

## Contact Lens Therapy

Can you imagine waking up in the morning and not having to wear glasses or contact lenses during the day? It would free you up for a host of activities that you may otherwise avoid because of your need to wear glasses or contact lenses.

There is a revolutionary non-surgical contact lens treatment that improves your natural vision in a matter of hours. This new medical method is called **Orthokeratology**, or **Ortho-K**, and it works. Your nearsightedness and astigmatism may improve dramatically the day after your first fitting with the new Ortho-K therapy. The Ortho-K procedure is achieved in a unique way, with the wearing of specially designed contact lenses. These lenses are custom designed to gently change the shape of your cornea ( the front curvature of your eye) to safely and quickly improve your vision. The best analogy for Ortho-K is "orthodontics for the eye". The corneal shape is altered by gentle pressure from custom-designed contact lenses.

This new method of vision improvement is accomplished most often over a period of days or several weeks to attain better vision. Ortho-K is safe, effective, and best of all, non-surgical and reversible.

'Refractive error' is the term used to describe how your eye focuses light and whether or not you have good, unaided vision. The three factors that influence how your eye refracts (bends) rays of light are the curvature of your cornea, the power of your lens, and the length of your eye.

### Nearsightedness

Normal eyesight is present when light rays focus on the retina, creating a clear image. Myopia occurs when the curvature of the cornea is too steep and/or the length of the eye is too long. As light rays pass through the steeper central cornea, they are refracted too much and come to a point of focus in front of the retina. This creates a blurred image on the retina. People with myopia experience blurred vision at longer distances, but may see well close up.

The curvature of the cornea and the axial length of the eyeball are responsible for myopia. With Ortho-K, contact lenses are used to reduce the corneal curvature and thus, the myopia, which improves unaided vision.

### Astigmatism

Many patients with myopia have some degree of astigmatism. This means that the cornea, rather than being completely round in shape, similar to a ball, may be slightly oval and shaped more like a football. People with astigmatism experience blurred vision and sometimes distortion or tilting of images due to unequal bending of the rays of light entering their eyes.

In astigmatism, light entering the eye focuses in multiple areas rather than in one location. High degrees of astigmatism will cause blurred vision for both far and near objects. For example, the image observed on the backside of a spoon is quite distorted and demonstrates a very high degree of astigmatism. Astigmatism often causes eyestrain and headaches, as well as blurred vision.

### The Accelerated Ortho-K Procedure for Treatment of Myopia with Contact Lenses

Before Ortho-K lenses are applied to your eyes, the curvature of your cornea is measured. The latest procedure for acquiring this measurement is totally non-invasive and painless. It is done with a sophisticated computerized instrument called a Corneal Topographer, often called Corneal Mapping.



The elevation, shape, and power changes of the cornea are displayed with sophisticated colored maps along with a variety of other computerized displays. This latest method of measuring the cornea is true state-of-the-art for analyzing the initial shape of the cornea and subsequent changes as the corneal molding therapy progresses.

Once the initial lens is designed, you will be instructed in the care and handling of the lenses. You will be given exact wearing instructions, which typically involves wearing the lenses overnight only. Generally, you will be seen the day after lenses are dispensed. At that visit, the corneal health, vision, and corneal shape will be evaluated. Careful monitoring continues throughout the therapy.

Many patients ask, "How can specially designed and customized contact lenses possibly improve my vision without surgery?" As mentioned, due to the precise design of the lenses, the central curvature of the front of the eye is gently molded without removal of corneal tissue.

The lenses are worn at night and the new corneal shape is retained during the day. This method of reshaping reduces the light refracting power of the cornea and reduces or eliminates nearsightedness and astigmatism.

The high-tech, therapeutic lenses are manufactured using carefully constructed lathes to create the rigid gas-permeable material that allows enough oxygen to pass through the lens and allows the eye to remain healthy, even during sleep. Until a few years ago, the technology to manufacture these special lenses had not been developed. Current ortho-K lenses are made of highly oxygen-permeable materials which are FDA approved for extended wear, allowing people to sleep with the lenses over their cornea. Also, these lenses result in a much quicker and greater improvement in unaided vision than previously possible. Ortho-K has been an authorized vision improvement procedure for more than thirty years, though only recently has the procedure been accelerated to deliver the vision improvement in a shorter time.

### Rapid Improvement in Vision

Most of the visual changes that occur rapidly with Ortho-K happen in the first few days and weeks. Because of the rapid improvement in vision, there is a need for frequent examinations during the initial phase of treatment. Disposable contact lenses are often provided until the myopia reduction has stabilized. Following the accelerated change to better vision, minor changes then follow at a slower pace over the next few months.

**M**ost patients achieve significant results in the first week. Once maximum results are attained, retainer wear is initiated.

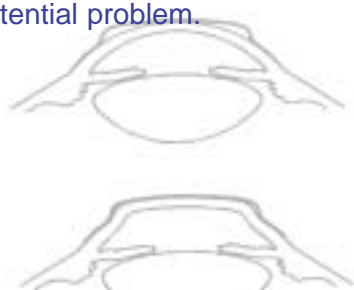
After treatment and maximum desired results are accomplished, retainer contact lenses (like retainers for the teeth) are worn as necessary to stabilize the results. That is, we determine the minimum wear necessary to maintain the correction change. Not all patients will reach maximum improvement. Fortunately, this number is comparatively small. If lens wear is discontinued, the cornea will simply return to its original shape within a few weeks.



## Risks

Many of the risks associated with Orthokeratology are the same as those for traditional contact lenses. Because the patient is monitored very closely, these risks are minimized.

While careful monitoring keeps the risks to an absolute minimum, the patient plays an important role: good hygiene while handling lenses; following lens care instructions and not cutting corners is essential. Keeping scheduled appointments will allow the early detection of any potential problem.



## Benefits

- After correction, vision is improved without the help of glasses or contact lens wear during the day.
- Vision improvement occurs rapidly -- in days or weeks.
- Free from surgical risk, the Ortho-K process is convenient, comfortable and reversible.
- All children and adults can benefit.
- The natural vision achieved with

Ortho-K is invaluable for recreation, sports and leisure.

■ Occupational demands for unaided vision may now be met by pilots, policemen, firemen, and others.

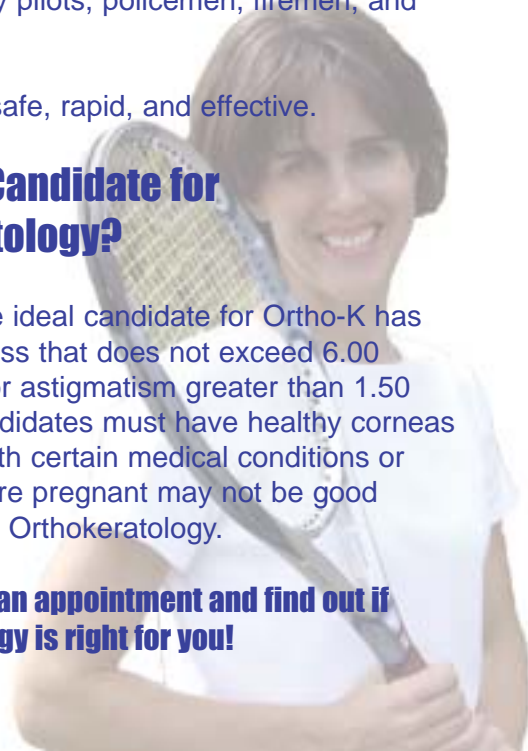
■ Ortho-K is safe, rapid, and effective.

## Are You a Candidate for Orthokeratology?

In general, the ideal candidate for Ortho-K has nearsightedness that does not exceed 6.00 diopters and/or astigmatism greater than 1.50 diopters. Candidates must have healthy corneas and people with certain medical conditions or women who are pregnant may not be good candidates for Orthokeratology.

**Call today for an appointment and find out if Orthokeratology is right for you!**

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# Ortho-K

**Accelerated Orthokeratology  
A Safe Alternative to Lasik**

**A Patient's Guide to  
Non-Surgical  
Vision Improvement**

