



THE CRISP, CLEAR VISUAL ACUITY OF A GP LENS MEETS  
THE HYDRATING COMFORT OF A SOFT LENS

## FITTING GUIDE

### Applications

NORMAL PROLATE CORNEAS  
PRESBYOPIA  
ASTIGMATISM  
EMERGENT OR FRUSTE KERATOCONUS  
SOFT CONTACT LENS INTOLERANT  
SMALL DIAMETER GP LENS INTOLERANT  
POST-RK, POST-LASIK  
NIPPLE CONES  
OVAL CONES  
IRREGULAR CORNEAS  
ECTATIC CORNEAS  
OCULAR SURFACE DISEASE

### Design Options

SPHERICAL  
MULTIFOCAL  
FRONT TORIC  
TORIC PC  
OBLATE  
OBLATE MULTIFOCAL  
ASIAN DESIGN  
EXTRA LIMBAL CLEARANCE

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## INTRODUCTION

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The **Onefit Scleral Lens** is unique and simplifies the fitting process for a wide range of applications. Corneas with normal prolate profile, astigmatism, post grafts, as well as irregular corneas (nipple and oval keratoconus) will benefit from this proprietary geometry. The design serves as a platform from which the Multifocal, Oblate, Front Toric, and Extra Limbal Clearance designs can be ordered.

Current published work indicates that lens and tear layer thickness are important concerns with scleral lenses. Keeping the Harvitt-Bonanno and Holden-Mertz criteria in mind, **Onefit** minimizes both lens thickness and tear layer required to support the lens, maximizing oxygen transmission to the cornea and stem cells, while eliminating fitting issues associated with larger scleral lenses (fogging, conjunctival pro-lapse, etc).

**Onefit** is designed to vault a given topography with an optimal sag height, and is specified by the value of the base curve in mm; simplifying the fitting process and making it more user-friendly. Patient handling is simplified as the **Onefit** standard diameter is similar to most soft lenses.

The new **Onefit Asian design (Onefit A)** embraces the same minimalist approach to fitting scleral lenses described in this fitting guide, while addressing the physiological nuances of the Asian eye. **Onefit A** lenses need to be ordered from the **Onefit A** fitting set. Since **Onefit A** addresses the physiological specificities of the Asian eyes, with a smaller standard diameter and different paracentral edge geometry, a different fitting set is required to reflect with exactitude those nuances.





## FITTING PHILOSOPHY

**Onefit** is supported by the conjunctiva and the fluid layer under the lens, rather than by the cornea. It is designed to vault the entire corneal surface including the limbal area. However, the clearance over the cornea varies from center to the periphery to optimize oxygen transmission to the tissue, especially over the limbus where the stem cells are located.

**Onefit** was designed to maximize oxygen transmission when combining the lens and tear layer thickness. For this reason the lens is thinner over the limbus compared to other designs. Its unique geometry reduces the tear layer from the center out to the limbal area. Optimum results in fit and corneal health are achieved with a clearance of 150 to 175 microns ( 4+ hours of wear ) at the point of highest corneal elevation, with limbal clearance not exceeding 40 to 60 microns. The lens peripheral edge should align with the conjunctiva. **Onefit** is manufactured in materials offering a minimum permeability of 100 DK.

Based on clinical trials, every 0.10 mm change in the base curve value results in an average variation in central clearance of 50 microns. For example, if the base curve is steepened by 0.10 mm the apical clearance will increase by 50 microns. On the other hand, if the base curve is flattened by 0.10 mm the apical clearance will be reduced by approximately 50 microns.

# FITTING PROCESS

**Onefit** lenses are simple and easy to fit, providing consistent reproducible results.

## 6 Step Fitting Process

- 01 Initial base curve and diameter selection
- 02 Evaluate clearance at the point of highest corneal elevation
- 03 Evaluate limbal clearance
- 04 Evaluate conjunctival alignment
- 05 Evaluate resistance
- 06 Over-refraction

## LENS ASSESSMENT

Evaluate fitting characteristics from the inside out.

**Onefit** scleral lenses will recess on average 100 microns during a full day of wear, with roughly 50% happening within the first 30 minutes of application. This is why clearance evaluated at insertion, after 30 minutes and 4 plus hours of wear will vary accordingly. Consideration should be given to amount of time the lenses have been in-situ when evaluating for optimal central clearance.

See the decision tree for an easy and intuitive step-by-step approach to fitting the optimal lens.

## COMPENSATING FOR DIAMETER CHANGES

Diameter changes will be compensated with a change in base curve and accompanying change in final lens power. For an increase in diameter of 0.3 mm, flatten the base curve 0.3 mm and adjust the power accordingly ( use the **Onefit** Compensation Tool on the Blanchard web site; [www.blanchardlab.com](http://www.blanchardlab.com), for an accurate calculation of the new lens power ).

Note: The diameter/base curve relationship stated in section 01, is accurate for the majority of patients but results may vary according to each individual's scleral shape.

# 01 INITIAL BASE CURVE AND DIAMETER SELECTION

## BASE CURVE

Select a base curve that is equal to flat K.

## DIAMETER

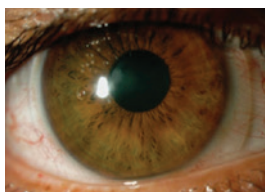
The horizontal visible iris diameter (HVID) is the main factor to consider in determining the lens diameter. The unique peripheral curve system of **Onefit** is optimized with the use of the standard diameter.

The standard lens diameter will cover > 90% of the cases. For smaller corneas, it is recommended to select a smaller lens (0.3 mm). For a larger cornea, a larger diameter could be ordered (0.3 mm), see table below.

### Diameter Selection Chart

Onefit Platform	
HVID	DIAMETER
Less than 11.5 mm	14.6 mm or less (custom)
Between 11.5 mm and 12.0 mm	14.9 mm (standard)
Over 12.0 mm	15.2 mm

Onefit A - for the Asian Eye	
HVID	DIAMETER
Less than 11.3 mm	14.4 mm or less (custom)
Between 11.3 mm and 11.8 mm	14.7 mm (standard)
Over 11.8 mm	15.0 mm



#### Ideal diameter

Lens exceeds HVID by at least 1.25 mm in each meridian, and limbal area is properly vaulted.



#### Diameter too small

Lens does not exceed HVID by at least 1.25 mm in each meridian, and limbal area is not properly vaulted.  
NEED TO DESIGN A LARGER LENS

# 02 EVALUATE APICAL CLEARANCE

## HIGHEST CORNEAL ELEVATION

Before applying the lens, fill the bowl with non-preserved solution tinted with fluorescein dye.

**EVALUATE APICAL CLEARANCE FIRST. IGNORE PERIPHERAL FIT AT THIS TIME.**

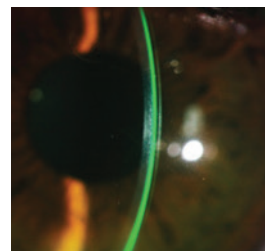
**At insertion**, look for clearance of 250 to 275 microns at the point of highest corneal elevation. According to the clearance observed, make changes to the base curve. Applying a lens that is 0.10mm steeper will increase apical clearance by 50 microns on average. Applying a lens that is 0.10mm flatter will reduce apical clearance by 50 microns on average.

**Tip:** Use the diagnostic lens thickness specified with lens parameters on the diagnostic lens case as a reference to evaluate clearance.

Evaluate the cornea/lens relationship under white light (optic section) at the slit lamp, using no more than a 40° angle. Using the blue filter will not help determine the actual thickness of the fluid layer under the lens. Utilizing an anterior segment OCT gives you a more accurate reading of the fluid layer thickness, particularly at the limbal level.

After the lens has settled for **30 minutes**, look for clearance of 200 to 225 microns at the point of highest corneal elevation.

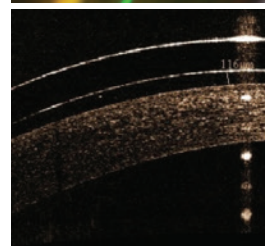
The ideal clearance **after 4 plus hours** of wear is 150 to 175 microns at the point of highest corneal elevation.



#### Ideal clearance (4+ hours of wear)

of 175 microns (2/3 of the lens thickness or 1/3 of the corneal thickness).

Measured with optic section using white light at a 40° angle



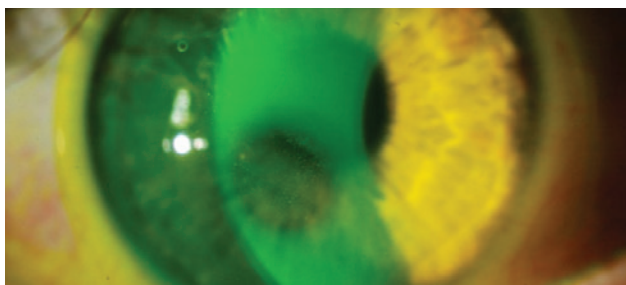
#### Anterior segment OCT

gives you a more accurate reading of the fluid layer thickness.

# 03 EVALUATE LIMBAL CLEARANCE

**Onefit** is designed to minimize clearance at the limbal level in order to maximize oxygen transmission over this very sensitive area, where the stem cells are located, as well as allow for a smooth landing on the adjacent conjunctiva. Evaluate clearance in the limbal area under white light (optic section) at the slit lamp. As is with the cornea, allow no touch on the limbus. At this stage, the blue filter can be used to confirm the presence of fluorescein at the limbal level. Remember if the clearance is less than 25 microns, fluorescein may not be seen, particularly with smaller diameter lenses.

Ideally, OCT scans will reveal whether or not there is clearance at the limbus. Otherwise, evaluate the lens fitting characteristics during follow up visits. **Lack of staining at the limbal level indicates that clearance is adequate and there is no need to make a change.**



**INSUFFICIENT VAULT** resulting in a touch on the cone. Note the accumulation of mucus deposits on this area, illustrating a lack of tear exchange under the lens. Base curve should be steepened by at least 0.5 mm



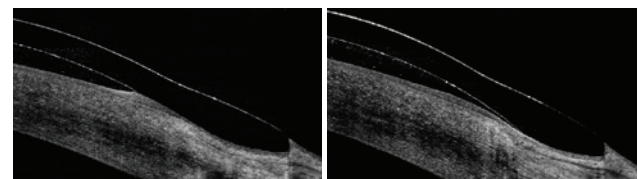
**EXCESSIVE APICAL CLEARANCE** (380 microns). Base curve needs to be flattened. Targeted clearance is 175 microns; the vault of the lens needs to be reduced by 205 microns (380 - 175 = 205). For each 0.1 mm change in the base curve value, the vault changes by 0.50 microns. In this case, flatten the base curve by 0.40 mm

On the other hand, ring staining pattern or any signs of tissue compression at the limbal level, are signs that the lens is too close to the surface and the vault in that area must be increased. First, order a lens with Extra Limbal Clearance. This option will increase clearance over the limbal area by 50 microns, without affecting the lens behavior on the eye. Second, try a lens with a diameter 0.3 mm larger. The modified geometry of the larger lens will increase the vault over the limbal area.

\*The Asian design already incorporates the Extra Limbal Clearance option. If the vault over the limbal area needs to be increased, try a lens with a diameter 0.3 mm larger.

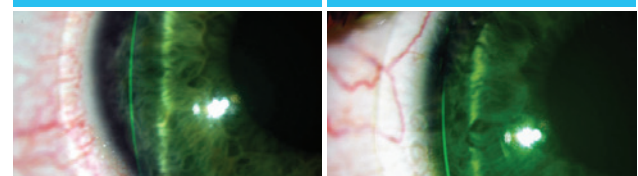
Note: The base curve and power need to be compensated when making a diameter change, please refer to Compensating for Diameter Changes on page 3 in this guide.

Fitting Tip: When the base curve/diameter selection leads to optimal limbal clearance, but excessive central clearance, the **Onefit** Oblate series can be used to re-establish an appropriate central clearance. Please refer to the **Onefit** Oblate on page 11 in this guide.



Limited limbal clearance with a standard mid-peripheral design

Increased limbal clearance with an Extra Limbal Clearance design option

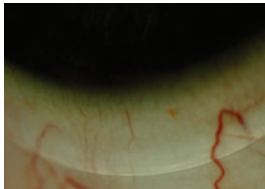


Limited limbal clearance with a standard diameter lens

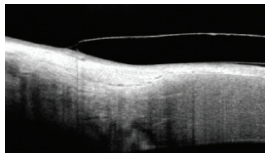
Increased limbal clearance with a larger diameter (0.3 mm larger than standard)

# 04 EVALUATE CONJUNCTIVAL ALIGNMENT

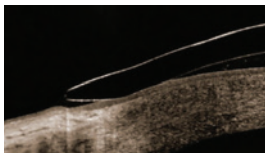
After selecting the base curve that provides optimal clearance (between 200 and 225 microns after 30 minutes of wear), evaluate edge lift. Look for conjunctival alignment; ensure there is no edge stand-off or peripheral seal off.



This represents an **optimal conjunctival alignment** with no edge stand-off or peripheral seal (blanching).



**Optimal edge landing** on the conjunctiva (OCT view).

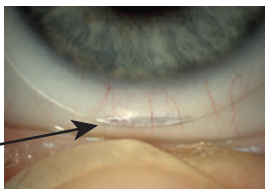


**Excessive edge stand-off**, causing discomfort (OCT view).



**Edge too steep**, causing conjunctival compression with a potential for peripheral seal off and blanching (OCT view).

A simple test to demonstrate good conjunctival alignment is to apply a gentle pressure on the conjunctiva and observe how easy it is to create a gap with the back surface of the lens (careful: applying too much pressure on the conjunctiva may cause air to seep under the lens). Release the pressure and watch the conjunctiva re-align itself with the back surface of the lens.



Apply a gentle pressure on the conjunctiva and observe how easy it is to create a gap with the back surface of the lens.

**CONJUNCTIVAL GAP CREATED WITH GENTLE PRESSURE, INDICATING OPTIMAL LENS LANDING ON THE CONJUNCTIVA**

**TO TROUBLESHOOT PERIPHERAL CURVE ISSUES: FIRST, ASSESS CENTRAL CLEARANCE TO BE OPTIMAL, SECOND, CHANGE THE PERIPHERAL EDGE LIFT PROFILE.**

## EDGE STAND-OFF SYMPTOMS / REMEDY

Edge stand-off will cause: tear meniscus to break-up at the edge of the lens, excessive movement when performing the **Push-In Test** (see below), discomfort to the patient, and finally air bubble(s) which can invade the area under the lens edge when blinking.

To remedy the situation, start by re-assessing apical clearance to make sure it is optimal. If central clearance is optimal, order a lens with an edge lift that is Steep 1 or Steep 2 according to the severity of the stand-off. If the central clearance is insufficient, first, re-fit a lens with a steeper base curve and re-assess apical clearance to be optimal. If the problem persists, order a lens with an edge lift that is Steep 1 or Steep 2 according to the severity of the stand-off.

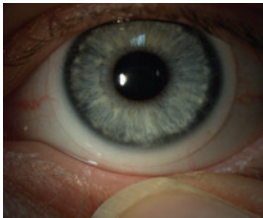
## PERIPHERAL SEAL OFF SYMPTOMS / REMEDY

Peripheral seal off can cause vessel compression, blanching, and high resistance, or no movement at all with the **Push-In Test** (see section 05). Upon insertion, a tight peripheral edge will feel comfortable but will cause a tight lens syndrome within a few hours of wear (see Troubleshooting section).

To remedy the situation, start by re-assessing apical clearance to make sure it is optimal. If central clearance is optimal, order a lens with an edge lift that is Flat 1. If central clearance is excessive, first, re-fit a lens with a flatter base curve and re-assess apical clearance to be optimal. If the problem persists order a lens with an edge lift that is Flat 1.

## 05 EVALUATE RESISTANCE (PUSH-IN TEST)

The **Push-In Test** is performed by applying gentle pressure on the conjunctiva and then pushing the lens up. It is a simple test to evaluate the overall fit of the lens. The lens should offer no or very little resistance and exhibit 0.5 mm to 1.0 mm movement (not on blinking but under the push-up pressure).



Apply gentle pressure on the conjunctiva and then push the lens up. The lens should offer little resistance and exhibit 0.5 mm to 1.0 mm movement.

### PUSH-IN TEST

In addition to this test, observe if the lens rotates freely on the eye. Put your finger on the lens at 6 o'clock and rotate the lens back and forth from the temporal to nasal side. If there is no resistance, then conjunctival alignment should be considered optimal. It is easy to see the rotation of the diagnostic lens by looking at the laser marks at the periphery of the lens.



Put your finger on the lens at 6 o'clock and rotate the lens back and forth. The lens should rotate freely.

### LENS ROTATION

If with the push-up pressure the lens moves excessively or not at all, re-assess the fit.

## 06 OVER-REFRACTION

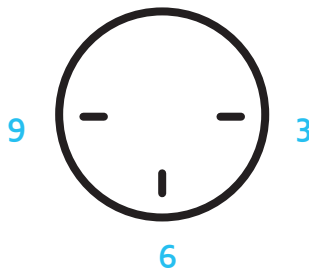
As is the case for all specialty contact lenses, perform over-refraction after the optimal lens is settled on the eye, to determine the appropriate parameters. Retinoscopy is recommended to begin the over-refraction, followed by sphero-cylindrical over-refraction, monocularly then binocularly.

This lens is designed to mask up to -3.50D of corneal cylinder. However, some individual corneal profiles will not be completely compensated by the fluid under the lens.

The presence of residual refractive astigmatism, can be caused by a clearance that is too shallow. Consider a steeper base curve and/or larger diameter to increase clearance (according to the clearance observed).

## ANTERIOR TORIC DESIGN

Residual astigmatism greater than  $-0.75D$  should be incorporated into an anterior toric design. Simply give the laboratory your over-refraction when ordering. At dispense, allow the front surface toric lens to settle a minimum of 30 to 45 minutes. Observe positioning of the scribe marks at 3, 6 and 9 o'clock (see illustration) and make any adjustment to the axis using LARS (Left Add Right Subtract). Compensate cylinder axis by the amount of rotation observed (each hour of rotation represents 30 degrees). If axis orientation is relatively close to that ordered (scribe marks within 10 degrees of 3, 6 and 9 o'clock) and vision is functional, if possible encourage the patient to wear the lens for an additional 7-10 days, and re-evaluate axis orientation at the subsequent visit.

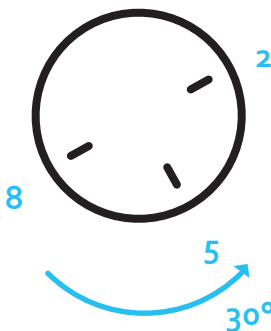


Scribe marks at  
3, 6 and 9 o'clock

Example : After the lens has settled for 30 to 45 minutes, you evaluate the right lens and notice the scribe marks are at 2, 5 and 8 o'clock and the patient has reduced vision (see illustration). The initial Rx is  $-2.00 -0.75 \times 90$ . Since the lens is rotating to the right by 30 degrees, you need to subtract this amount from the cylinder axis (see LARS above).

The new compensated lens ( $-2.00 -0.75 \times 60$ ) will position the same on the eye (scribe marks at 2, 5 and 8 o'clock) but since the cylinder axis has been compensated for rotation, the vision will be restored.

**Onefit** anterior toric design is manufactured using the proprietary Sector Prism Technology, which confines prism ballast within an area of lenticulation outside of the optical zone, while maintaining a uniform edge thickness for the entire circumference of the lens. The absence of prism within the optical zone ensures there is no visual disturbance and the uniform edge provides exceptional comfort.



Rotation to the right  
by 30 degrees



# ONEFIT MULTIFOCAL

The existing Onefit diagnostic fitting set serves as the platform from which Onefit Multifocal lenses are ordered. No additional diagnostic fitting lenses are required to fit Onefit Multifocal lenses.

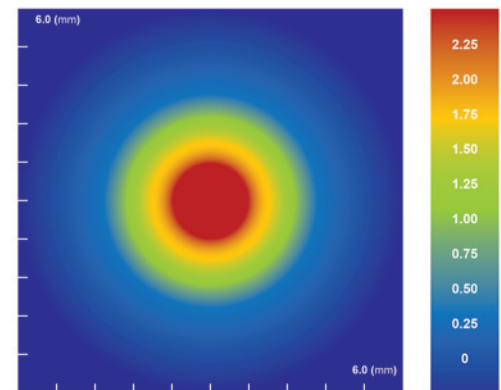
## INTRODUCTION

**Onefit** lenses center well, have limited movement with blinking, remain stable at the center of the visual axis, and unlike soft lenses, do not dehydrate during wear. The unique characteristics of this scleral GP lens provide an excellent platform for a new generation of multifocal lenses, delivering superior comfort and excellent visual performance for today's active presbyopic patient!

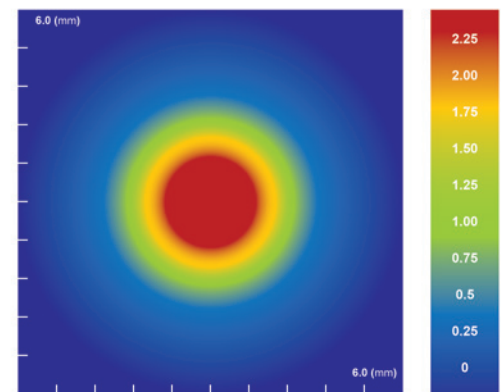
## LENS PROFILE

**Onefit** Multifocal is a simultaneous vision, near-centered aspheric multifocal system. The system combines a distance lens profile (D Lens) for the dominant eye and a near lens profile (N Lens) for the non-dominant eye. The near lens profile (N Lens) is specifically designed to enhance vision for computer and smart phone range. The two lenses work in tandem; the aspheric power profile, central add and power distribution of each lens profile complement each other to optimize selection of the image of regard, alleviating shadowing and confusion.

D Lens



N Lens



## FITTING PROCESS AND ORDERING

- First** Follow the recommendations in this guide for fitting monofocal Onefit.
- Second** Use the lens fogging technique (+2.00 lens), to determine which eye is dominant at distance.
- Third** Use the information obtained from the first and second steps above to order the lenses based on the following chart.

ADD	Dominant eye	Non Dominant eye
+1.00 to +1.50	D Lens	D Lens
+1.75 to +2.25	D Lens	N Lens
+2.50 and up	N Lens	N Lens

Note: Consider 2 N lenses for pupils that are 5.0 mm and larger

## DISPENSING AND OVER-REFRACTION

### DISTANCE VISION

**Monocular** over-refraction is first done at distance ( maximum convex approach) to reach optimal BCVA ( Best Corrected Visual Acuity) for each eye; next, equilibrate both eyes. Hand held lenses are preferred over a phoropter. Starting your over-refraction with retinoscopy will rapidly determine if there is any toricity in play.

### NEAR VISION

Place the results of the distance over-refraction in a trial frame and evaluate the near vision on a **binocular** basis. Again, hand held trial lenses are preferred over a phoropter. Be sure that lighting is sufficient for reading during the evaluation. The reading card can be used to evaluate near vision. It is recommended that the patient perform normal near tasks, such as using a computer or a smart phone. If near vision is not optimal, add more convex ( plus) power over the D-lens first, then over the N-lens. Distance vision should be re-evaluated each time convex ( plus) power is changed. If distance vision is compromised, balance distance vision and near vision by removing the convex ( plus) power over the D lens, leaving the over-correction convex ( plus) power over the N lens only. Re-check vision at both distances before ordering.

### NOTE

Similar to other simultaneous lens designs, vision at all distances will improve over time for most patients. If the binocular vision is serviceable at the dispensing visit ( distance, computer and cell phone ), then instruct the patient to wear the lenses for up to two weeks. It is important to do this before making any changes to the Rx.

### RESIDUAL ASTIGMATISM

**Onefit** Multifocal lenses are not available in a toric lens design.

# ONEFIT OBLATE LENSES

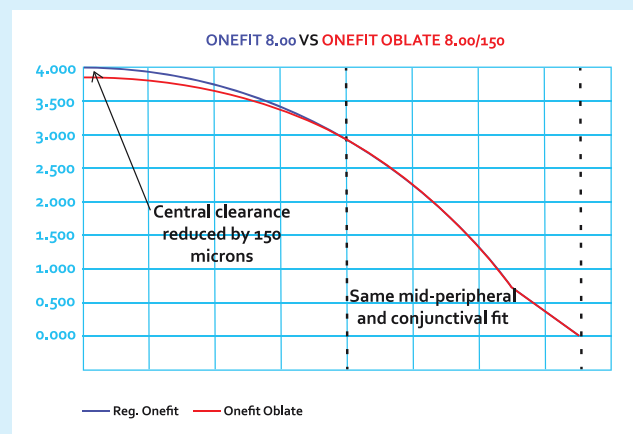
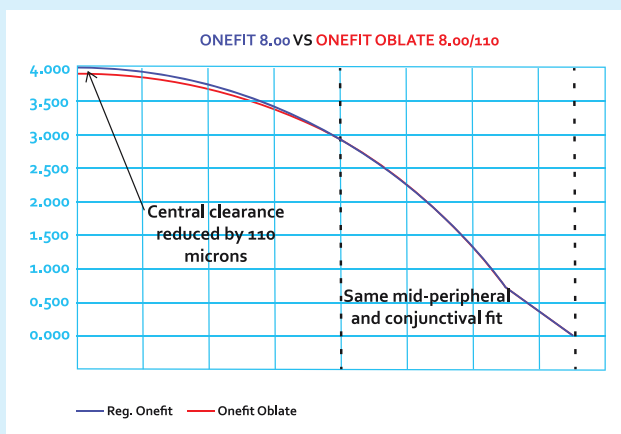
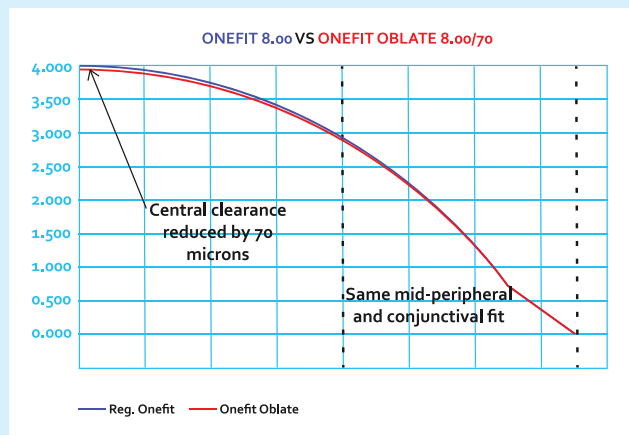
The existing Onefit diagnostic fitting set serves as the platform from which Onefit Oblate lenses are ordered. No additional diagnostic fitting lenses are required to fit Onefit Oblate lenses.

## CONCEPT

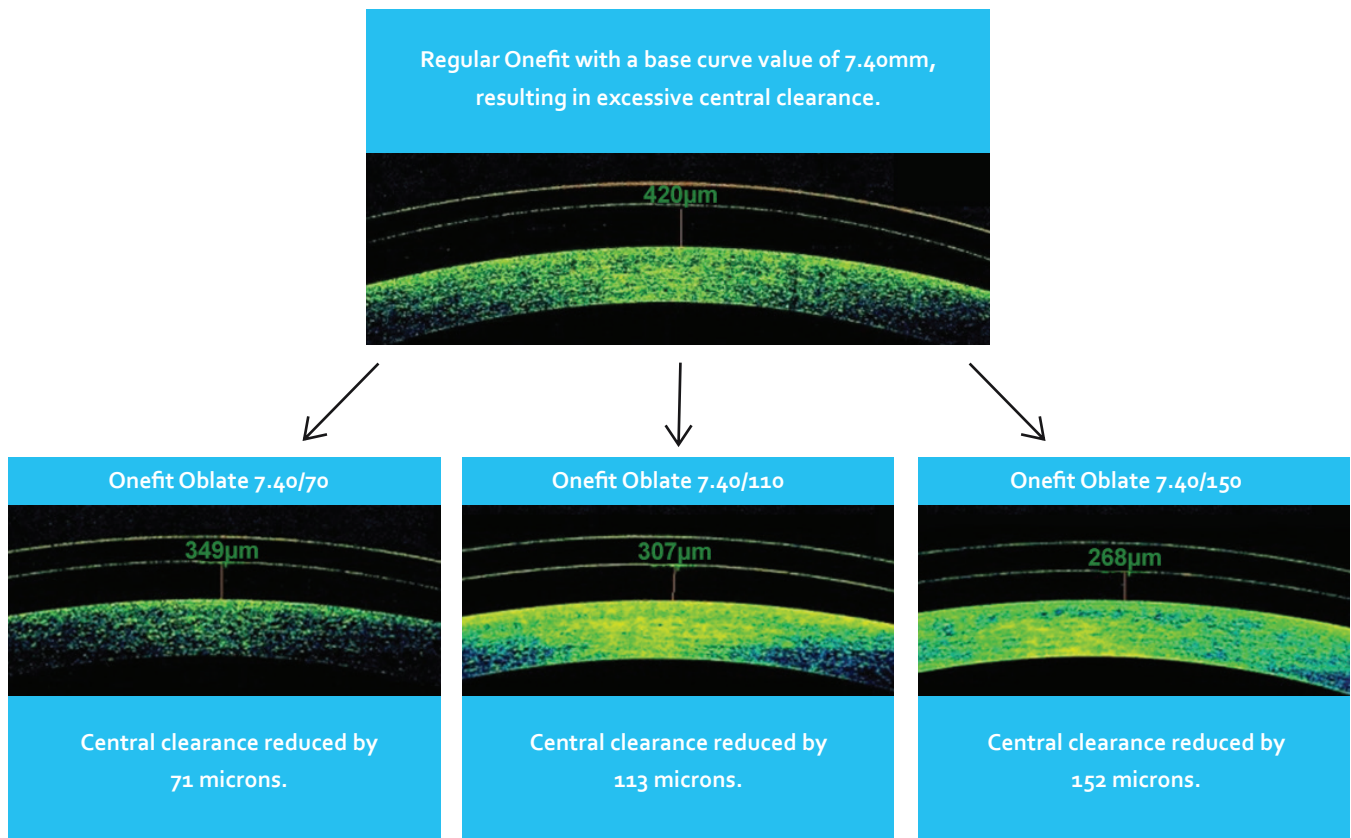
When the base curve/diameter selection of a **Onefit** leads to optimal limbal clearance and scleral edge landing, but excessive central clearance (> 250 microns), the oblate series - using reverse geometry - allows the practitioner to re-establish a healthy central clearance level (150-175 microns after 4+ hours of wear) by specifying one of three values of Central Clearance Reduction (CCR) (70 microns, 110 microns and 150 microns), without altering limbal clearance and the way the lens lands on the sclera. (See illustrations below).

Specifically designed for oblate corneas (RK, PRK, Post LASIK), the oblate series can be used on any corneal shape to reduce central clearance to the desired level.

These illustrations show how the central clearance of the Onefit Oblate lens is reduced when compared to the equivalent Onefit lens. Note that the fitting characteristics of the lens are maintained for all three values of Central Clearance Reduction (70/110/150 microns)



The following OCT images demonstrate the actual central clearance reduction happening with the different CCR values of 70, 110 and 150 microns.



## POWER COMPENSATION OF THE ONEFIT OBLATE LENS

The central clearance reduction of the **Onefit** Oblate lens is achieved by flattening the central base curve of the equivalent **Onefit** diagnostic fitting lens. The 70 CCR value decreases the central clearance by 70 microns and is accompanied with a +2.00D power compensation. Likewise, the 110 CCR value decreases the central clearance by 110 microns and is accompanied with a +4.00D power modification, and finally the 150 CCR value decreases the central clearance by 150 microns and is accompanied with a +6.00D power modification (see chart to right).

CCR Value	Power Compensation
70	+2.00
110	+4.00
150	+6.00

The power specified when ordering a Onefit Oblate lens must be the compensated power. Examples:

Onefit diagnostic lens (including over-refraction)	Onefit Oblate/70 (add +2.00 to Rx)	Onefit Oblate/110 (add + 4.00D to Rx)	Onefit Oblate/150 (add +6.00 to Rx)
-6.00	-4.00	-2.00	plano
-3.50	-1.50	+0.50	+2.50

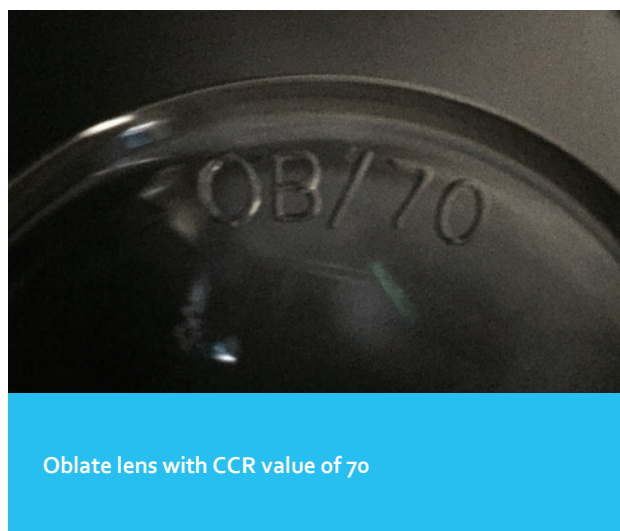
## LENS IDENTIFICATION

The Oblate lens will be identified with the same base curve value in millimeters, as the regular **Onefit**, with the addition of the CCR value (70 / 110 / 150).

For example: **Onefit** 7.80mm with a CCR value of 110 microns would be identified as 7.80/110. A **Onefit** 7.80mm with a CCR value of 150 microns would be identified as 7.80/150.

## LENS MARKING

Oblate lenses are engraved with the CCR value as follows: OB/70



## FITTING

### OBLATE CORNEAS

#### 01 Select base curve (ignore central clearance at this stage)

Starting from the regular **Onefit** diagnostic fitting set; select a lens that gives optimal mid-peripheral/limbal clearance as well as conjunctival alignment. A good starting point would be to select a lens that is 0.2mm to 0.3mm flatter than 'Sim K' reading just outside the treatment zone or host graft junction (approximately 4.2mm radius from the central visual axis). Ignore central clearance at this point. Please refer to the **Onefit** fitting guide for optimal fitting characteristics.

#### 02 Measure central clearance

The proper base curve selection as determined above will most inevitably lead to excessive central clearance (oblate cornea). Measure the central clearance using an optic section, comparing the central clearance to the lens thickness. OCT may be used as well. Note: lenses will recess on average 100 microns over a period of 4 hours from application. Central clearance will vary accordingly. Consideration should be given to amount of time the lenses have been in-situ when evaluating for optimal central clearance.

#### 03 Over-refract

Over-refract and incorporate your findings to the Onefit diagnostic lens power.

#### 04 Determine Central Clearance Reduction value (CCR)

From your measurement of the central clearance, determine by how much you need to decrease central clearance to achieve optimal central clearance level (150-175 microns after 4 hours of wear). Select the 70, 110 or 150 CCR value and compensate the power for the appropriate Oblate lens order.

Example:

### Onefit trial lens in situ:

7.80 mm -2.00D, standard diameter, Standard edge  
Over-refraction -1.50, central clearance 285 microns  
(After 30 minutes of wear)

### Onefit Oblate lens to order:

7.80/70\* -1.50D\*\*, standard diameter, standard edge

\* CCR value required to achieve optimal central clearance after 30 minutes of wear ( $285 - 70 = 215$ )

\*\* Trial lens power (-2.00) + over-refraction (-1.50), compensated for 70 CCR value (+2.00)

## NORMAL CORNEA

In an effort to provide sufficient limbal clearance, fitting guidelines point to steeper base curve and/or larger diameter lenses. If the recommended changes eliminate the presence of limbal bearing, but result in excessive central clearance ( $> 250$  microns), the Oblate series can be used to correct the situation, and bring central clearance back to a healthy level (150- 175 after 4+ hours of wear).

Please refer to steps 1-6 of this fitting guide for optimal fitting characteristics.

## AVAILABILTY

The Oblate series can be ordered in the following designs:

- Spherical
- Multifocal
- Anterior Toric
- Toric PC

# ONEFIT COMPENSATION TOOL

To help determine the parameters of a new **Onefit** lens based on your observations of an existing fit, we recommend you always use the **Onefit** Compensation Tool available at [www.blanchardlab.com](http://www.blanchardlab.com)

## Onefit Compensation Tool

Enter parameters of the Onefit lens "in situ" [Need Help?](#)

1	Base Curve	Diameter	Peripheral Edge	Power
	<input type="text"/>	<input type="text"/>	<input type="text"/>	0 <input type="text"/>

Which parameter(s) do you want to modify?

2	Base Curve	Diameter	Peripheral Edge	Over-Refraction (Vertex 12mm)
	No Change <input type="text"/>	No Change <input type="text"/>	No Change <input type="text"/>	0 <input type="text"/>

New Onefit Lens to Order

3	Base Curve	Diameter	Peripheral Edge	Power
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

The **Onefit** Compensation Tool will automatically compensate any desired modification(s) to an existing fit, as well as recalculate the final lens power, taking into consideration any over-refraction.

## COMFORT vs LENS AWARENESS

This lens was designed to be as comfortable as a soft lens after adaptation. At the initial trial you can expect some lens awareness, particularly for patients with no prior lens experience, or those with prior soft lens wearing experience. However, true discomfort is a certain sign of a bad fit.

The primary cause of lens discomfort is edge stand-off. After 30 minutes, if the patient is not comfortable, access apical clearance to be optimal (after 30 minutes of wear, look for 200 -225 microns of clearance) . If the central clearance is insufficient, first, re-fit a lens with a steeper base curve and re-access apical clearance to be optimal. If the problem persists order a lens with an edge lift that is Steep 1 or Steep 2 according to the severity of the stand-off.

## HANDLING

Similar to other corneo scleral and mini scleral lenses, lens application requires the bowl to be filled with solution. **Non-preserved saline solution or non-preserved artificial tears are preferable.** It is recommended that the patient tilt their head forward and bring the lens up to the eyeball. There should never be a bubble under the lens after application of the lens on the eye. Mishandling is the number one reason for failure with this type of lens. Typically bubbles are the result of insertion error.

# TROUBLESHOOTING PROBLEMS

## NOT ENOUGH CLEARANCE AT THE LIMBAL LEVEL

If central clearance seems appropriate ( 150-175 microns after 4+ hours of wear ), but the limbal area presents with a bearing, indicated by staining at the follow-up visit, order a lens with the Extra Limbal Clearance option. A larger diameter can also be used to increase the vault over the limbal area. If the larger compensated diameter lens leads to optimal limbal clearance but excessive central clearance, consider the **Onefit** oblate lens to re-establish adequate central clearance.

## EYES BECOME RED AND PAINFUL AFTER A FEW HOURS OF WEAR

Referred to as “tight lens syndrome”. Peripheries are creating a complete seal off at the peripheral level. Consider ordering a flatter base curve lens and/or select flatter peripheral curves ( keeping apical clearance at a minimum of 170 microns after lens equilibration )

## DEBRIS (MUCUS) ACCUMULATION UNDER THE LENS

This is very rare with mini scleral lenses ( $\leq 15.0$  mm) but could be an issue with larger lenses. The likely cause of this accumulation is a restriction of the tear flow under the lens. Consider selecting flatter base curve and/or peripheral curves to optimize tear exchange.

## BUBBLES ARE ALWAYS PRESENT ON APPLICATION

There is not enough fluid in the lens before application, or there was too much liquid that spilled off the lens during handling. Revisit the handling procedures with the patient. Mixing non-preserved saline with more viscous non-preserved artificial tear can help.

## VISION IS NOT GOOD WITH THE LENS ON

Make sure that there are no bubbles under the lens. Perform over-refraction (spherical and cylindrical) to identify any residual astigmatism.

## LENS IS DIFFICULT TO REMOVE OR STUCK ON THE EYE

This is a sign that the fit is either too flat, creating a seal at the limbal level, or excessively steep, creating a seal at the peripheral level. Revisit contact lens fit. If the fit is good, ask the patient to look upward before removal and apply gentle pressure on the conjunctiva at the lens edge. This will allow some air to enter under the lens. Removal should be easy following doing this procedure. This could also happen on marginal dry eye patients after a full day of wear. Ask the patient to lubricate the ocular surface before removing the lenses.

## LENS SEEMS OPTIMAL AT THE FIT BUT THERE IS NO CLEARANCE AFTER 8 HOURS OF WEAR

In this case, there is too much fluid exchange. Consider using a steeper base curve and/or steepening the peripheries to minimize this occurrence. If not possible, consider using a more viscous non-preserved solution to fill the bowl at application.



## DIAGNOSTIC LENSES

	Onefit (14 lenses)	Onefit A (Asian design - 14 lenses)
Base Curve	7.00 mm, 8.00 mm (by 0.10 mm inc.) 8.20 mm, 8.40 mm, 8.60 mm	7.00 mm, 8.00 mm (by 0.10 mm inc.) 8.20 mm, 8.40 mm, 8.60 mm
Diameter	14.9 mm	14.7 mm
Power	Varies with base curve (plano to -6.50D)	Varies with base curve (-1.00D to -7.00D)
Edge Lift	Standard	Standard
Center Thickness	Varies with power (0.20 mm to 0.25 mm)	

Note: Diagnostic lenses of the **Onefit** platform are marked with the letters PA2 identifying the geometry, followed by the diameter and base curve value. For example a **Onefit** with a base curve of 7.50 mm and a diameter of 14.9 mm would be laser marked as follows: PA2 14.9 7.5.

**Onefit A** diagnostic lenses are marked with the letter A identifying the geometry, followed by the base curve value, the edge configuration and diameter. For example, a **Onefit A** lens with a base curve of 7.80 mm, with a standard edge and diameter would be laser marked as follows: A 7.8 Std 7.

## CONDITIONING DIAGNOSTIC LENSES BEFORE EACH USE

Diagnostic lenses are stored dry in their respective cases. Before each use it is imperative that you clean and condition each lens thoroughly. To clean, apply a few drops of an approved GP lens cleaner on both surfaces and gently rub the lenses between your fingers or in the palm of your hand for 10 to 15 seconds. Rinse off the cleaner with saline and proceed with conditioning. To condition, use the same method as cleaning, apply a few drops of an approved GP conditioning solution and rub each lens for 15 to 20 seconds. Rinse lens with non-preserved saline solution. The diagnostic lens is now ready for use.

## PARAMETERS AVAILABLE

	Onefit (14 lenses)	Onefit A (Asian design - 14 lenses)
Base Curve Range	7.0 mm to 9.0 mm in 0.10 mm increments.	7.0 mm to 9.0 mm in 0.10 mm increments.
Diameter	14.6 mm, 14.9 mm (standard), 15.2 mm	14.4 mm, 14.7 mm (standard), 15.0 mm
Power	+20.00D to -20.00D 0.25D increments.	+20.00D to -20.00D 0.25D increments.
Cylinder	-0.50D to -5.00D 0.25D increments.	-0.50D to -5.00D 0.25D increments.
Axis	Any	Any
ADD	D Lens (Distance), N Lens (Near)	D Lens (Distance), N Lens (Near)
Edge Lift Values	Standard, Steep 1, Steep 2 and Flat 1	Standard, Steep 1, Steep 2 and Flat 1
Oblate	CCR 70, CCR 110, CCR 150	CCR 70, CCR 110, CCR 150
Extra Limbal Clearance	Available	Not available

## ORDERING

Specify: Base Curve, Power, Diameter, Edge, Multifocal Profile, CCR Value, and Extra Limbal Clearance if any.

Select initial base curve (equal to flat K) and diameter (see nomogram). Let the lens settle for 15 to 30 minutes on the eye(s).

Assess diameter. Lens diameter should exceed HVID at least 1.25 mm in each meridian

< 1.25 mm

Refit a **LARGER LENS**

Evaluate clearance at the point of highest corneal elevation. Refer to diagnostic lens thickness for comparison. Clearance will vary as lens settles; look for:  
 - at insertion: 250 to 275  $\mu\text{m}$   
 - at 30 minutes: 200 to 225  $\mu\text{m}$   
 - 4+ hours of wear: 150-175  $\mu\text{m}$

At 30 minutes < 175 microns

Refit a lens 0.10 mm **STEEPER**

At 30 minutes > 250 microns

Refit a lens 0.10 mm **FLATTER**

Order a lens with Extra Limbal Clearance, and/or try a lens with a diameter 0.3 mm larger. \*Change in diameter will require BC and Power changes (see fitting guide)

Insufficient clearance

Evaluate limbal clearance, allow no touch, expect clearance to be minimal (25 to 35 microns)

Edge stand-off Patient discomfort

Make sure central clearance is adequate. If it is insufficient, fit a lens 0.1 mm **STEEPER**, and re-assess clearance to be no more than 250  $\mu\text{m}$  at 30 minutes.

Blanching Vessels compression

Make sure central clearance is adequate. If it is excessive, fit a lens 0.1 mm **FLATTER**, and re-assess clearance to be no less than 175  $\mu\text{m}$  at 30 minutes.

Evaluate conjunctival alignment (360°)

Symptoms remain?

YES

Keep steeper base curve and order an edge **STEEP 1**

YES

Keep flatter base curve and order an edge **FLAT 1**

Symptoms remain?

NO

NO

Excessive or no movement; revisit fitting steps (see fitting guide for remedy)

Evaluate resistance (Push-In Test)

Good fit

Over refraction

Cylinder > 0.75D

Select a base curve 0.10 mm steeper and/or larger diameter.

Cylinder  $\leq$  0.75D

Order a front toric surface

YES

Symptoms remain?

NO

## 1 INITIAL BASE CURVE AND DIAMETER SELECTION

INDICATIONS	BASE CURVE SELECTION	DIAMETER SELECTION				IDEAL FIT
Normal prolate corneas Presbyopia Astigmatism Emergent or fruste keratoconus Soft or small diameter GP lens intolerant Post-RK, Post-LASIK Nipple cones Oval cones Irregular corneas Ectatic corneas OSD	Equivalent to Flat "K"	Lens diameter should exceed HVID at least 1.25 mm in each meridian				Evaluate clearance at the point of highest corneal elevation. Refer to diagnostic lens thickness for comparison. Clearance will vary as lens settles; look for:  - at insertion: 250 to 275 µm - at 30 minutes: 200 to 225 µm - 4+ hours of wear: 150-175 µm  Allow no corneal touch, especially on the cone as well as near the limbus.
		ONEFIT		ONEFIT A (Asian design)		
		HVID	DIAMETER	HVID	DIAMETER	
		< 11.5 mm	14.6 mm	< 11.3 mm	14.4 mm	
11.5 to 12.0 mm	14.9 mm	11.3 to 11.8 mm	14.7 mm			
> 12.0 mm	15.2 mm	> 11.8 mm	15.0 mm			

•• ALWAYS FILL THE LENS BOWL WITH A NON-PRESERVED SOLUTION BEFORE INSERTION. THIS WILL ELIMINATE BUBBLES TRAPPED BEHIND LENS. IF A BUBBLE PRESENTS, REMOVE LENS AND RE-FILL WITH SOLUTION AND RE-INSERT. (INSERT NaFL INTO BOWL WITH SOLUTION TO BEGIN EVALUATION)

## 2 EVALUATE CLEARANCE AT THE POINT OF HIGHEST CORNEAL ELEVATION

VIEW WITH WHITE LIGHT OPTIC SECTION, NARROW BEAM AT 30° - 40°

Clearance will vary as lens settles (see ideal fit above). For a lens exhibiting insufficient clearance, refit a lens with a steeper base curve. For a lens exhibiting excessive clearance, refit a lens with a flatter base curve. A 0.10mm change in base curve value will result in an average variation in central clearance of 50 microns.

## 3 EVALUATE LIMBAL CLEARANCE

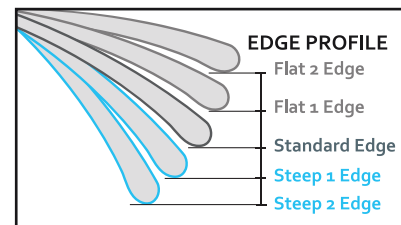
Assess fluorescein coverage at the limbal level and allow no touch on the limbus, as with the cornea. If the clearance is less than 25 microns fluorescein may not be seen. If the central clearance seems appropriate (see ideal fit above) but the limbal area presents with a bearing, indicated by staining at the follow-up visit, order a lens with the Extra Limbal Clearance. This option will increase clearance over the limbal area by 50 microns, without affecting the lens behavior on the eye. Second, try a lens with a diameter 0.3 mm larger. The modified geometry of the larger lens will increase the vault over the limbal area.

## 4 EVALUATE CONJUNCTIVAL ALIGNMENT

Look for conjunctival alignment; ensure there is no edge stand off or peripheral seal.

**EDGE STAND-OFF**, excessive movement or excessive lens awareness - If the central clearance is insufficient, first, re-fit a lens with a steeper base curve and re-assess apical clearance to be optimal. If the problem persists, order a lens with an edge lift that is Steep 1 or Steep 2 according to the severity of the stand-off.

**PERIPHERAL SEAL OFF** - If central clearance is excessive, first, re-fit a lens with a flatter base curve and re-assess apical clearance to be optimal. If the problem persists, order a lens with an edge lift that is Flat 1.



## 5 EVALUATE RESISTANCE (PUSH-IN TEST)

The Onefit lens should offer no or very little resistance and exhibit 0.5 mm to 1.0 mm movement (not on blinking, but under the push up pressure).

## 6 OVER-REFRACTION

Residual cylinder >0.75D that cannot be corrected with additional central clearance should be incorporated into an anterior toric design. Simply give the laboratory your over-refraction when ordering.

## ORDERING

Specify: Base Curve, Power, Diameter, Edge, Extra Limbal Clearance, Multifocal Profile and CCR Value, if any.

# Onefit™

SCLERAL LENS PLATFORM



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