

Keratoconus – an overview

Keratoconus is a disease in which the clear window at the front of the eye, the cornea, thins and bulges. It occurs in 1 in 2000 people. The exact causes are unknown but it is more common in people who rub their eyes a lot. Occasionally it runs in families but most of the time it doesn't. It is usually present in both eyes, but usually worse in one eye.

In its mildest form keratoconus may not produce any noticeable vision problems at all, and can only be detected by sophisticated cornea scanners. Laser surgery to the cornea is often done to improve focusing of the eye in people who don't want to wear glasses. This laser surgery may make keratoconus worse. So all people who have assessments for laser surgery will have a cornea scan, and this is often when keratoconus is first picked up. In its severest form, keratoconus can cause blindness that can only be treated by corneal transplantation.

Management of keratoconus has two main aims:

Stop keratoconus getting worse

There are 3 main ways to stop keratoconus getting worse

1. *Get older*

Ageing is fantastic for keratoconus. By the age of 40 keratoconus will have stopped getting worse in most people, due to a natural stiffening of the cornea

2. *Stop eye rubbing*

It is imperative not to rub your eye if you have keratoconus. If you have hayfever and itchy eyes Zaditen drops can be purchased without a prescription to relieve this.

3. *Corneal collagen cross-linking*

This treatment involves shining a UV light on the cornea after the application of vitamin B2 eye drops. It causes the microscopic fibres of the cornea to bind together. It was first introduced in Australia in 2006 and is very effective in preventing progression of keratoconus.

Improve vision

1. *Glasses and contact lenses*

These may be all that is required for good vision. Contact lenses often need to be of the hard variety to mask the abnormal shape of the cornea.

2. *Implantable lenses*

Lenses inserted into the eye can be a very effective treatment to improve vision without having to use glasses and contact lenses.

3. *Intracorneal ring segments*

These small plastic arcs are inserted into the cornea to make the shape more regular.

4. *Corneal laser regularisation*

This can be done after crosslinking to make the cornea shape more regular in people whose vision can't be improved with the above methods.

5. *Corneal transplantation*

This is generally employed when the above methods fail or are not likely to work. It is required in about 20% of keratoconus patients.

