

Having an intrastromal corneal ring to treat keratoconus of the eye

Ophthalmology Department

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Information for Patients

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What is keratoconus?

Keratoconus is an eye condition in which the cornea is pointed rather than round. This causes problems with your vision.

The cornea is the clear part at the front of the eye. The cornea is normally round in shape, but in keratoconus it is more like a rugby ball shape. Often contact lenses can improve your vision, but when this does not help, intrastromal corneal rings may be an option.

What is an intrastromal corneal ring?

An intrastromal corneal ring is an implant that goes into the cornea. It is a thin plastic, semi-circular ring inserted into the mid layer of the cornea. It is designed to improve the shape of the cornea. The implants make the centre of the cornea flatter and more regular.

Why do I need the procedure?

This is one option to correct vision related to keratoconus, usually when you have mild to moderate keratoconus and are finding contact lenses difficult to wear. The implants are designed to improve the shape of the cornea. If the implants help improve vision you may not need a corneal graft.

A corneal graft involves removing your cornea and replacing it with a cornea that has been donated. This can take up to 2 years to completely heal and for your vision to become stable.

The doctor may suggest a crosslinking procedure to be done at the same time. This procedure stops the cornea from changing shape. If keratoconus continues to develop, implants will not be successful in the long term.

**Health information and support is available at www.nhs.uk
or call 111 for non-emergency medical advice**

Visit www.leicestershospitals.nhs.uk for maps and information about visiting Leicester's Hospitals
To give feedback about this information sheet, contact InformationForPatients@uhl-tr.nhs.uk

What are the risks of the procedure?

Research undertaken by NICE found the following outcomes:

- A study of 57 eyes reported no major problems.
- Sensation of foreign body in the eye in 3 out of 74 patients and they were removed.
- Halos found in 2 to 4 out of 74 patients.
- Glare reported in 2 to 4 out of 74 patients.
- Blurry with vision that can change at times, as the cornea shape changes over 2 to 3 months as intrastromal ring settles.
- If the cornea is thin there is a risk of a hole being caused during surgery; this did not happen in any of the studies.
- Very rarely the implant may move out of the cornea; this was reported in 4 different studies, 0 to 20% of cases.
- Infection is a risk with any surgery but this rarely happens with implants; in 4 studies up to 5% had infection. Eye drops are given to reduce this risk.

What are the benefits?

If successful the implants will improve vision without needing corneal graft surgery. There is a much shorter recovery time than graft surgery as you can return to normal activities the next day.

What does the surgery involve?

This is generally completed under a general anaesthetic while you are asleep.

The procedure involves a cut into the top layer of the cornea to a depth of about two thirds of its thickness. A special tool is used to create a tunnel. The implant is placed into the tunnel.

Each eye has an individual plan created to make sure the implant is placed as accurately as possible.

Aftercare

- You need to avoid splashing water in the eye for 1 week and avoid rubbing the eye.
- You will be given eye drops that need to be used for a few weeks. You should get a repeat prescription from your GP if you think you will run out. Do not stop the drops until the clinic doctors tells you to.
- As you have had an operation on your eye, it may feel quite sore for a few days.
- This takes a few days to heal. You can take painkiller tablets regularly.
- The eye may look redder for a few days after surgery but will slowly improve with time.

Contact Eye Casualty immediately if you have any of the following after your surgery:

- Increased redness.
- Your vision gets worse.
- Pain in the eye from bright lights - this could be an infection.
- Itching, swelling of the eyelid or a watery eye - this could be an allergy.

What to do if you think there is a problem

If you have any concerns after your procedure you can contact us via the details below (you can leave an answerphone message):

Specialist Nurse Team: 07970 940125 (Monday to Friday - 9am to 5pm)

Corneal secretary: 0116 258 5913

Eye Casualty (0116 258 6273) which is in the Windsor Building, Level 1, Leicester Royal Infirmary:

Monday to Friday - 8.30am to 4.30pm

Saturday, Sunday and Bank Holidays - 8.30am to 12.30pm

Outside of these hours in an emergency please go to the Emergency Department.

Further information

Useful organisations: <https://keratoconusgb.com/>

<https://www.keratoconus-group.org.uk/>

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