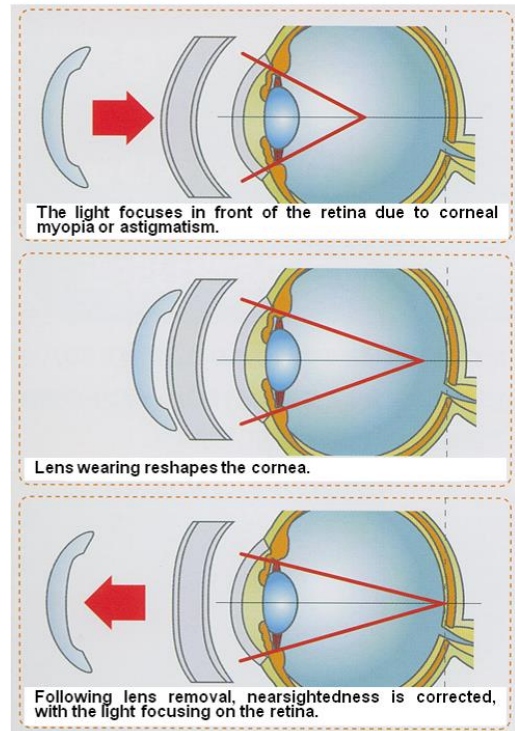


Patient Information: Orthokeratology Treatment

Orthokeratology is a method for correcting nearsightedness that involves having patients wear hard contact lenses during nighttime sleep to flatten the corneas (see figures on the right).

The key features of orthokeratology include:

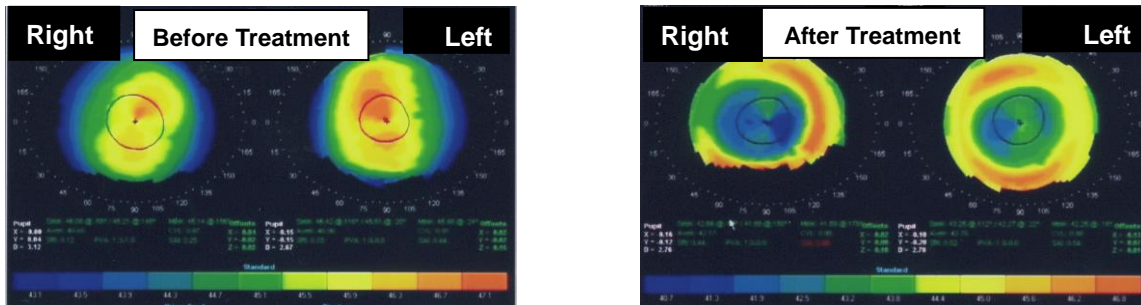
- Patients can go about their daily routines during the daytime without having to wear contact lenses or glasses
- Works quickly in patients with nearsightedness of no more than -5D
- Correction is also possible for corneal astigmatisms of approximately half the diopters of nearsightedness
- Unlike surgical procedures, this treatment allows the cornea to revert to its original shape after lens removal



Orthokeratology Theory

Minamiaoyama Eye Clinic uses Activeview lenses made by C&E GP Specialists (U.S.A) for orthokeratology. Activeview lenses have been made using materials approved by the FDA (U.S. Food and Drug Administration) for night-wearing.

Shape of Corneas before and after Treatment



	Right eye	Left eye	Right eye	Left eye
Uncorrected visual acuity	0.4	0.5	1.5	1.5
Corrected visual acuity	1.5	1.5	1.5	1.5

Indications and Contraindications

Indications (patients who can be treated with orthokeratology):

- Eyes with a clear cornea that have no history of surgery
- Nearsightedness of -1 up to -6D
- With-the-rule astigmatisms of up to 1/2 of the spherical diopters or against-the-rule astigmatisms of up to 0.75D
- Understanding of the explanations given by the doctor

Contraindications (patients who cannot be treated with orthokeratology):

- Diseased eyes (keratoconus, infection, scar, herpes, nystagmus, glaucoma and uveitis, etc.)
- Severe nearsightedness, severe astigmatism or farsightedness
- Severe allergic conjunctivitis
- Severe dry eye
- A history of refractive surgery or ophthalmic surgery (strabismus operation and cataract surgery, among other surgical procedures)
- Pregnant
- Sleep-deprived patients (about 6 hours of sleep)
- Those who are unable to use the lenses properly
- Those who are unable to come in for periodic follow-ups
- Those who are unable to follow a doctor's instructions

Treatment Procedures

Initial Examination

- You will receive an interview and a few eye examinations to assess whether orthokeratology is right for you.
- If you are a candidate for orthokeratology, you will be fitted with trial lenses to check the condition of the lenses worn.
- The condition of the trial lenses and the corneas will be checked again following 20 to 30 minutes of lens wearing.
- If the lens wearing trial resulted in no abnormalities, you will receive lens handling instructions and practice putting on and removing the lenses.

Free Trial (1 week)

- During the free trial, you may borrow the necessary trial lenses, as well as other lens care products, and wear the lenses before going to bed and remove them the next morning as instructed.
- In the event of any ocular abnormality, stop wearing the lenses and contact the clinic.

Follow-up after Completion of the Free Trial

- Please bring the lenses and the lens case with you.
- You will undergo eye examinations to determine whether to commence treatment by ordering lenses or to terminate the treatment.
- If a decision is made to commence treatment, lenses will be ordered, and you may continue using the trial lenses.
- In case the trial lenses did not work adequately, you may continue the free trial with a different prescription.

Two-Week Follow-up

- At the two-week follow-up after finalizing the lens selection, you will receive the lenses ordered for you. Please bring the trial lenses and the lens case to this follow-up visit.

Periodic Follow-ups during the Warranty Period

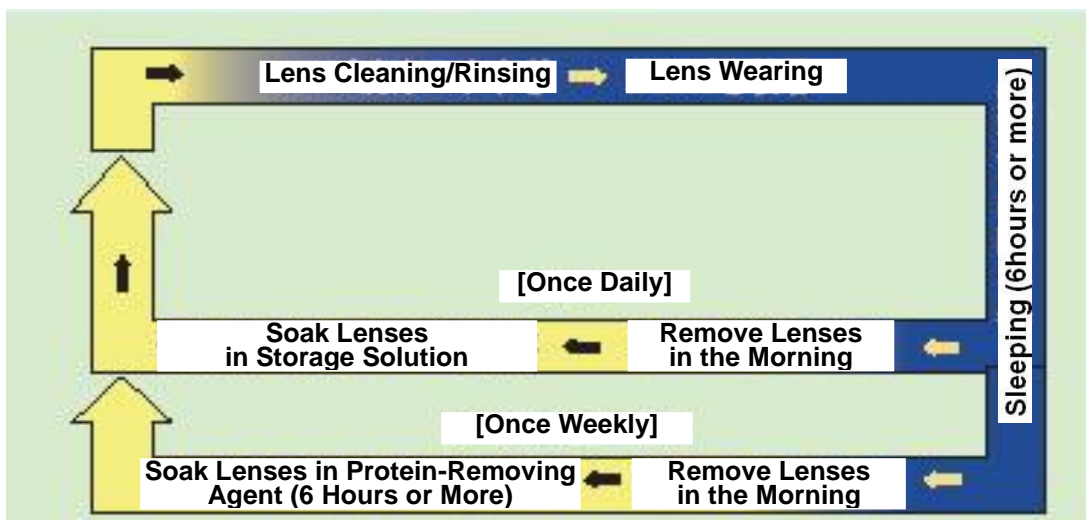
- Patients are scheduled for periodic follow-up visits after one, three, six and nine months as well as after one year. Periodic follow-ups should not be skipped because they are essential for monitoring your post-treatment visual acuity, corneal condition and for early detection of any complications.
- Depending on the ocular condition, you may require other examinations in addition to the periodic follow-ups.
- If you experience a sudden change in vision or any abnormality, please see a doctor regardless of whether it is time for a scheduled follow-up.
- During the warranty period, if the improvement in visual acuity is inadequate and a different prescription is required, the treatment fee will cover the cost of the lenses.

Periodic Follow-ups after Warranty Expiration

- Subsequent follow-ups at three-month intervals are recommended.

Lens Care

Perform lens care according to the following schedule using the lens care products designed for these lenses.



Removing Corrective Lens Restrictions on Driver's License

If you have a driver's license with a restriction for "corrective lenses," you must change that restriction in accordance with the specified procedures because corrective lenses are no longer necessary while undergoing orthokeratology treatment.

Potential Complications

- As with the conventional daytime hard contact lenses, corneal inflammations including corneal erosion and corneal epithelial detachment, conjunctivitis, hyperemia/discharge, pain, corneal neovascularization, infections, lens adhesion to cornea, lens shift, corneal edema, corneal endothelial impairment, astigmatism, halos and other complications may occur. It is important to come to periodic follow-ups to avoid these complications.

- Other complications associated with orthokeratology include changes in vision before the visual acuity stabilizes, inadequate correction, night glare and halos.

Outcome

The age for the 39 patients (76 eyes) who used Activeview lenses from April 2008 to June 2009 was 23.6 ages in average. Those with mild nearsightedness (less than -3D) achieved an unaided vision of 1.0 after one week. Those with moderate nearsightedness (-3D or above but less than -6D) required approximately one month to achieve 1.0 or above, but the final visual acuity was excellent. Those with severe nearsightedness (-6D or above), however, required more times to improve visual acuity, with 0.04 of visual acuity at pretreatment, 0.5 at one month, and 0.9 at final visit.

