Unique Aberration-Free IOL:
A VISION THAT PATIENTS CAN APPRECIATE

BAUSCH + LOMB

Akreos
Advanced Optics Aspheric Lens
Akreos AO

An Aspheric Optic for Improved Quality of Vision

- Traditional spherical IOLs create spherical aberration and reduce contrast sensitivity
- With Akreos AO, unique aspheric anterior and posterior surfaces are aberration neutral
- The result? Clinical outcomes demonstrate a reduction in overall higher order aberrations
- Contrast sensitivity under photopic or mesopic lighting conditions is similar to silicone aspheric aberrated IOL

![Bilateral implantation study](image)

Contrast sensitivity under photopic or mesopic lighting conditions is similar to silicone aspheric aberrated IOL.


Akreos AO

Uniform Power Designed to Work in Every Eye

- No eye is optically perfect
- Constant power from centre to edge helps to improve vision by providing consistent power across the entire optic surface
- Akreos AO is designed to provide predictable, repeatable refractive outcomes for all cataract patients, regardless of corneal shape, pupil size, as well as pupil or capsular bag centration
- Clinical results show excellent high and low contrast BCVA comparable to a middle-age phakic eye.¹

All axes in the eye are not perfectly aligned and no two eyes are the same shape so you need IOLs that work with imperfect conditions.

BCVA compared to phakic eyes

Akreos AO

Aberration-Free Design Helps to Enhance Depth of Field

- The phakic eye has some natural level of positive spherical aberration.
- Positive spherical aberration helps the phakic eye achieve better depth of field.
- Akreos AO maintains the natural, positive spherical aberrations compared to aspheric, aberrated IOLs\(^2\) (top figure).
- With its aberration-free design, Akreos AO helps to significantly improve depth of field in comparison to an aspheric aberrated IOL\(^2\) (bottom figure).

**Natural Functionality**

Depth of focus in intermediate vision

- In intermediate vision more distant objects are seen through central corneal rays whereas closer objects are seen through peripheral corneal rays.

**Bilateral implantation study**

**Spherical Aberrations**

<table>
<thead>
<tr>
<th></th>
<th>Akreos AO</th>
<th>Silicone Aspheric Aberrated IOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Depth of Field (^4)</td>
<td>0.85 Dpt</td>
<td>0.71 Dpt</td>
</tr>
<tr>
<td>p</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Number of patients</td>
<td>74</td>
<td>74</td>
</tr>
</tbody>
</table>


A masked, subjective patient assessment following cataract surgery showed that twice as many patients prefer the vision in their Akreos AO eye\(^2\) (left figure).

Patients also reported fewer visual disturbances in their Akreos AO eye compared to the silicone aspheric aberrated IOL eye\(^2\) (right figure).

Patients had no way of knowing which lens was implanted in their eyes.

Bilateral implantation study: double-masked questionnaire

<table>
<thead>
<tr>
<th>Any preference for one eye</th>
<th>Less dysphotopsia in one eye</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akreos AO 28%</td>
<td>Akreos AO 33%</td>
</tr>
<tr>
<td>Silicone Aspheric Aberrated IOL 56%</td>
<td>Silicone Aspheric Aberrated IOL 56%</td>
</tr>
</tbody>
</table>

\(^2\) B. Johansson et al. Swedish multi-centre study to compare the optical performance of the Akreos Adapt Advanced Optic (AO) IOL and the Tecnis ZR000. ASCRS 2006.
Akreos AO

For Optimised Effectiveness against PCO

- The unique Square-Edge Technology and a 360° posterior barrier reduce cell migration following implantation
- EPCO analysis shows just how effective the Akreos AO design is in blocking cell growth
- Results are comparable to the best performing acrylic IOLs

The ePCO scores are as follows:

<table>
<thead>
<tr>
<th>EPCO Scores</th>
<th>@ 3 months</th>
<th>@ 6 months</th>
<th>@ 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>6mm optic area</td>
<td>0.048</td>
<td>0.048</td>
<td>0.048</td>
</tr>
<tr>
<td>3mm central area</td>
<td>0.007</td>
<td>0.008</td>
<td>0.012</td>
</tr>
</tbody>
</table>

(n=42) (n=48) (n=41)

EPCO Scores @ 12 months

Limit at which PCO does not require Nd:YAG capsulotomy

* Nd:YAG capsulotomy usually performed beyond 0.5 to 1.0, depending on PCO location and patient’s complaint.


Data on file.
Akreos AO

Efficient Implantation through an Unenlarged Phaco Incision

- The Akreos Single-Use Insertion Device enables implantation of the Akreos AO through a 2.8mm phaco incision
- The flat loading, single-hand injection makes quick work of lens implantation
- Improved plunger design provides symmetrical unfolding and easier placement of the lead haptics into the capsular bag

Single-Use Lens Delivery System

1. Place the lens flat in to the loading deck
2. Close the injector and fit the tip
3. Advance the plunger and deliver the lens
Akreos Advanced Optics System

Model: Adapt AO

MATERIAL:
26% acrylic material, UV absorber, Refractive index: 1.458 (hydrated)

OPTIC:
Biconvex aspheric anterior and posterior, Optic body: 6mm

HAPTICS:
One-piece, 0° angulation

OVERALL DIAMETER:
11.0mm from 0.0 to 15.0 Dpt
10.7mm from 15.5 to 22.0 Dpt
10.5mm from 22.5 to 30.0 Dpt

DIOPTER RANGE:
0.0 through 9.0 in 1.0 Dpt
10.0 through 30.0 in 0.5 Dpt

LENS CONSTANTS:

<table>
<thead>
<tr>
<th></th>
<th>Applanation A-scan</th>
<th>Immersion A-scan or IOL Master*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-Constant*</td>
<td>118.0</td>
<td>118.3 (SRK/T)</td>
</tr>
<tr>
<td>ACD*</td>
<td>4.96</td>
<td>5.18</td>
</tr>
<tr>
<td>Surgeon Factor*</td>
<td>1.22</td>
<td>1.40</td>
</tr>
</tbody>
</table>

ORDER CODES:
Lens in plastic vial:
ADAPtAoP or ADAPTAOTP
Injector:
AI-28B

* A-Constant, ACD and Surgeon Factor are estimates only. Latest update March 2011. It is recommended that each surgeon develop his or her own values.