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Latitude™

The Latitude™ Multifocal Empirical Fitting Guide

1. Lens Diameter Selection

Selection of lens diameter as a function of the flattest corneal curve and the corneal cylinder (▲K)

Range of Lens Diameter Selection (mm)			
Flattest K Reading	Larger Diameter ▲K=1.50	Usual Diameter ▲K=0.25-1.25	Smaller Diameter ▲K=0
41.00 or Under	10.0	10.0	9.5
41.12 to 45.00	10.0	9.5	9.0
45.12 and Over	9.5	9.0	9.0

2. EQ Selection

The EQ or mid-peripheral curvature of the Latitude™ lens is flatter than the BC in order to provide the additional near power. The final EQ must be adjusted according to the amount of corneal cylinder. Otherwise the alignment will be poor resulting in a low riding lens and/or poor acuity at all distances.

Lens Diameters			
Corneal Cylinder (Diopters)	10.0	9.5	9.0
0.00 to 2.00	Flatter EQ	On EQ	*On EQ
2.12 to 3.00	On EQ	Steeper EQ	*Steeper EQ
3.12 and Up	Steeper EQ	*Steeper EQ	*Steeper EQ

*Go next EQ steeper than the previous diameter's EQ when not using 'usual diameter'

3. Power Selection

i) Use your patient's spherical spectacle Rx power (when in minus cylinder form). Compensate for vertex if necessary.

ii) Calculate power by adding -1.00 diopters to the sphere of the spectacle Rx and compensate for amount steeper or flatter than the EQ in relationship to flat K reading.

Addition of an extra -1.00 diopter to the spectacle sphere power is to compensate for the distance zone on the base curve which is one diopter steeper than the EQ of the lens.



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Summary of Fitting Procedures

- 1) Choose 9.0mm, 9.5mm or 10.0mm initial diameter
- 2) To determine EQ, or mid peripheral alignment lens curvature:
 - i) First convert flat K to mm using a conversion chart. EQ is available only in divisions of 0.10 mm. If the mm obtained in the conversion is uneven do the following: if the cylinder is less than -1.25 go to the next flattest EQ.
 - ii) Next determine the amount of corneal cylinder or ΔK and using the EQ selection chart on reverse, refine the final EQ for best alignment.
- 3) Calculate the power (vertex first if necessary) and compensate for amount steeper or flatter than the EQ in relationship to the flat keratometer reading. Add -1.00 to the power calculated to obtain final lens power.

Example:

K Readings: 43.25/44.25	Spectacle Rx: -3.00 -1.00 x 180 Add +2.25	
	Usual Diameter	Smaller Diameter
Diameter:	9.5	9.0
Corneal Cyl is 1.00, fit on EQ	7.8 (use steeper EQ)	7.7
Spectacle sphere -3.00+(-1.00)	-4.00 (-0.50)	-4.50
Add	+2.25	+2.25

Parameters:

Diameters	9.0, 9.5, 10.0
EQ	7.00mm to 8.9mm in 0.10mm steps
Powers	+12.00 to -20.00
Adds	+1.75 to +3.00 in 0.25D Steps
Material	SGP II with Blue handling tint
Warranty	100 days for exchange or full refund

The EQ-Base Curve Relationship

EQ	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90
BC	6.82	6.92	7.02	7.12	7.23	7.33	7.44	7.53	7.64	7.74
EQ	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90
BC	7.85	7.94	8.04	8.14	8.24	8.34	8.44	8.54	8.64	8.76



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Latitude's Multi-Aspherical Curves:

The Latitude™ Multifocal has an aspheric base curve and a unique patented aspheric fitting curve on its back surface called the 'EQ'. The EQ is flatter than the base curve to align comfortably with the mid-periphery of the cornea. Together the BC and EQ provide patients with a standard near add of +1.75D. Latitude™ can also be custom manufactured with additional front surface curves for a total near add from +1.75D to +3.00D in 0.25D increments.

The Latitude™ Multifocal combines translation with simultaneous vision. The lens can be successfully fit on both emerging and mature presbyopes.

Fitting Emerging Presbyopes: (up to +1.75 of add)

Latitude™ provides emerging presbyopes with simultaneous distance, intermediate and near visual in the primary position - typically with a high riding fit. On these patients, Latitude™ can succeed with or without translation and in a variety of fitting positions.

Fitting Mature Presbyopes:

Typically, on mature presbyopes, the lens is fit to center fairly well in the primary gaze. In the reading position, however, it is essential for near acuity to achieve translation so that the patients access the maximum add portion of the lens and gain sharp near acuity. The Latitude™ anterior aspheric curves are customized for mature presbyopes for add up to +3.00 in 0.25D steps.

Checking for Translation:

Check your patient's distance and intermediate vision in the primary position. Next use a reading card (hand held) and check near vision in the downward gaze. If your patient's near vision does not improve when gazing downward to read, flatten the lens to assist translation on mature presbyopes or to raise the lens on emerging presbyopes. If the distance vision is poor in the primary position, steepen the lens.

Latitude™

If lens rides too high, use smaller diameter or steepen EQ. If lens rides too low, use flatter EQ and larger diameter. If over refraction is too much minus, go to next steeper EQ. If add is not sufficient, then increase if only 0.50 or make distance zone smaller. If shadow or halos, increase distance zone diameter.

Flatten the lens if...

- The lens is tight or uncomfortable
- There are near vision problems because the lens fails to translate
- The lens rides too low

Steepen the lens if...

- The lens is too loose/rides too high
- There are distance vision problems
- There is excessive lower edge stand off
- The lens drops after adaptation

Use a larger diameter if...

- The lens pops out
- Vision blurs when blinking
- Shadows appear when the patient turns his/her head
- There is a flare around the edges
- There is 1.50D or more of corneal astigmatism
- A larger OZ would benefit your patient. Larger OZs are available for Rx over +1.75 add.
- The lens drops and a steeper BC is contraindicated
- The lens is a high powered plus lens

Use a smaller diameter if...

- The lens cannot be flattened further
- The lens is too heavy
- the lens feels tight
- The cornea is spherical

Spectacle Blur

Check corneal curvature immediately upon lens removal and compare to the original (pre-fit) K readings. If you observe the cornea flattening, steepen the lens. If you observe the cornea steepening, flatten the lens.

Customizing the Distance Zone on Hi-Add Lenses

The Latitude™'s back surface curves provide up to +1.75D of near add requirements, additional curves are placed on the front surface. By varying the size of the front distance zone, the amount of near or distance optics the patient accesses can be adjusted (see below). This option is recommended for mature presbyopes whose vision could not be improved by adjusting the EQ or changing the powers. The high add Latitude™ is available with a choice of four central distance zones: 3.5mm, 4.0mm, 4.5mm or 5.00mm.

If your patient is not achieving good distance optics, increase the front distance zone. If your patient is not achieving good near optics, decrease the front distance zone. If you do not specify a distance zone you will automatically receive the default 4.5mm zone.

