Ortho-K *night lenses*

Construction and adaptation of Ortho-K night lenses

APPLY ORTHO KERATOLOGY

For the fitting of Ortho-K night lenses, you will need almost the same instruments as for the fitting of ordinary rigid contact lenses.
When adjusting Ortho-K night lenses it is extra important that you use a cornea topographer because:

- You must be able to determine the corneal eccentricity.
- The change in the shape of the cornea over time must be able to determine.
- Pathological abnormalities such as keratoconus and corneal degeneration.

UCO
CONTACTLENZEN
HOLLANDS AMBACHT

◉ *Spheric* ◉ *Toric*

RGP

Parameters

BCR	7.00 - 9.50, per 0.05 ascending
POWER	standard + 0.75
LENS DIAMETER	10.00 - 11.20, per 0.20
MYOPIA CORRECTION	ascending to ± -4.00 dpt.

ORTHO-K TARGET GROUP

With Ortho-K lenses, progression in myopia can be reduced by wearing contact lenses at night. Ortho-K therefore offers two advantages: reducing myopia progression and not wearing lenses during the day. This allows the customer to experience more freedom.

CORRECTION

With Ortho-K night lenses myopia can almost always be reduced to a power of -4.00 dpt. The adjustment is usually successful with the first lens directly.

CHILDREN

Parents choose Ortho-K lenses to reduce myopia progression and allow their children to go to school and sports without glasses or contact lenses.

CAUTION

Some professions do not allow the use of ortho-k contact lenses. Notify your customer of this in advance.

SPORT AND PROFESSION

Swimmers who use night lenses see better under water. Runners who use night lenses do not suffer from fogged lenses or dust behind their contact lenses during their sport.

Firefighters and police officers may not be obstructed by contact lenses while performance their their duties. Your customers may therefore have all kinds of reasons for choosing Ortho-K.

ORTHOKERATO-LOGICAL PRELIMINARY EXAMINATION

1 *Anamnesis*

- ► Medical history, both surgical and general.
- ► Personal motivation for Ortho-K.

2 *Vision*

► Corrected ► Uncorrected ► Optimum correction

3 *Slit lamp examination*

- ► Inspect the cornea for scars, dry eyes or staining in the limb area.
- ► Determine the tear quality and tear quantity.
- ► Look for possible deviating eyelid shapes that can cause problems with blinking and tear flow.
- ► Inspect the endothelium for irregularities.
- ► Pay attention to thickening of the cornea and neovascularisation.

4 *Objective refraction*

5 *Keratometry and corneal topography*

6 *Possible visual analysis*

7 *Communication and discussion*

8 *Determine the motivation*

- ► Does the correction match the motive?
- ► Is the customer sufficiently enthusiastic?
- ► Can the customer comply with the agreements? Patient compliance is very important.

AUDIT TRAIL

Always plan the first check on the day after the night in which the lenses are first worn. Have the customer, with the lenses in, come to check. Plan the next check after 3 nights and then a week later. Then check monthly until the result is stable. Stability is usually achieved within a month.

A too steep adjustment can cause serious problems. Therefore, if the lens is changed, always plan your check-up on the following day.

REGULAR CONTROL

- Check that the contact lenses are removed correctly. Never place the piston centrally on the eye. Gently massage a jammed lens.
- Ask about the wearing comfort and the experienced improvement of the vision without contact lenses.
- Determine the vision with and without contact lenses.
- Peform an over refraction measurement.
- Evaluate the fluorescence pattern and the topography images.
- Assess the integrity of the cornea. Perform a subjective refraction without contact lenses.
- Clean the contact lenses.
- Correct the fit if it is not optimal.
- Evaluate the wearing schedule.
- Make a precise note of the time of the inspection. This will give you a good idea of the decline of the myopia correction during the day.

WARNING SCREEN

- Have your customer remove the Ortho-K night lenses before they leave your practice.
- The night lenses should be inserted 10 to 15 minutes before going to sleep and removed within 10 to 15 minutes after waking up.
- Due to the decrease in myopia correction during the day, it may be necessary to wear the night lenses for another hour in the afternoon.
- If the fit is not ideal, you should measure new Ortho-K night lenses as soon as possible. If you wait too long with a re-measurement, you will extend the stabilisation period and reduce the chance of a successful re-measurement.

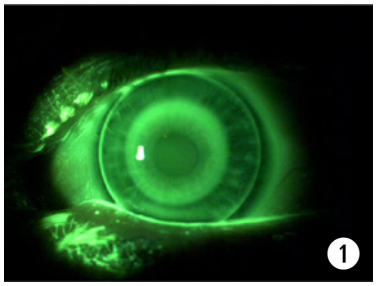
THE ORTHO-K LENS ON THE CORNEA

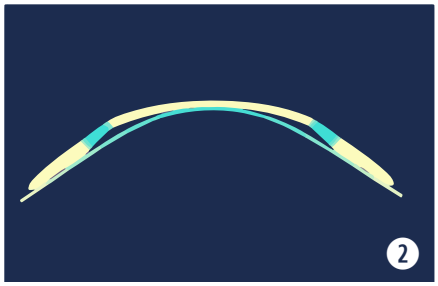
An Ortho-K lens consists of a central zone which, under pressure from the eyelid, presses the cornea into a different shape. Around this central zone is a zone with a radius equal to the cornea radius. We call this the alignment curve (AC), which ensures that the lens is properly centered on the cornea.

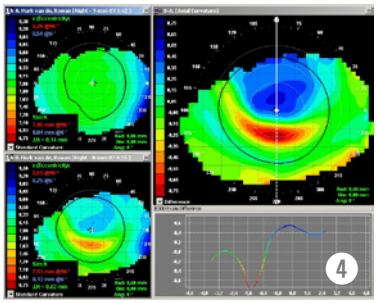
If the topography shows a so-called 'smiley face', make the AC and BCR 0.05 deeper.
If you see a so-called 'central island', flatten the AC and BCR 0.05.

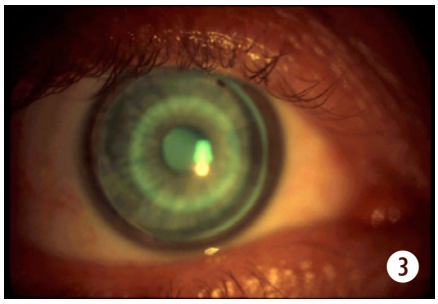
The ideal fluorescein image of an Ortho-K lens shows a clear central interface. This interface does not always have to be exactly centred, but it does have to be entirely in front of the pupil. A ring-shaped pool of tear fluid surrounds this tangent. Beyond this pool you can see the alignment curve (AC) and the edge lift.

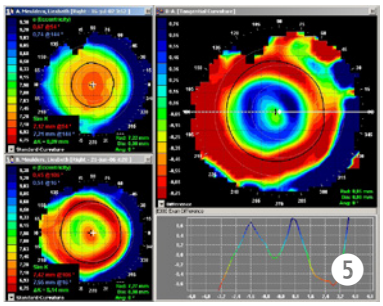
If the fluorescein image does not show edge lift but is in good condition, reduce the diameter of the lens. Ortho-K lenses are available in a diameter of 10.1 to 11.2 mm.











1. *Typical Ortho-K fluorescence image.*
2. *This is how the Ortho-K lens lies on the open eye. When closing the eye, the lens is pressed onto the cornea, which changes the radius and thus the power of the cornea.*
3. *An ideal lens-cornea relationship.*
4. *Smiley face.*
5. *Central island.*

THE MYOPIA REDUCTION

The correctability of the myopia depends on many factors. Explain clearly to your client/customer that the result depends on the factors.

A myopia up to -4.00 dpt. is usually easy to correct with an Ortho-K night lens.
With a relatively large eccentricity it is possible to correct slightly higher myopia.

ORDER AN ORTHO-K LENS

Please state the following parameters per lens when ordering:
Flattest keratometer value + E-value
Spectacle refraction
Corneal diameter

The right Ortho-K lens is standard violet colored. The left lens is blue.