What Is Corneal Reshaping Treatment?

Imagine the joy of waking up in the morning and not being dependent on glasses or contact lenses for the rest of the day? You would be free to enjoy many activities that you may otherwise avoid because of your glasses or contact lenses. No more glasses getting in the way because you are too active. No more contact lenses irritating your eyes because of dryness or smoky environments.

Corneal Reshaping Treatment (CRT) is the non-surgical alternative to refractive surgery. CRT uses special custom designed contact lenses to gently reshape the cornea into an improved shape to reduce or correct myopia, and astigmatism.

The main intent of CRT is to allow you to be free of both contact lenses and glasses for the majority of the waking hours. While this is ideal for sports enthusiasts, police and firemen, other potential candidates would be people who work in dusty, dirty or dry environments or anyone who would just like freedom from corrective lenses during their daily activities.

Since CRT has been shown effective at addressing nearsightedness, and works well with their active lifestyles, older children and teenagers make ideal candidates.

Corneal Reshaping Treatment (CRT) works best on mild to moderate amounts of nearsightedness and astigmatism. The Cornea has to be healthy, with no active disease or disorders.

Results vary from one patient to another due to individual variations in corneal shape, thickness and rigidity. The time required to correct the vision varies due to these factors but many patients achieve good stable vision in just a few days.

There are no age barriers for CRT, it is safe for older children and teenagers, especially those who are getting progressively more nearsighted. Not only does it give them good vision while they are using the CRT lenses, but may help prevent their nearsightedness from getting worse.

**Why think about CRT? Why not just wear eyeglasses or contact lenses?**
The main purpose of CRT is to be free from both contact lenses and eyeglasses during waking hours. While this is ideal for sports enthusiasts or those who work in dusty or dirty environments, for others CRT offers the appeal of being free from corrective lenses during the day. CRT also offers relief from the problems sometimes associated with full time contact lens wear.

**Does CRT have any advantages over Laser Surgery?**
There are several. CRT is less than half the cost of Excimer Laser Surgery. It does not involve any post-operative pain. The hazy post-operative vision that can be associated with laser surgery does not occur with CRT. Prescription changes are easy to deal with using CRT. There are no strong steroid or antibiotic drugs needed with CRT as there are during the post-operative period for laser surgery. Last, and perhaps most important, CRT is reversible. Laser surgery is not.

**Are the lenses comfortable?**
Yes, but there is lens awareness. Patients put their lenses on when they are ready for bed and when they shut their eyes, comfort increases. Most patients report that the lenses are more comfortable when they awaken than when they went to sleep. You can see clearly with your prescription when the lenses are on.

**What are the disadvantages?**
The effect is not permanent. You will need to continue to wear the lenses at night. There are the same risks as wearing any contact lens.

**The Fitting Process**
Dr. Roy precisely measures the curvature of your cornea using the corneal topographer. It is like having your picture taken and is painless, taking about five minutes. We then use a computer to help design and order the Wave Custom CRT lenses.

CRT lenses have a reverse geometry design. The central portion of the contact lens fits closer to the eye than a standard contact lens exerting a gentle pressure. It doesn't touch the cornea as there is a tear layer protecting the eye. The reverse geometry part of the lens surrounds the central visual zone and is further away from the cornea than standard lenses allowing room for the shift of epithelium from the center to the outer portion of the cornea.

When you start wearing the CRT lenses overnight, expect results immediately. Your vision should be markedly improved after the first night. During the first few days your vision may fade later in the day. Improvement should be noticed each day, and soon you should have good vision all day.

Generally only one pair of lenses are needed for the accelerated therapy but additional lenses may be required to achieve desired results. You will probably want an extra pair of lenses at the end of therapy in case of loss.

**Yesterday’s Ortho-K**
Orthokeratology was first used over 40 years ago when eye doctors noticed that some contact lens wearers' vision improved after wearing their lenses. Initially, only old-fashioned, hard contact lens material was used. A series of lenses were needed, each lens flattening the cornea a small amount until the desired results were attained. This took 6 months to a year to work, and required wearing the retainer lenses during the day.

**Today’s Advanced Treatment**
Now, with the advent of space-age polymers, computer-assisted lathes, and technological advancement in the procedure, it is possible to achieve reduction of myopia in a matter of days, while wearing the lenses only at night while sleeping.

This high tech version of Ortho-K goes by many names. Among them are:
- CRT - Corneal Reshaping Treatment
- CRT - Corneal Refractive Therapy (TM)
- CCC - Corneal Corrective Contacts
- EZM - Eccentricity Zero Molding (TM)
- WCM - Wave Corneal Molding
- VST -- Vision Shaping Treatment (TM)
- AOK - Accelerated Orthokeratology
- GVSS - Gentle Vision Shaping System (TM)

**How much does CRT cost?**
The cost varies depending on several factors. More difficult cases take longer and so they cost more. For most patients the fee is $995. This covers the fitting, the initial lenses and 6 months contact care. Some patients with a challenging fit might pay up to $200 more. Replacement lenses are $145 to $180 each.