

Description:

The Apex Multifocal is a highly customizable presbyopic GP lens that's designed to fit the specific eye shape, diameter, pupil and add power of the patient. It uses a large diameter and highly aspheric back surface called the PC-IV as its platform to deliver the multifocal optics on the front. The anterior surface delivers the multifocality in a center distance design that's constructed to the patient's pupil and add requirement. The Apex Multifocal can be fit on adult presbyopes and for adolescents to reduce the hyperopic defocus on the peripheral retina. Lenses may be empirically ordered or fit from a diagnostic set.



Step 1: Pre-fitting Data Collection

- Spectacle Rx
- Add Power
- Pupil Size in Normal Illumination
- Keratometry Readings/Topography
- Visible Iris Diameter

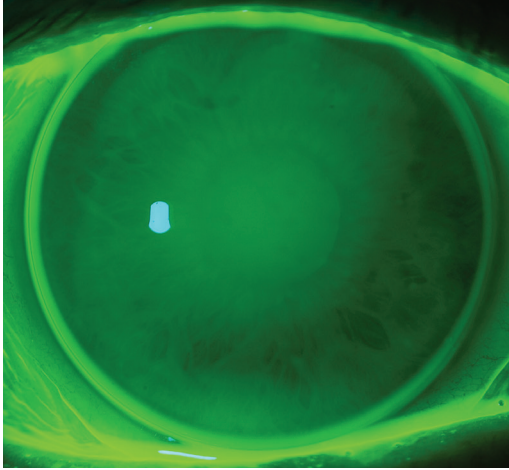
Empirically ordered lenses: To order an Apex Multifocal lens, simply call or email the above information to customer service and the lens will be calculated and delivered to your office.

Diagnostic set users: Choose the closest trial lens base curve that is 1.50 diopters steeper than the Flat Keratometry reading. For instance, if the flat K is 43.00D/7.85mm, choose the 44.50D/7.60 base curve diagnostic.

Step 2: Fit Evaluation Checklist

- Centration
- Movement
- Fluorescein pattern
 - Apical clearance
 - Landing
 - Edge lift
 - Pooling
- Distance visual acuity
- Near visual acuity
- Comfort





Step 3: Lens Evaluation Details

Centration: The Apex Multifocal is designed to deliver simultaneous vision by providing all the required powers within the margins of the pupil. If a lens does not center, the near, intermediate and distance optics will not be placed appropriately over the pupil which may result in reduced visual acuity and increased high order aberrations. Determine if the lens is well centered both in primary gaze and when the patient looks down to read.

Movement: The large diameter and aspheric back surface of the Apex Multifocal may reduce movement compared to smaller diameter GP lenses. Less movement is desirable to deliver the simultaneous vision and multifocality required. Some movement creates a healthy tear exchange but excessive movement may cause fluctuating vision. Determine if the lens is stable on eye or moving excessively.

Fluorescein pattern: To assess the fit and optimize the outcome, a fluorescein pattern analysis is necessary. Evaluate and record the following considerations.

Apical clearance: An optimal Apex Multifocal should clear the corneal apex and exhibit a thin layer of central pooling. Determine if the lens shows, inadequate, acceptable or excessive pooling. Inadequate clearance may appear as touch and can be associated with a high riding lens. In such cases, switch to a steeper base curve. Conversely, excessive central pooling may exhibit bubbles and could be inferior displaced. Flatten the base curve when the lens appears to be steep fitting. Determine if the lens is steep, acceptable or flat in the center.

Landing: Ideally, an Apex Multifocal should land near to 3 and 9 o'clock which will create good lateral stability. Landing or alignment 360 degrees around should result in a stable and comfortable fit. However, a lack of alignment and excessive pooling in one or opposing quadrants may result in poor centration, comfort or vision.



Edge lift: A healthy 0.5mm width of edge lift should be present 360 degrees around. The edge lift ensures the lens will not impinge on the peripheral cornea, limbus or conjunctiva during eye movement or blinking. The edge lift also allows for good tear exchange and makes it easier for the patient to remove the lens with the blink or scissor technique. Determine if the edge lift is excessive (too wide), acceptable or inadequate (narrow or tight).

Pooling: The Apex Multifocal employs a steep base curve and high eccentricity back surface. It is not uncommon to see some central pooling associated with a quick tapering off of the fluid thickness from center to alignment zone. An appropriate base curve to corneal relationship is critical. But so is the landing in the mid periphery. If the symmetric Apex Multifocal is placed on a toric eye, pooling may exist along the steep meridian of the eye. Excessive pooling in the mid periphery could hinder alignment, centration, comfort and vision. Determine if excessive pooling exists anywhere behind the lens and document where (i.e. central, nasal, temporal, superior and inferior).

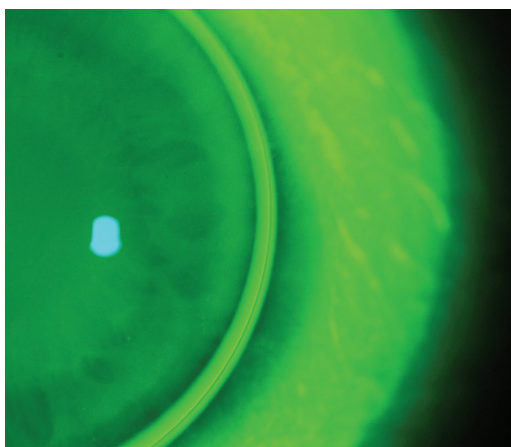
Distance visual acuity: Evaluate the distance vision and determine the over-refraction necessary to provide quality acuity. Check the vision monocularly and binocularly to assess the effect of any distance over-refraction on near acuity. Does the lens center over the pupil during primary gaze and how much movement is there during the blink. Determine if a power change is required to improve distance visual acuity in the dominant eye only or both eyes.

Near visual acuity: Evaluate the near and intermediate vision for quality visual acuity. Check the vision monocularly and binocularly to assess the effect of any near over-refraction on distance acuity. Does the lens remain centered when the patient looks down to read? Determine if a power change is required to improve the near vision in the dominant eye only or both eyes.

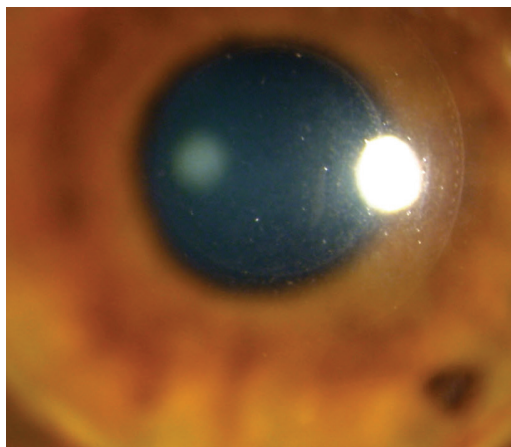
Comfort: A new GP lens wearer may require a few days to adapt to the Apex Multifocal. However, the larger diameter and aspheric back surface should reduce adaptation times and end of day discomfort. If the patient is uncomfortable both initially and after a week or two of wear, this might indicate that lens changes are necessary. Determine if any modifications to the fit can be made to improve comfort.



Optimizing Vision



Edge lift



Diagnostic Set Rings

Improving distance vision: If both the lens power and centration are acceptable but the distance visual acuity is reduced, the pupil size may be adjusted. Increasing the pupil size will enlarge the distance zone of the lens and pushes the add zone farther out. This can be an effective means of improving distance visual acuity. A similar outcome can be achieved by decreasing the add which distributes less power inside the pupil.

Improving near vision: If both the lens power and centration are acceptable but the near or intermediate visual acuity is reduced, the pupil size may be adjusted. Decreasing the pupil size will expand the near and intermediate zone of the lens and pushes the add power closer to the center. This decreases the distance zone in order to allow more plus inside the pupil and can be an effective means of improving near and intermediate visual acuity. A similar outcome can be achieved by increasing the add which distributes more power inside the pupil.

Edge lift: When the edge lift requires adjustment, the eccentricity can be increased or decreased. The standard adjustment would be ± 1.0 step with a (+)ve change creating more edge lift and a (-)ve change creating less edge lift. A mild change would require a ± 0.5 step adjustment while a more severe change would require ± 1.5 or more. Be aware that a change to eccentricity alters the sagittal depth of the lens and therefore the apical clearance. If the apical clearance is optimal but more edge lift is required, the eccentricity can be increased +1 but the base curve should be steepened in compensation by 0.10mm. Similarly, if less edge lift is required but the apical clearance is optimal, then decrease the eccentricity and flatten the base curve. The consultant may be able to assist with these calculations if desired.

Diagnostic Set Rings: The diagnostic lenses include anterior surface rings at 3 and 5mm diameter. These are designed to assist in two ways. First, they help in determining if the optics of the lens are centered over the pupil. Additionally, they can help to determine what pupil size is required for the add zone of the lens. For instance, if the pupil lands near to the 3mm ring, order the Apex Multifocal with a 3mm pupil along with the required add.

For Fitting or Technical Support, Contact Your Apex Multifocal Distributor

Your Partners in Visual Excellence.