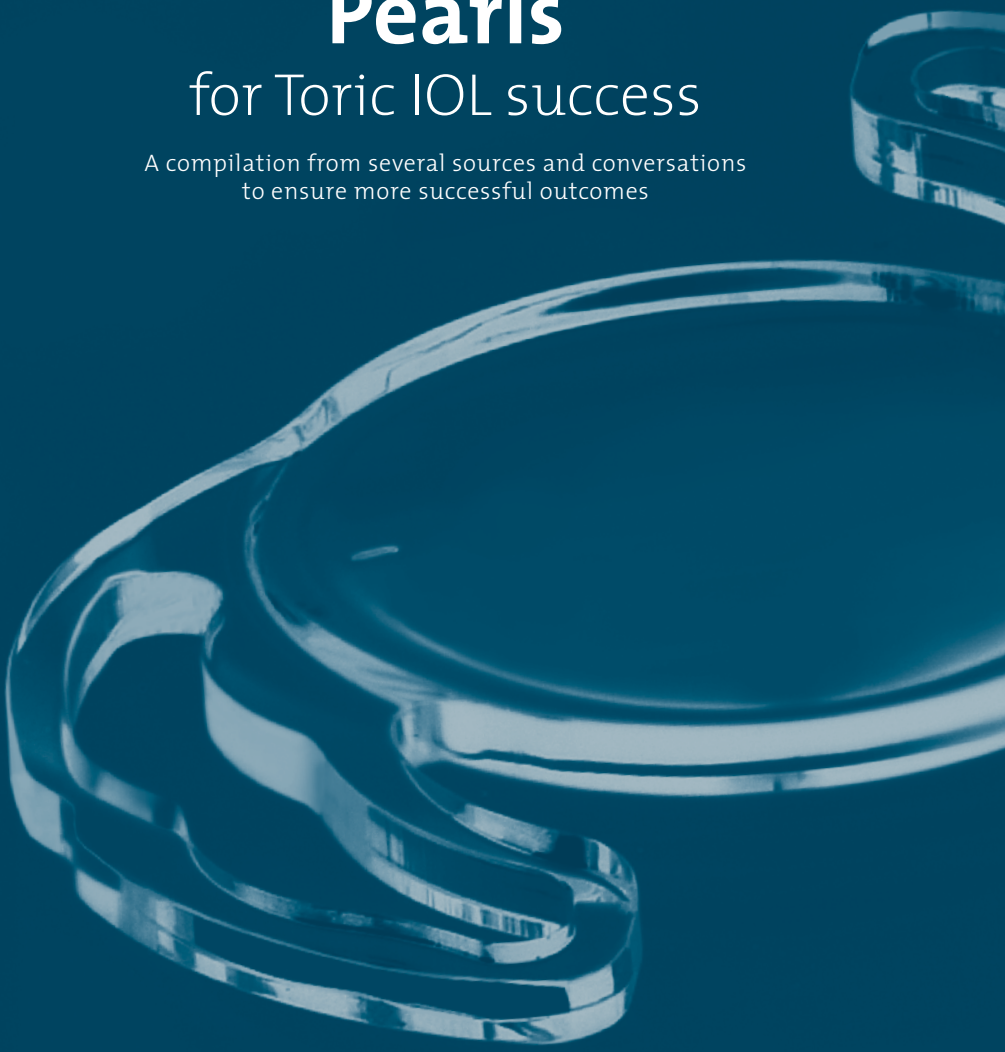
Pearls
for Toric IOL success

A compilation from several sources and conversations
to ensure more successful outcomes



PRECIZON®

The Precizon™ Transitional Conic Toric IOL enables you to offer your patients a broader toric vision zone that provides good vision even with some misalignment, and uncompromised vision with large pupils.

This document is provided as a quick reference to help you achieve optimum outcomes with any toric IOL.

// Is the patient a good candidate? Warnings and contraindications

Under the following circumstances it is wiser not to implant a Precizon Toric IOL:

- When an eye has irregular astigmatism, a Toric IOL could be contraindicated or require special consideration.
- If a patient has endothelial cell dystrophy and any kind of astigmatism, this problem can not be corrected with a Toric IOL .
- If a patient has a keratoconus, consider waiting for crosslinking availability; the keratoconus may progress. Crosslink the cornea first to get it stabilized. A Toric IOL may then be considered.
- Carefully read the list of contraindications in the 'Instructions for use'.

// Measuring K-readings & topography of the axis

- When patients are using contact lenses, they have to be removed 1 week before the examination with hard contact lenses and 48 hrs. before the examination with soft contact lenses.
- K-readings can be obtained from multiple sources.
- Not all K-readings are created equally - Anterior topographers do the best job. The IOL Master should not be used for determining the axis.
- Be wary of disagreement between measuring instruments.
- Rely on manual or/and automated keratometry for the magnitude of the astigmatism, and topography for the axis. The K-readings should be within 10 degrees.
- Be careful for dry eyes. A large percentage of cataract age patients has dry eyes. This can alter the keratometry values.
- Toric IOL selection based on anterior corneal measurements only could lead to problems. Look at the posterior cornea as well.
- Best solution: Use a device, that also measures the posterior cornea: Scheimpflug imaging (Orbscan - Pentacam - Galilei Dual - Scheimpflug Analyzer - Cassini).

// Marking the cylinder axis prior to surgery

- Accurate preop marking of the preoperative astigmatism is essential for an optimal postoperative outcome.
- Perform the marking behind a slit lamp with the patient sitting upright and fixing the gaze on a distant object to avoid rotation of the globe. When the patient lies down, the eye may rotate.
- Make sure the technicians have the patient's head aligned correctly when they record the topography or keratometry.

// Calculating the lens

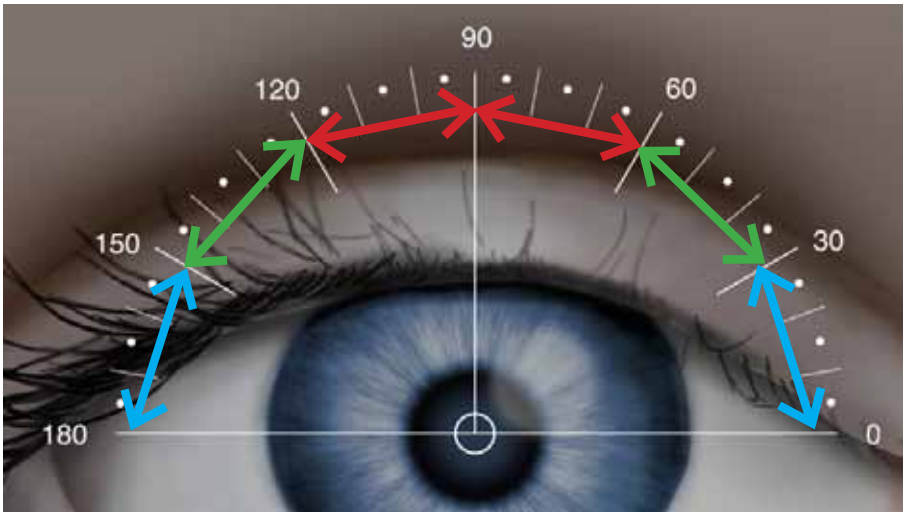
- When evaluating a new Toric lens design consider starting with 5 monofocal version to confirm the surgeons A-constant.
- Slightly under-correct with-the-rule keratometric astigmatism or slightly overcorrect - against-the-rule keratometric astigmatism.
- Surgeons need to be careful about using the toric IOLs with negative aspheric surfaces in case of post Lasik surgery.
- Know how much surgically induced astigmatism (SIA) you create. Accurate data about SIA can make a difference in your outcomes.
- Clear corneal incisions change the shape of the cornea and induce/reduce astigmatism.

// In the OR

- Deliberately undersize the capsulorhexis by creating a capsulorhexis slightly smaller than 5 mm.
- When initially implanting the lens, leave it about 20 degrees shy of the final orientation.
- Carefully remove viscoelastic from behind the IOL, going under the lens to remove all of the viscoelastic is the key to prevent postoperative rotation.
- Further rotate the lens into position. Once the lens is in final position press the optic onto the capsule to make contact.
- Take special care with long eyes receiving low-dioptric powered lenses, especially with vertical orientation. Postop rotation is more likely because the lens is standing on one haptic. In that situation, gravity wants to rotate the lens. To proactively prevent rotation use a Capsular Tension Ring (CTR).
- If you see immediately after the implantation that the lens moves easily, proactively use a CTR.
- Unforeseen rotation can happen in eyes with asymmetric capsular bags. Use a CTR in partly absence of zonules.
- If you need to reorient a toric lens postop, keep the bottle of the phako machine low. When the bottle height is too high, the eye can get too much pressure, hurting the patient and causing the lens to move posteriorly.

www.sia-calculator.com

// Astigmatism with the rule, against the rule and oblique



Orientation of the flattest axis	Meridian		%
With the rule	0-30	150-180	88
Against the rule	60-90	90-120	5
Oblique	30-60	120-150	7

Astigmatism with the rule

Astigmatism against the rule

// Relation between astigmatism and visual acuity

Astigmatism	Visual acuity*	Visual acuity*	Visual acuity*
[Diopters]	[Meters]	[%]	[logMar]
0	6/5	120	-0.10
0.25	6/6	100	0
0.75	6/9	67	~ 0.20
1.25	6/12	50	0.30
1.75	6/18	33	0.50
2.50	6/24	25	0.60
3.50	6/36	17	~ 0.80
4.50	6/60	10	1.00

** depends on astigmatism against the rule or with the rule*

// Toric Pearls sources

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