

Keratoconus

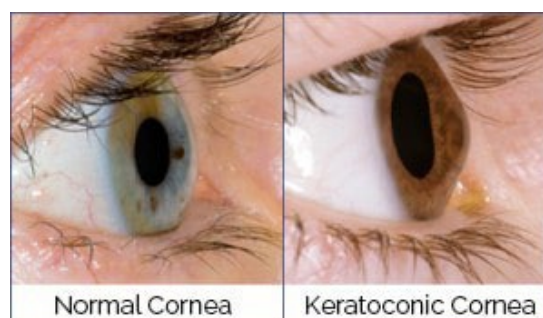
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I actively fit keratoconus patients with rigid gas permeable (RGP) contact lenses and scleral lenses to correct keratoconus. Even those who have corneal scarring as a result of keratoconus achieve visual acuity, which results in corrected vision for both legal driving and daily functioning. Corneal grafts resulting from progressive keratoconus are also amenable to scleral contact lenses.

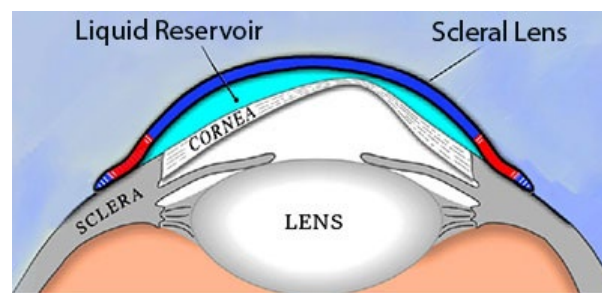


Keratoconus is an inherited condition, with uncertain causes. It is known as a dystrophy and usually first becomes apparent between the ages of 10 and 25 years. Keratoconus is sometimes, but not always, associated with conditions such as allergies, infantile eczema and asthma, reduced night vision, a maternal age of over 28, double jointed-ness and in rare instances, with occasional bouts of minor chest pain. If any of these factors apply, they should be mentioned to your eye-care practitioner. Keratoconus is effect learning abilities with some 60% of people with keratoconus going on to tertiary education, compared to 12% of the population as a whole. Keratoconus does not cause blindness but, if untreated, it can lead to significant loss of vision.

Keratoconus (conical cornea) is a thinning of the central zone of the cornea which is located on the front surface of the eye. As this happens, the normal pressure within the eye makes the cornea bulge forward to a microscopic degree. The initial effect is to induce a myopic or short-sighted error, due to this; early keratoconus is often not diagnosed. In early or mild cases, quite reasonable vision can be obtained with glasses alone. In most cases however, the condition deteriorates your vision quality slightly, the cornea becomes more distorted, and glasses become increasingly less effective. Consequently, for the majority of those with keratoconus, correction of vision is achieved via contact lens. The hard lenses used perform similarly as dental braces on crooked teeth - a soft lens cannot be used as it would mould itself to the shape of the irregular cornea, rather than correcting the shape.



The contact lens fitting goal is to match the shape of lenses interior surface to the shape of the cornea and then to vault across the top of the thinner conical area, aiming to make hairline contact with the top of the cone. Excessive pressures on the cone apex will cause permanent scarring within a few months and occasionally this can happen naturally. Reducing pressure on the cone apex allows the cornea to return to a more regular shape again. Nevertheless, failure to eliminate pressure on the cone will lead to irreversible scarring and visual deterioration over some months. For this reason, follow-up visits are advisable at least every six months, but sooner if discomfort or visual problems occur. Refitting or lens modification must always be undertaken if advised by your optometrist or if discomfort, intolerance, or loss of vision occurs. In some instances, refitting can actually reduce vision slightly. This is because a cone which has moved forward and is contacting the back of the lens is 'moulded' into a regular shape.



It should be emphasized that while contact lenses can greatly improve your vision, it may not always be possible to improve it to the level of a normal-sighted person. In particular, problems may occur in situations of glare and poor lighting due to the fact that there is some refraction at the irregular corneal surface beneath the contact lens. Keratoconus patients are advised to have spectacles for emergency use. However, it should be emphasised that typically these will provide only 25-50 % of the vision achieved with contact lenses.

Keratoconus contact lens wearers are strongly advised to maintain Extra Benefits Health Insurance since frequent lens replacements are often necessary. In some instances, the Health Insurance Company may require evidence of your special need for more than average lens replacements; because of the number of lens shapes for the management of keratoconus, several lenses may have to be supplied to optimize the initial fitting.

Approximately 85% of keratoconus cases gradually stabilize by the age of 35, the remaining 15% the keratoconus can progress and the tolerance to the contact lens and vision continues to deteriorate. For this group, a corneal graft is necessary. The success rate for corneal grafting is extremely high nevertheless, surgery should not be contemplated lightly and not until all other avenues have been explored. The average stay in hospital is normally 3-5 days followed by a week at home. Vision is usually blurred immediately after the operation but improves over the first few weeks. Another operation has been performed in which a lathe-cut piece of foreign cornea is sewn onto the surface of the cornea, flattening the cornea. This procedure is called Keratophakia. It remains experimental and is in a developmental phase.

In summary, Keratoconus is a complex inherited condition that causes slight thinning, and therefore distortion, of the corneal surface of the eye. It does not cause blindness but, if untreated, can lead to serious impairment of vision. Fortunately, modern technology has made it possible to fit contact lenses that provide the eye with good or reasonable vision. In those cases not corrected or controlled by contact lenses, the surgical procedure of corneal grafting will normally return a healthy clear cornea with some distortion, which in turn can benefit from contact lens wear.