Treatment options for a cone-shaped cornea (keratoconus)

Ophthalmology Department

Information for Patients

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What is keratoconus?

- The cornea is the clear “window” at the front of your eye.
- In keratoconus, the cornea becomes thinner and starts to bulge into a cone shape.
- This change makes your vision more short-sighted, blurry, or distorted.
- It usually affects both eyes, but one eye may change earlier than the other.

Who gets keratoconus?

We do not know exactly who or how many people get keratoconus.

About 1 in 2000 people have keratoconus. This can vary depending on where you live. It is more common in people who come from hot, sunny countries.

What are the causes?

We do not know what causes keratoconus. It may be linked with allergies such as asthma and eczema or could be passed on in a family (genetic). Rubbing of eyes is a known cause. It can increase the risk of the condition getting worse and is linked with being a cause.

Keratoconus does not often appear until or after puberty. It develops over time. Although no one can be sure how far keratoconus will develop **the condition does NOT cause blindness.** In extreme cases the condition can be treated with surgery. With the current treatment available most people should be able to lead a normal lifestyle despite this condition.

What are the signs and symptoms?

- In the early, mild stages, keratoconus may result in an increase in short sightedness and distorted vision (astigmatism).
- As the condition progresses the vision may be affected with glare and sensitivity to light.
- With further progression, the vision may become more distorted and the cornea may start to become scarred.

If the keratoconus becomes advanced, you may have a sudden clouding of vision in 1 eye. This is due to fluid seeping into the stretched cornea. If this happens you must go to the Eye Emergency Department for treatment. Vision does improve over several weeks or months, with treatment or sometimes on its own.

How is it diagnosed?

Keratoconus can progress and change over many years. The eye can become stable by itself, but this will vary from person to person. It can become stable at any stage, from mild to severe.

It is often picked up by the optician. They will refer patients they think may have it to the hospital.

We can confirm the diagnosis with a scan which maps the shape of the cornea (topography).

It can sometimes be difficult for the optician to check for early or mild cases because there may not be any major signs. The optician may not often have the correct machine to scan the cornea.

What are the treatment options?

1. Glasses/contact lenses

When sight is affected it can sometimes be corrected with glasses. If your sight cannot be corrected with glasses we will use rigid contact lenses. Some people with early keratoconus may be able to wear soft contact lenses.

Risks with wearing contact lenses

There is a small risk of infection when wearing contact lenses. The risk becomes greater if the lenses are not kept clean. You must follow the hygiene instructions we give you when the contact lenses are fitted. It may be difficult to get good sight at times, such as when the condition becomes advanced and/or you can not cope with contact lenses. Contact lenses do not slow down the rate of progression of the condition, but they can give good vision when they are worn.

The condition does eventually become stable, but it can take many years for this to happen.

2. Collagen cross linking

We offer a treatment called “Collagen cross linking (CXL)”. This is a surgical procedure. It may be an option in patients where the condition is shown to be getting worse (normally when the scan is repeated at a follow up visit). The treatment does not cure the condition but it reduces or stops the progression in 9 out of 10 patients. Please see CXL treatment for keratoconous (leaflet 906).

3. Cornea transplant

This is needed in about 1 to 2 out of 10 keratoconus patients. You may need a cornea transplant if

- the cornea may become very steep, scarred, thin and irregular, or
- your sight cannot be corrected with contact lenses.

The damaged cornea is replaced with donor tissue.

Sight recovery after a transplant takes a long time to settle down, sometimes as long as 2 to 3 years. Sight is usually better than before surgery, but you may still need glasses or contact to improve your sight.

There may be a risk of the body rejecting the transplant, but over 9 out of 10 corneal transplants for keratoconus are successful.

4. Other options

There are various other surgical options, but these do not stop the condition from getting worse. They may help improve your sight. If you would like to discuss these possibilities with a surgeon, we can arrange for you to be reviewed in clinic.

Further information

Useful websites:

UK Keratoconus Self-help and Support Association

www.keratoconus-group.org.uk

National Keratoconus Foundation

www.nkcf.org

Contact details:

Windsor Eye Clinic (0116) 258 5409

Balmoral Eye Clinic (0116) 258 5125

These are not emergency numbers.

If you have an emergency, then please contact your GP or the Eye Emergency Department on (0116) 258 6273.

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