of corneal shape, refraction (glasses), and vision.
- Driving – the legal requirement for driving is that you can read (with glasses or contact lenses, if necessary) a number plate at 20 metres, with both eyes open. You may be able to meet this requirement a few days after surgery but if you are unsure, of if you rely on your operated eye for driving acuity (perception), please ask for advice at your follow-up appointment.

Contacting us

If you have a minor eye problem, please seek advice from your GP, optician or pharmacist. If urgent, please attend Eye Casualty or call 111.

Eye Casualty (Reading):	Mon-Fri 8am to 5pm; Sat & Sun & bank holidays 8.30am-12.30pm; Closed Christmas Day and New Year's Day.
Eye Casualty: Prince Charles Eye Unit (Windsor):	Mon-Fri 8am to 5pm; Sat 8.30am-12.30pm; Closed Sun & bank holidays.
Greenlands Ward (Reading):	0118 322 7172 (24 hours a day)
Eye Day Unit (Reading):	0118 322 7123 (Mon-Fri 7am to 6pm)

Outside of Eye Casualty hours, you should telephone your GP's out of hours' service, ring NHS 111 or if you have serious concerns, visit your nearest Emergency Department (A&E).

Further information

- NHS Website www.nhs.uk
- Specific Eye Conditions www.eyeconditions.org.uk

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

M Leyland, RBFT Ophthalmology, October 2026
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