

Low Preexisting Astigmatism

Opposite Corneal Incisions

vs

Low Toric IOL

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Accuracy

IOL are more accurate in treating astigmatism:
you get what you aim at.

Incisional solutions like the opposite keratome
technique are much less accurate

- * Age influence: change of elasticity of the cornea with age "unpredictable under 50 y"
- * Keratometric variability
- * Pachymetric variability



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Stability

The correction you get with IOL is very stable over time.

Incisional solutions are unpredictable over time

- * different healing response
- * loss of effect with time
- * may even lead to destabilization and irregularity of the cornea

*Devgan U. Controversies in Ophthalmology:
Incisional surgery versus toric IOLs for astigmatism correction: Eyeworld 2016: 56-58



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Stability

Toric IOLs

95% less than 5° rotation
after 6 months
follow up



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Dry Eyes

- Toric IOLs can be used safely even in moderate dry eyes.
- Incisional surgeries add to the dryness.
- The larger the incision, the more corneal nerves affection, the more dryness you get.

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Technique

- Toric IOLs must be aligned properly to give its effect.
- Both digital and manual techniques give comparable results.
- The learning curve is easy.



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Predictability

IOLs

- * Better predictability of the measurements
- * More accurate placement of the lens during surgery

Incisional solutions

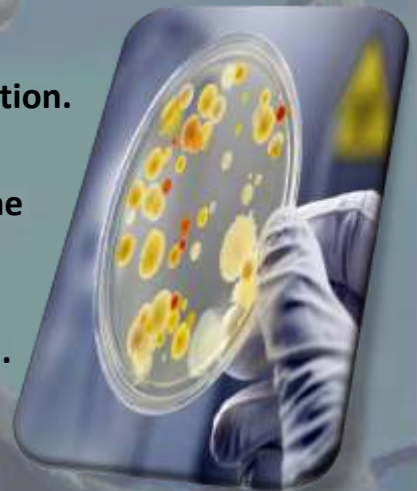
- * Nomograms
- * Different response, different healing in different persons.



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Infection

- The Larger size the incision, the more risk for infection.
- Incisions near the 6 o'clock position are more prone to infection.
- In low toric IOL there is no higher risk for infection.



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| Toric IOLs | OCIs |
|--|------------------------------------|
| Any amount of astigmatism from 1 D & over till 4 D | Only low astigmatism 1.5 D or less |

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| Toric IOLs | OCIs |
|---|--|
| <p>Any amount of astigmatism from 1 D & over till 4 D</p> <p>More stable</p> | <p>Only low astigmatism 1.5 D or less</p> <p>Less stable Destabilization & irregularity of the cornea</p> |

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| <p>Any amount of astigmatism from 1 D & over till 4 D</p> <p>More stable</p> <p>More accurate</p> <p>Non- age dependent</p> | <p>Only low astigmatism 1.5 D or less</p> <p>Less stable Destabilization & irregularity of the cornea</p> <p>Less accurate</p> <p>Age Influence → change of elasticity of the cornea with age Unpredictable under 50 yrs</p> |

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| More stable | Less stable Destabilization & irregularity of the cornea |
| More accurate | Less accurate |
| Non- age dependant | Age Influence → change of elasticity of the cornea with age Unpredictable under 50 yrs |
| Valid in moderate dry eyes | Add to the dryness of dry eyes |

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| Toric IOLs | OCIs |
|---|--|
| More expensive | Less expensive |
| (But giving our patient great vision without the need for glasses is cost effective) | |
|  |  |

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| <p>With new technology → very accurate axis adjustment</p> | <p>To be on steep axis you may have to operate in uncomfortable situation</p> |

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| With new technology → very accurate axis adjustment | To be on steep axis you may have to operate in uncomfortable situation |
| Infection less | Infection more |

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The Royal College of Ophthalmologists Cataract Surgery Guidelines 2010

“Although incisional surgery may be used to correct corneal astigmatism, this may be less predictable in both effect size and stability than toric implants”

Royal College of Ophthalmologists: Cataract surgery guidelines. September 2010.

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