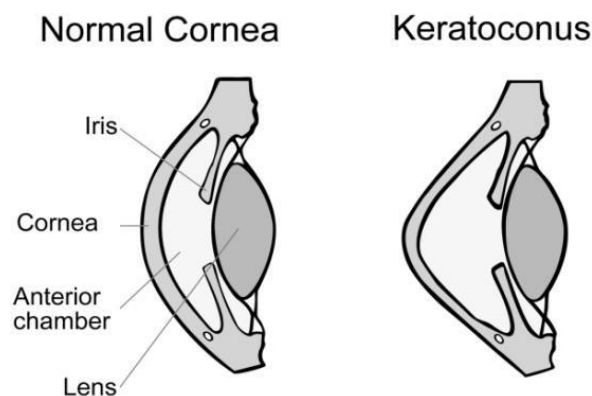


# Keratoconus

The clear window at the front of the eye, the cornea, is usually a round, even shape. Keratoconus (pronounced keh-rah-toe-cone-us) is when the cornea becomes thinner and bulges outwards in a cone shape. Keratoconus is a progressive condition and can get worse gradually over time. The speed of change and severity varies between affected people.



## How keratoconus affects your vision

When you have keratoconus, your vision becomes blurred. This is because the front of your eye is not completely smooth and round. This affects the focus of your eye causing short sight (myopia) and astigmatism, in which the light that passes through your eye forms an unclear image at the back of the eye. In advanced stages of keratoconus, some patients may develop scarring in the

cornea, which can make their sight blurred by reducing the amount of light which can enter the eye. A small number of patients may experience a sudden, painful loss of vision if fluid from the eye enters a very thin cornea. This is called hydrops and will settle with time.

## What causes keratoconus?

We do not know exactly what causes keratoconus. It may be partly genetic (passed on in a family through the genes) and it happens more in people who have allergies like asthma or eczema. There may also be a link between keratoconus and people who rub their eyes frequently.

## Who can get keratoconus?

Keratoconus is usually diagnosed in young people at puberty, late teens or early twenties. It is more common in non-Caucasians and affects up to 1 in 450 people (depending on ethnicity).

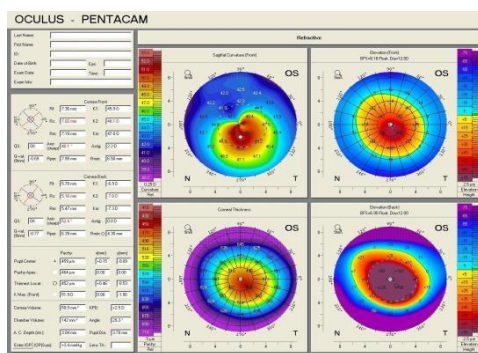
## How can the ophthalmologist tell if I have keratoconus?

The eye doctor (ophthalmologist) or optometrist (ophthalmic optician) will examine your eyes with a microscope called a slit-lamp (see figure 1 below).

You might also have a corneal topography scan (see figure 2 below). This is a quick, painless photo which checks the shape and thickness of your cornea in detail.



**Figure 1: Examining the eyes with a slit-lamp**



**Figure 2: Topography scan in keratoconus**

### What treatment is available for keratoconus?

There is no cure for keratoconus and it cannot be treated with eye drops or medication.

In the early stages, some patients will simply need glasses to see well, but many patients eventually require contact lenses

for better vision. The contact lenses are usually small hard lenses (rigid gas

permeable lenses) but some people may wear soft (hydrogel) lenses and some need special lenses made specifically for keratoconus eyes. Contact lenses do not make keratoconus worse or better, they just improve your vision while you are wearing them. In very advanced cases, where contact lenses fail to improve vision, a corneal transplant ('graft') may be needed. Most patients with keratoconus will not need a corneal transplant.

### Corneal collagen cross-linking (CXL)

CXL is a new treatment that can stop keratoconus getting worse. Also known as C3R, it uses ultraviolet light and vitamin B2 (riboflavin) drops to stiffen (and strengthen) the cornea. It is effective in over 90% of patients with a single 30- minute outpatient procedure. It is only suitable for some people with progressive keratoconus. As with all operations there are risks: CXL is safe, but there is a small chance of worse vision afterwards. Because it is a new treatment, we do not know the long-term effects for sure, although we believe the risks of any unexpected long- term side effects are very low. For further information on CXL, please see our separate 'corneal cross-linking' patient information leaflet.

### Acknowledgements

Keratoconus Group leaflet – see <http://www.keratoconus-group.org.uk>



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to advise you further (see above). For more information about your rights under the NHS constitution, visit [www.nhs.uk/choiceinthenhs](http://www.nhs.uk/choiceinthenhs)

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**City Road, London EC1V 2PD**  
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**[www.moorfields.nhs.uk](http://www.moorfields.nhs.uk)**

### **Moorfields Direct telephone helpline**

Phone: 020 7566 2345  
Monday-Friday, 8.30am-9pm  
Saturday, 9am-5pm  
Information and advice on eye conditions and treatments from experienced ophthalmic-trained nurses.

### **Patient advice and liaison service (PALS)**

Phone: 020 7566 2324/ 020 7566 2325  
Email: [moorfields.pals@nhs.net](mailto:moorfields.pals@nhs.net)  
Moorfields' PALS team provides confidential advice and support to help you with any concerns you may have about the care we provide, guiding you through the different services available at Moorfields. The PALS team can also advise you on how to make a complaint.

### **Your right to treatment within 18 weeks**

Under the NHS constitution, all patients have the right to begin consultant-led treatment within 18 weeks of being referred by their GP. Moorfields is committed to fulfilling this right, but if you feel that we have failed to do so, please contact our patient advice and liaison service (PALS) who will be able

