

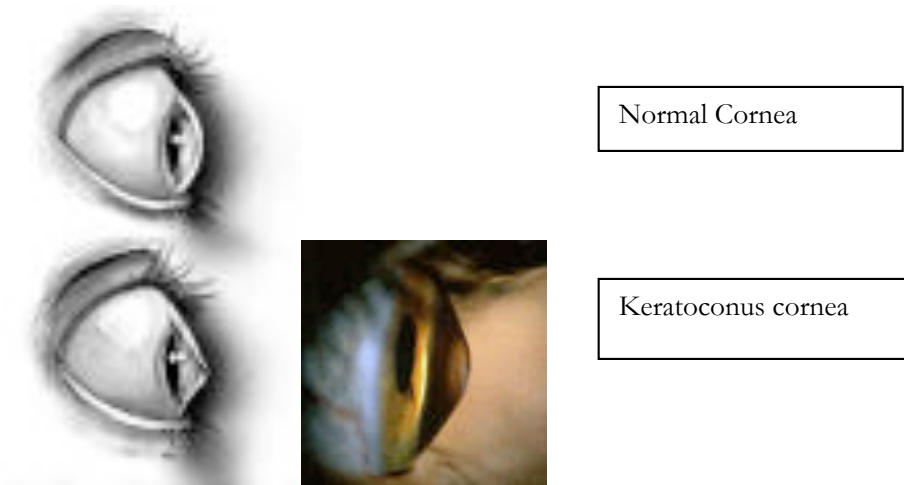
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## KERATOCONUS

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### WHAT IS KERATOCONUS?

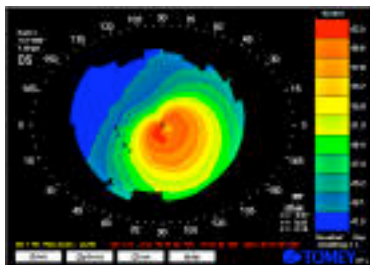
Keratoconus is an uncommon condition in which the cornea (the clear front window of the eye) becomes thin and protrudes. Keratoconus literally means a cone-shaped cornea. This abnormal shape can cause serious distortion of vision.



### WHAT CAUSES KERATOCONUS?

Despite continuing research, the cause of keratoconus remains unknown. In most cases there appears to be a weakening of the cornea. The eye is inflated, placing the cornea under tension. If the cornea does not resist this tension it can bulge out, just like a weak spot in a tire.

Keratoconus can be inherited, but in most cases there is no family history, and individuals with the condition will not pass it on to their children. Sometimes relatives will have high astigmatism, but not keratoconus. Vigorous eye rubbing, although not the cause of keratoconus, can contribute to the disease process. Therefore, patients with keratoconus are advised to avoid rubbing their eyes. Keratoconus is associated with certain systemic conditions, such as Down's syndrome and Ehlers-Danlos syndrome (a rare collagen disorder). It is also associated with "atopic" conditions such as hayfever, eczema, and asthma. Some experts think that long-term wear of rigid contact lenses can lead to keratoconus.



Topography analysis of a keratoconus cornea shows inferior bulging (red colors)

## **WHAT ARE THE SYMPTOMS OF KERATOCONUS?**

Blurring and distortion of vision are the earliest symptoms of keratoconus. Symptoms usually appear in the late teens or early twenties. The disease will often progress slowly for 10 to 20 years, then stop.

In the early stages, vision may be only slightly affected, causing glare, light sensitivity and irritation. Each eye may be affected differently. As the disease progresses and the cornea steepens and scars, vision may become distorted.

A sudden decrease in vision can occur if the cornea swells. The cornea swells when the elastic part of the cornea develops a tiny crack, created by the strain of the cornea's protruded cone-like shape. The swelling may persist for weeks or months as the crack heals and is gradually replaced by scar tissue. (This is called hydrops.)

## **HOW IS KERATOCONUS TREATED?**

Mild cases are successfully treated with glasses. In moderate cases much better vision can be obtained with rigid contact lenses. When vision is no longer satisfactory with glasses or contact lenses, a corneal transplant is recommended. Fortunately, the success rate of corneal transplantation is high. Approximately 95% of transplants for keratoconus remain clear, without rejection. However, good vision may still require contact lens wear. As in any eye surgery, complications such as transplant rejection, infection and loss of vision can occur, so results cannot be guaranteed.

Sudden corneal swelling (called hydrops) can occur. The vision becomes hazy and the eye is light sensitive. Eye drops can be used to lessen discomfort and aid recovery of vision.



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