Gleneagles Hospital
HONG KONG
港怡醫院

Hosp No.	:	HKID No.:	
Case No.	:		
Name	:		
DOB	:	M / F	
Adm Date	:		
Contact No.	:		

Procedure Information Sheet – Orthokeratology

1. Introduction

1.1 Orthokeratology (Ortho-k) is an optical method (non-surgical procedure) for vision correction for myopia (near - sightedness or short- sightedness).

1.2 It improves vision by gently reshaping the curvature of the eye while sleeping using specially designed rigid gas permeable contact lenses.

1.3 Ortho-k can slow down the progression of myopia in children and the effectiveness is patient dependent.

1.4 Before the amount of myopia has completely been reduced, contact lens wearer may be required to temporarily wear spectacles or disposable soft contact lenses to correct remaining myopia during the daytime to aid vision.

1.5 Ortho-k is only a temporary measure and regular (nightly or bi-nightly) Ortho-k lens wear is necessary to maintain the effect. Once lens wear is discontinued, the myopic reduction effect will be lost.

1.6 After stabilization of the treatment, some wearers can see clearly in the daytime without the need to wear spectacles. Wearers with higher amount of myopia may need a pair of spectacles to correct the remaining myopia and/or astigmatism.

1.7 Wearer may require more than one pair of lenses during the first year of the treatment and the number of lenses required is patient dependent. The need of changing or refitting lens is decided by Optometrist after Ortho-K lens fitting examination (usually within 3 months). Some patients may still not have satisfactory result of lens fitting after refit (not often). Thus, it may advise to terminate Ortho-k lens treatment, however, the paid amount would not be refunded.

1.8 Patient have the right to terminate the treatment at any stage of the treatment.

1.9 Young child should be accompanied by their parents or carer during the whole procedure. Moreover, strong parental support is essential for the treatment.

1.10 **Parent or legal guardian** should be present for **signing the consent**.

1.11 Orthokeratology is contraindicated for:

- 1.11.1 Diseased eyes (Keratoconus, infection, nystagmus, etc.)
- 1.11.2 Severe dry eye
- 1.11.3 Sleep-deprived patients (less than 6 hours of sleep)
- 1.11.4 Those who are unable to use the lenses properly
- 1.11.5 Those who are unable to come in for periodic follow-ups
- 1.11.6 Those who are unable to follow instructions from ophthalmologist or optometrist

2. Procedural Preparation

2.1 Perform pre-treatment eye examination to assess whether orthokeratology is suitable for you.

2.2 Contact lenses wearers must stop wearing lenses prior to the treatment.

- 2.2.1 Soft lenses: stop wearing for 1 week
- 2.2.2 Rigid gas-permeable or hard lenses: Stop wearing for 2 weeks

2.3 Measurement of the curvature of the cornea is needed for selection of the contact lens parameters.

2.4 Measurement of the axial length is needed to monitor the progression of myopia.

3. Procedure

3.1 Initial Fitting

- 3.1.1 Trial lenses will be fitted by optometrist.
- 3.1.2 The condition of the trial lenses and the corneas will be checked following 30 minutes of lens wearing with the eyes closed.
- 3.1.3 If the result of the fitting is undesirable, re-fit will be arranged on the other day.
- 3.1.4 If the result of the fitting is desirable and the patient decides to commence the treatment, contact lenses will be ordered.

3.2 Lens Delivery
- 3.2.1 Proper use and handling of lenses and solutions will be taught to both the patient and the parents or carer (if children are wearing the lenses).
- 3.2.2 More than one lens handling session may be required and it is patient dependent.
- 3.2.3 Once the patient and the parents or carer can handle and care the lenses safely, lenses would be delivered.
- 3.2.4 Wearer would need to buy hard contact lens solutions such as multipurpose disinfecting solution, contact lens saline, daily cleaner and enzymatic cleaner as well as other contact lens accessories.

3.3 First Overnight Follow-up
- 3.3.1 An early morning visit (within 2 hours after awakening) is necessary after wearing new lenses overnight (applicable to every new lens).
- 3.3.2 Patient should attend the follow-up session with lenses wearing for lens fitting assessment.
- 3.3.3 After lens removal, corneal topography, visual acuity and corneal health examination will be performed to assess the lens centration, refractive errors and any contact lens complications.
- 3.3.4 Optometrist will decide whether the patient can continue lens wear or re-fit of contact lens is needed.

4. Periodic Follow-ups

4.1 Periodic follow-ups should not be skipped because they are essential for monitoring your health of the eyes. Failure to show up for any visits can lead to potential eye problems or reduced treatment effect.

4.2 Following successful first overnight lens wear, follow up visits will be scheduled in 1 week, 2 weeks, 1 month, and then every 3 months for the first year of treatment.

4.3 Depending on the eye condition, extra follow-up may be needed.

4.4 For monitoring the progression of myopia, axial length measurement would be done at the pre-treatment eye examination and the 6th month follow up visit.

5. Regular Lens Replacement

5.1 Ortho-k lens should be replaced annually or earlier depending on the condition of the lens.

5.2 Regular lens replacement is needed to minimize the risk of complications, like eye infections.

5.3 An early morning visit with lens on eye (within 2 hours after awakening) is necessary after wearing new lenses overnight.

5.4 Subsequent follow-ups at 1 week, 1 month and three-month intervals are recommended. Depending on the eye condition, extra follow-up may be needed.

6. Possible Risks and Complications

6.1 Conjunctivitis, red eye/discharge, pain, corneal neovascularization, corneal infections, corneal edema and other complications may occur. Other complications associated with orthokeratology include changes in vision before the visual acuity stabilized, inadequate correction, induced astigmatism, glare or halo, reduced night vision.

6.2 These complications can be kept to a minimum if proper instructions and lens usage were followed as well as good compliance of follow up visits.

6.3 If there is any unexpected problem (sudden change in vision or any abnormality), you should stop Ortho-k wear and return to the clinic immediately for ophthalmologist or optometrist consultation.

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7. Contact Lens Handling

7.1 Use rigid gas permeable contact lens cleaner, disinfecting solution for Ortho-k lens cleaning, disinfection and soaking. Also, use lens protein removal agent weekly. Do not use tap water to rinse contact lens but use contact lens saline.

Information on lens care:

a) Wash hands thoroughly with soap and water.
b) Dry hands thoroughly (after cleaning) with clean paper towels.
c) Always remove the right lens first.
d) After lens removal, rub both sides of the lens (10s for each side) with daily lens cleaner.
e) Rinse with saline before storage or use.
f) Soak lens with fresh disinfecting solution.

Remove left lens and repeat step (d) - (f).

7.2 Extra care must be placed on the care and handling of contact lens accessories such as contact lens cases. Contact lens cases should be disinfected weekly and replaced a new one monthly.

Information of care of lens accessories:

Daily cleaning

a) Wash hands thoroughly with soap and water.
b) Dry hands thoroughly (after cleaning) with clean paper towel.
c) Clean/ scrub lens case (and lens remover if used), inside and outside with Daily lens cleaner/ MPS.
d) Rinse all items thoroughly with saline.
e) Wipe all items dry and leave to air dry in a cool dry place.
f) **Do Not** store accessories wet.

Weekly disinfection

a) After cleaning, place all accessories (not the Ortho-k lens) in a container, and pour in just boiled distill water to cover all items.
b) Put the lid on and leave them to soak for 10 minutes.
c) Take out the accessories, remove excessive water with clean paper towels, and leave them to air dry with the case facing down.

7.3 If there is any damage of the lens, stop use and contact optometrist immediately. Optometrist would give you proper advice. Also, there is relevant re-ordering charge of the new lens.

8. Reminder for Ortho-k lens wearing and potential problems associated with lens wear

8.1 Corneal response and speed of the treatment is patient dependent.
8.2 Corneal staining or erosion (Superficial staining will normally heal after a few hours)
8.3 Lens adhesion to cornea (Optometrist will teach you how to dislodge a bound lens safely)
8.4 Lens shift (Optometrist will teach you how to re-position the lens)
8.5 Solution allergy (You will be advised to shift to another solution)
8.6 Fluctuating vision on certain days after myopia reduction (this could happen if lenses did not centre properly in the previous night).

9. Remark

9.1 The above mentioned procedural information is not exhaustive, other unforeseen complication may occur in special patient groups or different individual. Please contact your optometrist for further enquiry.

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10. Contact

10.1 Eye Specialist Outpatient Clinic Tel +852 31539068
Monday to Friday 9:00am – 6:00pm
Saturday 9:00am – 1:00pm
Sunday and Public Holiday Closed

10.2 Hospital Number +852 31539000
Service Hotline +852 21221333

10.3 Clinic email: soceec@gleneagles.hk

Web Booking QR Code

11. Reference

11.1 Cho, P., Cheung, S. W., Mountford, J., & White, P. (2008). Good clinical practice in orthokeratology. Contact Lens and Anterior Eye, 31(1), 17-28.

11.2 Cho, P. et al. (2012). Orthokeratology Practice. A Basic Guide for Practitioners.

11.3 Orthokeratology Informed Consent Form. The Hong Kong Academy of Orthokeratology.

I acknowledged the above information concerning the operation or procedure. I have also been given the opportunity to ask questions and received adequate explanations concerning the condition and treatment plan.

Patient/ Relative Signature: _____

Patient/ Relative Name: _____

Date: _____