

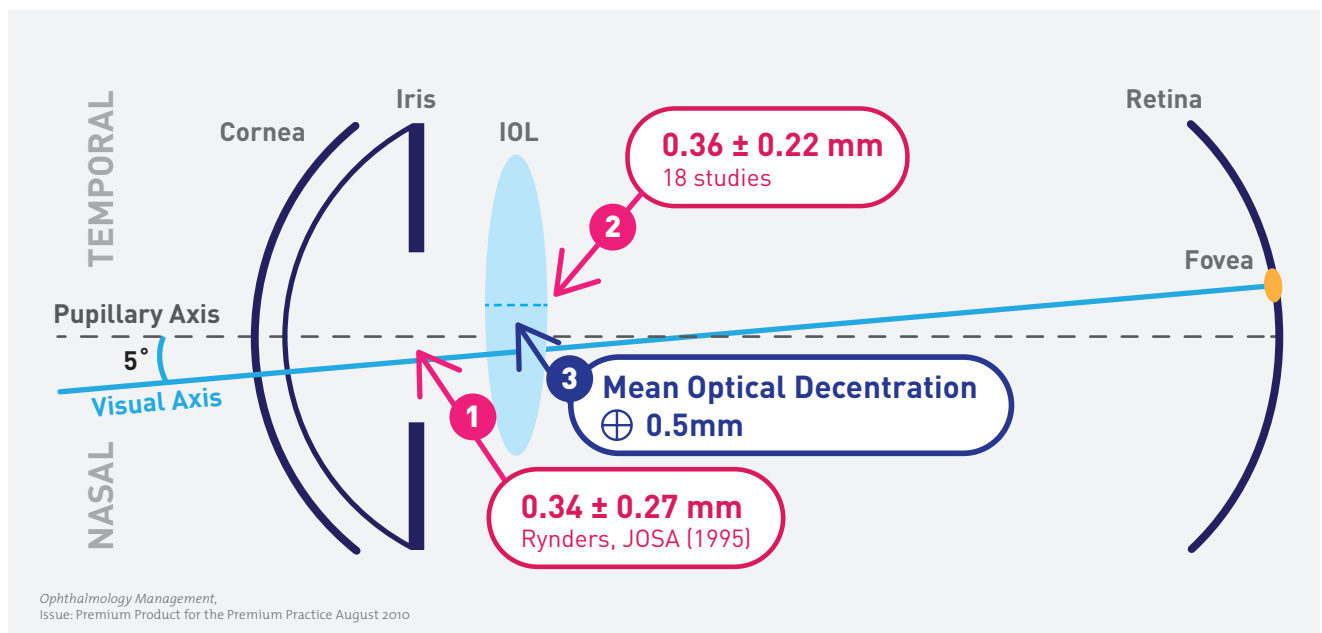


PRECIZON™ NVA

Aspheric Presbyopic IOL

Importance of the Angle kappa

Angle kappa is the difference between the pupillary and visual axis. This measurement is of paramount consideration in refractive surgery, as proper centration is required for optimal results. Angle kappa may contribute to MFIOL decentration and its resultant photic phenomena.¹



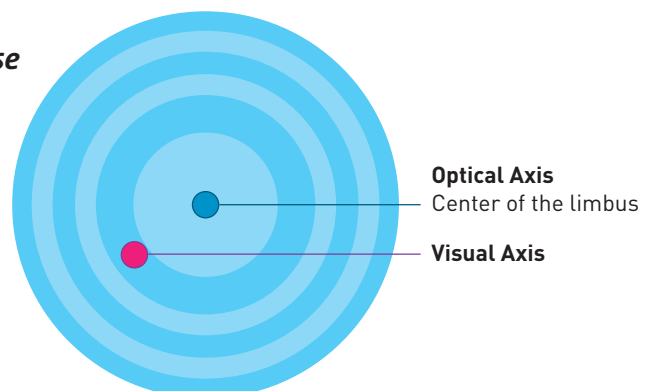
> Decentration Negatively Effects Vision

Angle Kappa and IOL decentration can have accumulative negative impact on vision.

1. Decentration between the visual axis and the pupil is about 1/3 of a millimeter;
2. Decentration between the center of the IOL and the center of the pupil is also about 1/3 of a millimeter;
3. Taken together, the mean optical decentration between the visual axis and the center of the IOL is about half a millimeter.

> Angle Alpha - Potential Unpleasant Surprise

When there is a large ($> 0.5 \text{ mm}$) angle alpha, the optical axis/center of the capsular bag may not match the patient's visual axis, leading to a potentially unpleasant refractive surprise if a multifocal IOL is implanted.²



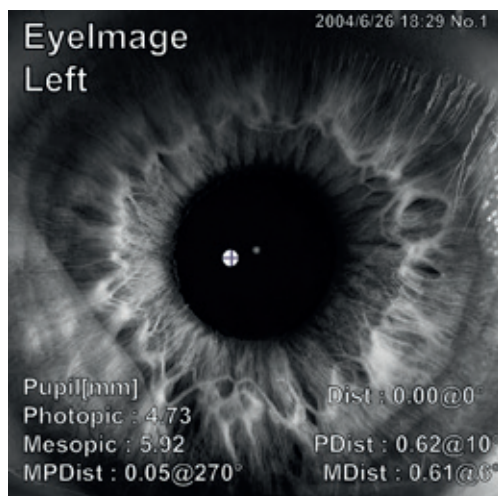
1) Majid Moshirfar, Ryan N. Hoggan, and Valliammai Muthappan Oman J Ophthalmol. 2013 Sep-Dec; 6(3): 151–158. doi: 10.4103/0974-620X.122268

2) Source: <https://crstoday.com/articles/2016-mar/using-angle-alpha-in-premium-iol-screening>

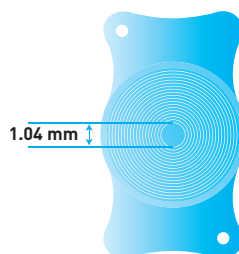




Clinical case

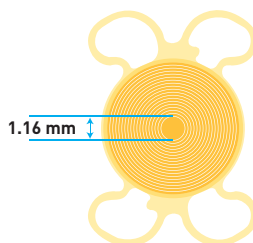


The image above shows the angle of kappa on a specific patient where the pupillary axis and the visual axis are measured. The difference between the two is represented in a photopic (Pdist) and mesopic (Mdist) condition. It is important that both axis are aligned within the IOL central zone to avoid visual disturbances.



> Typical plate multifocal IOL

The Pdist & Mdist for this patient are too large as the plate lens can only accommodate **0.52 mm**



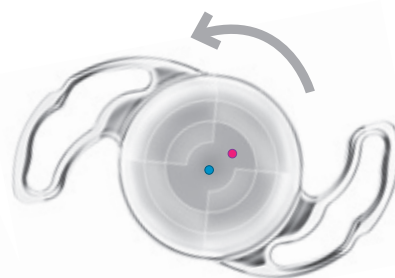
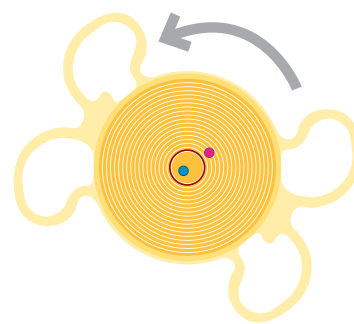
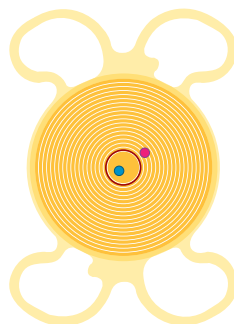
> Typical closed loop trifocal IOL

The Pdist & Mdist for this patient are too large as the closed loop lens can only accommodate **0.58 mm**

What can we learn?

For this clinical case and in a typical multifocal IOL as shown above, the patient's visual axis would be overlapping the multifocal concentric rings. This means that the patient can expect visual disturbances and may not be considered a good candidate for traditional multifocal IOLs.

However, Precizon Presbyopic NVA has a central zone of 1.4 mm in diameter in one direction, and 2.6 mm in diameter in perpendicular direction ("butterfly shaped") and can be oriented so that the visual axis passes through the wider central segment (simulation to the right).



PRECIZON[®] NVA
Aspheric Presbyopic IOL

> Tolerant to the Kappa Angle

