NOVAKONE

Soft Contact Lens For Keratoconus

Indications

- NovaKone™ soft lenses for keratoconus are indicated for visual correction in conjunction with all stages of keratoconus and pellucid marginal degeneration.
- NovaKone can be particularly successful to address cases where gas permeable and hybrid lenses have failed or are otherwise contraindicated.

Description

- The posterior surface of the lens consists of a steep central **base curve**, a para-central **fitting curve**, and a final peripheral curve system.
- All curves are aspheric with the base curve computed by a complex polynomial formula; it approximates hyperbolic aspheres in larger sagittal depths. The fitting curve is similar in design to the base curve of a standard soft lens.
- A selection of **IT Factors** (central lens thickness) is employed to eliminate residual irregular astigmatism.
- The anterior surface has an aspheric central optical portion to correct for spherical aberration, and a thinner lenticular flange to maximize oxygen to the cornea.
- When residual astigmatism indicates that a toric lens is needed, cylinder powers up to -10.00D are available and Dual Elliptical Stabilization™ ballasting will be used to minimize lens rotation.
- By selecting the appropriate combination of base curve, fitting curve, and IT Factor, the practitioner is generally able to measure a stable over refraction from the diagnostic lens and order the appropriate Rx lens.

Parameters

Material	Benz G4X 54%, Hioxifilcon D
Diameter	15.0 as standard, others available in 0.1mm steps
Base Curve (central)	5.4, 5.8, 6.2, 6.6, 7.0, 7.4, 7.8, 8.2, 8.6 as standard, others available in 0.1mm steps
Fitting Curve (para-central)	8.2, 8.4, 8.6 as standard, others available in 0.1mm steps
Sphere Power	+30.00 to -30.00 in 0.25D steps
Cylinder Power	Up to -10.00 in 0.25D steps
Axis	1° to 180° in 1° steps
I.T. Factor (increased thickness)	IT Factor is used to increase the lens thickness when irregularity is observed. A factor of 0 = standard thickness; 1, 2, 3, 4 incrementally thicker for higher levels of irregularity.

Diagnostic Set Options

STANDARD 12-LENS DIAGNOSTIC SET

BASE CURVE	FITTING CURVE	SPHERE POWER	I.T. FACTOR
8.6	8.6	-4.00	0, 1, & 2
8.2	8.6	-5.00	0, 1, & 2
7.8	8.4	-6.00	0, 1, & 2
7.4	8.4	-7.00	1, 2, & 3

PRICE: $360

PREMIUM 18-LENS DIAGNOSTIC SET

BASE CURVE	FITTING CURVE	SPHERE POWER	I.T. FACTOR
8.6	8.6	-4.00	0, 1, & 2
8.2	8.6	-5.00	0, 1, & 2
7.8	8.4	-6.00	0, 1, & 2
7.4	8.4	-7.00	1, 2, & 3
7.0	8.2	-8.00	1, 2, & 3
6.6	8.2	-9.00	1, 2, & 3

PRICE: $450

All Dx lenses feature Dual Elliptical Stabilization™ (with zero cylinder power and axis diagnostic marks).

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ALDEN OPTICAL

Fitting Guide

When fitting a keratoconic eye with NovaKone, the goal is to fit the central effected cornea optically, and to fit as much "normal" peripheral cornea and sclera as possible with the fitting curve similar to the way a standard soft lens is fit. The use of diagnostic lenses to make these assessments is therefore imperative. The fitter can expect a low riding lens due to the de-centered cone and may observe more movement than is seen with a standard soft lens fit. Discontinue GP wear at least one week prior to fitting NovaKone.

Step 1: Central Base Curve Determination (Optical System)

- The fit of the central base curve will have a significant impact on the quality of the optical system and should therefore be confirmed using optical methods.
- Use the fitting chart below to select the base curve radius and fitting curve radius of the initial diagnostic lens based on the average K-readings from either keratometry or sim-Ks from topography.

AVERAGE K	BASE CURVE	FITTING CURVE	LENS DIAMETER
41.00 to 42.99	8.6	8.6	15.0mm in standard Diagnostic Set
43.00 to 46.99	8.2	8.6	
47.00 to 49.99	7.8	8.4	
50.00 to 52.99	7.4	8.4	
53.00 to 55.99	7.0	8.2	
56.00 to 58.99	6.6	8.2	
59.00 to 61.99	6.2	8.2	
62.00 to 64.99	5.8	7.8	
65.00 to 67.99	5.4	7.8	

- Evaluate position and movement by observing alignment. The lens should exhibit minimal movement when looking centrally and in an upward gaze. You should also ensure easy movement by touch. A lens that rides too low should be corrected with a steeper base curve.
- The central curve area should be free of folds and demonstrate no air bubbles beneath the lens. HMW flouroscein is an option for observing the base curve fit.
- Keratometric mires over the lens should be relatively crisp with regular astigmatism.
- Retinoscopy over the lens in the central 3 to 4mm area should be similar to that seen with a standard soft lens.
- The sphero-cylinder over refraction should yield a stable endpoint and visual acuity comparable to the best achievable acuity for the patient.
  - Should the over refraction be unstable, consider flattening the fitting curve.
  - Should the over refraction result in too much minus, consider flattening the base curve.

The ideal fit should yield a light central touch and stable optical findings. A central curve that vaults the cornea can be adjusted by selecting a larger (flatter) base curve. A lens that demonstrates excessive corneal touch is adjusted by choosing a smaller (steeper) base curve.

Step 2: IT Factor and Lens Power Determination

If any irregularities are observed when assessing the optical characteristics of the best fit diagnostic lens, increasing the IT Factor will add additional center thickness to improve optical stability. In addition, the more central the cone, the lower the IT Factor required and, conversely, the more de-centered the cone, the more lens thickness is required. Evaluate Keratometric mires or topography over the Dx lens. The IT Factor uses a scale of 0 (the standard) to 4. Mild keratoconus would typically call for an IT factor of 0 to 1, moderate 1 to 2, and severe 3 to 4.

Step 3: Fitting Curve Determination (Fitting System)

- Using a slit lamp, the fitter should make an assessment of the fit.
- The fitting curve should demonstrate typical fitting characteristics of a standard soft lens fit.
- A fitting curve that is too flat will yield excessive movement and/or edge lift. A steeper fitting curve should be ordered.
- Little or no movement and/or capillary compression indicates a fitting curve that is too steep and can be adjusted by ordering a flatter fitting curve.

Step 4: Ordering the Prescription Lens

Specify the base curve radius, fitting curve radius, IT Factor, and final power combining the power of the diagnostic lens and the sphero-cylinder over refraction. Ordering an Rx lens with either a base curve or IT Factor that differs from the best Dx fit is not recommended. Alden Optical will recommend an additional Dx lens at a reduced cost.

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