

Keratoconus



Background

The cornea is the clear window of the eye, which allows light to be focused onto the back. Keratoconus is a disease that can compromise the integrity of the cornea by becoming misshapen, a process called ectasia. This predisposes to thinning and bulging of the cornea. Instead of having a curved 'football' shape it becomes pointed like a 'rugby' ball. This in turn increases astigmatism (when light is focused in different directions on to the back of the eye, the retina) and myopia (when an image is focused in front of the retina).

Who gets Keratoconus?

Both men and women may develop the condition, and usually this starts when we are teenagers or in our early twenties. The condition is problematic as it may continue to progress until vision becomes increasingly blurry, which may not be managed with spectacles or conventional soft contact lenses. Although inflammation of the surface of the eye or certain genetic conditions can result in keratoconus, usually a direct cause cannot be identified.

How do we diagnose Keratoconus?

Usually an optician will become suspicious that you have Keratoconus when they test your spectacle prescription. They may notice that you have become more myopic (short-sighted) or that your astigmatism has got worse. They may also notice that you have changes in your cornea that suggest you have Keratoconus. Normally they will refer you to see the ophthalmologist (eye doctor) who will also examine you and undertake special tests such as:

- Topography (a painless test that measures how steep and thick your cornea is)
- OCT (a painless tests which measures the profile of the cornea)
- Specular microscope (a painless test that measures the health of the cells lining the back of your cornea, called the endothelium)

Sometimes the diagnosis is not clear and you may need to be monitored for a period to see whether the changes in your cornea become more apparent. We usually need to monitor you condition to decide if the disease is progressing (getting worse) and who would benefit from treatment.

How can this be treated?

Keratoconus cannot be treated with eye drops or tablets. Often, and as long as we/your optician think it is safe, we will try and improve your vision with contact lenses if glasses are of limited help to you. Contact lenses usually need to be rigid or occasionally scleral lenses to fit the shape of the cornea caused by keratoconus. Patients usually find contact lenses better than glasses as they allow light to enter the eye more normally, improving the quality of the image. If there is evidence that your disease is getting worse and it is safe we will consider arranging a treatment called corneal collagen cross-linking (CXL) to prevent the eye from warping further. Sometimes the cornea can become so thin that a break within causes fluid to build up which can be painful and suddenly causes clouding of vision. This is called hydrops and will need attention from the doctor quickly, involve specialist eye drops and can lead to scarring of the cornea.

What does corneal collagen cross-linking involve?

This is a treatment that aims to stiffen or harden the cornea and prevent it from becoming more misshapen. Although very long-term data is not available, this treatment has a good safety profile and low risk of complications such as infection. Further details can be discussed should you need this treatment but briefly it involves a day case procedure that requires the application of a specialist drops followed by ultra-violet light shone on the eye for several minutes.

Why might I need a corneal transplant?

Keratoconus can result in the cornea becoming so thin that CXL is not safe or likely to be effective, too pointed or scarred that KC cannot be managed by specialist contact lenses, you develop a perforation or when one cannot wear a contact lens. In these instances it may be necessary to replace part or all of your cornea through surgery by undertaking a corneal transplant called a graft or keratoplasty. This graft will come from a donor who has died and given consent for their cornea to be used for transplantation after their death.

There are three layers in the cornea:

1. The epithelium (the front surface like a skin)
2. The stroma (the middle part which makes up most of the cornea)
3. The endothelium (the back surface which acts as a pump to stop the cornea from becoming waterlogged)

What types of corneal transplant are there?

Different diseases may affect all or part of the cornea. There are two broad approaches in keratoconus:

1. Penetrating Keratoplasty (PK – a full thickness corneal transplant)
2. Deep Anterior Lamellar Keratoplasty (DALK – a partial thickness corneal transplant replacing the epithelium and front part of the stroma up to 90% depth)

All involve the replacement of some or all of your cornea. Like all organ transplants, this involves taking corneal tissue from someone who has died and donated their organs for transplantation. Further information can be found in our leaflet concerning corneal transplantation.

Follow up and aftercare

Your surgeon will determine whether you have Keratoconus, whether it needs treatment with contact lenses, cross-linking or surgery. If you do not need treatment other than lenses we will usually monitor the condition every few months to see if the disease is progressing and you would benefit from further treatment.

Other advice

- Stop wearing your usual contact lenses prior to and after your clinic visits as advised so that we can get an accurate scan.
- Contact the department as soon as you notice any problems e.g. increased blurring of vision, redness or pain that is getting worse. See an ophthalmologist as soon as possible if you start noticing these symptoms or any problems that may be of concern, so that the right treatment can be started straight away.

Patient Experience

Being admitted to hospital can be a worrying and unsettling time. If you have any concerns or questions you should speak to a member of staff in the ward or department who will do their best to reassure you. If you are not happy with their response, you can ask to speak to someone in charge.

Patient Advice and Liaison Service (PALS)

Our PALS staff will provide advice and can liaise with staff on your behalf if you feel you are unable to do so. They will also advise you what to do if your concerns have not been addressed. If you wish to discuss making a formal complaint PALS can provide information on how to do this. Telephone: 0300 123 1732. Monday to Thursday 8.30am to 4.30pm. Friday 8.30am to 4pm.

An answerphone operates outside office hours. Or email us at: wah-tr.PET@nhs.net

Feedback

Feedback helps us highlight good practice and where we need to improve. There are lots of ways you can give feedback including completing a Friends and Family Test card or undertaking a survey. For further information please speak to a member of staff, see our Patient Experience leaflet or visit www.worcsacute.nhs.uk/contact-us

If you would like this leaflet in an alternative language or format, such as audio or braille, please ask a member of staff.

Polish

Jeżeli są Państwo zainteresowani otrzymaniem niniejszej ulotki w innej wersji językowej lub formacie, prosimy zwrócić się w tej sprawie do członka naszego personelu.

Bengali

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Urdu

اگر اس کتابچہ کو آپ کسی متبادل زبان یا ہیئت جیسے آڈیو یا بریل میں چاہتے ہیں، تو برائے کرم اسٹاف رکن سے مانگیں۔

Romanian

Pentru a obține această broșură în altă limbă sau în alt format fie audio sau limbajul Braille, vă rugăm să apelați la un membru al personalului.

Portuguese

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Chinese(Mandarin)

如果您想要本手册的替代语言或格式的版本，如音频或盲文，请向工作人员咨询

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