Keratoconus

What Is Keratoconus
In a normal eye, light enters the clear front part of the eye called the cornea. The cornea, along with the lens in our eye, helps to focus light to a clear point on the light sensing cells of the eye, called the retina. Keratoconus is a corneal disease that causes the front of the eye to become progressively thinner and cone shaped. In many patients, this cone shaped cornea is no longer able to focus light to a crisp clear point on the retina. This causes blurred or distorted vision.

What Causes Keratoconus
The exact cause of keratoconus is still largely misunderstood. Many studies have been done on the genetic inheritance of the disease. These studies have shown that patients diagnosed with keratoconus have a 6-23.5% chance of having a family member with the disease as well. Keratoconus does have a strong association with allergies, particularly in patients who rub their eyes often. The current understanding of keratoconus is that the collagen fibrils that provide structure to the cornea become weakened. This causes the cornea to become more flexible and progressively "bulge" outward as it weakens.

Symptoms of Keratoconus
In its earliest stages, keratoconus can cause blurred or distorted vision. Sometimes blurred vision persists, even with a change in your glasses prescription. Patients with keratoconus also frequently report more glare at night while driving and sometimes light sensitivity. Usually, symptoms of keratoconus begin in the late teens or early twenties.

Diagnosis of Keratoconus
Diagnosis of keratoconus is made during a comprehensive eye examination, and our doctors utilize the following techniques:

- Slit lamp microscope examination
- Corneal topography testing
- Pachymetry (corneal thickness testing)
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Treatment of Keratoconus
Initial treatment of keratoconus is aimed at both trying to stabilize the structure of the cornea as well as ensuring the clearest vision possible for patients. For many, we recommend contact lenses and surgical procedures to help best achieve these goals. At Highline, we are highly experienced in fitting contact lenses for patients with keratoconus to obtain the best vision possible for our patients. The current treatments our doctors may discuss with you include:

- **Soft contact lenses** – sometimes soft lenses can be used to correct vision in a patient with keratoconus.
- **Gas Permeable contact lenses** – These lenses float on top of the tear film and their rigid structure can provide significantly better vision than glasses or soft contacts in many cases.
- **Scleral contact lenses** – Scleral lenses fit on the white part of the eye, the sclera, and they don't even touch the cornea. Similar to a gas permeable contact lens, a scleral lens can provide significant visual improvement and sometimes even better comfort.
- **Hybrid contact lenses** – These lenses are a combination of a gas permeable contact lens with a soft lens skirt. These lenses, similar to gas permeable lenses, can also provide patients with clear and crisp vision.
- **Corneal Crosslinking (CXL)** – This surgical procedure can strengthen the collagen fibers within the cornea, giving the cornea a more rigid structure. Often times this slows or stops the progression of the disease.
- **Intrastromal Corneal Ring Segments (ICRS)** –These ring segments are placed surgically within the middle layer of the cornea to help improve the optics of the cornea by flattening its cone shape in patients with keratoconus.
- **Corneal Transplantation –** This is typically only necessary in patients with advanced keratoconus, in which all other treatment options have failed.

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The Highline Vision Center Promise
Our experienced optometrists utilize the best technology to detect and diagnose keratoconus. We will take the time to discuss multiple treatment options with every patient in order to both preserve your corneal health and allow you to see as clearly as possible. We promise to work with you to create a care plan specifically for your eyes whether that means specialized contact lens fitting or co-management of your surgical eye care with a trusted corneal surgeon.

We pride ourselves on continuing to develop expertise in keratoconus as well as taking the time needed to give our patients the extra care they deserve.