Nomogram for full thickness Opposite clear Corneal Incision for Correction of Astigmatism during Cataract surgery

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Emmetropia and No surgically induced astigmatism are the target of Modern small incision cataract surgery

By
AK
LRI
Toric IOL
laser
& various incision types

El-Massry
The astigmatic effect of Clear Corneal Incision (CCI) is used to control astigmatism during cataract surgery.

Objective

NOMOGRAM for full thickness Opposite clear Corneal Incision for Correction of Astigmatism during Cataract surgery.
The original OCCI was designed in 2008:

• Marking the steep axis.

• Sleeveless Bimanual phacoemulsification away of the steep axis; using irrigating chopper.

• 3 mm keratome incision on the steep axis.

• IOL implantation through 3mm incision.

• Opposite full thickness 3mm Clear Corneal incision 180 degrees from the steep axis.

Marking the steep meridian

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Bimanual phacoemulsification away of the steep meridian

CCI at the steep meridian
And IOL insertion
3 mm OCCI 180 degrees opposite the CCI on the steep meridian.

I/A after OCCI
CCI & OCCI

Day one

2009 Microcoaxial Phacoemulsification through 2.2mm incision

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- 3 mm OCCI on the steep meridian
  1 mm anterior to the limbus reduces 1.87 D of the preoperative astigmatism.

- 3 mm OCCI on the steep meridian
  2 mm anterior to the limbus reduces 2 D of the preoperative astigmatism.
• 3.2 mm OCCI on the steep meridian
  1 mm anterior to the limbus reduces
  2.25 D of the preoperative astigmatism.

• 3.2 mm OCCI on the steep meridian
  2 mm anterior to the limbus reduces
  2.5 D of the preoperative astigmatism.

IN 2010

Toric IOLs
Ten Brands of toric IOLS are present in the market

1- Acrysof (Alcon) : (Hydropobic).
2- AF-1 toric (Hoya): (Hydrophobic with PMMA haptic).
3- Acricomfort ( Zeiss) (Hydrophilic).
4- Lentis Tplus (Ocuolentis) (Hydrophiclic).
5- Light adjustable (silicone with PMMA).

6- Microsil/torica (Human optics).
7- Morcher 89 A (Silicone with PMMA haptic).
8- Staar surgical (Silicone).
9- T flex ( Rayner) (Hydrophilic).
10- Tecnis Toric (Abbott) (Hydrophobic).
OCCI in assistance of Multifocal IOL
OCCI in assistance of Toric Multifocal IOL

**PREDICTIBLE NOMOGRAM**

- 1.86 D correction if 1mm from limbus
  - 3.0 mm CCI, OCCI
- 2.00 D correction if 2mm from limbus
  - 3.0 mm CCI, OCCI
- 2.25 D correction if 1mm from limbus
  - 3.2 mm CCI, OCCI
- 2.50 D correction if 2mm from limbus
  - 3.2 mm CCI, OCCI

El-Massry
Summary

1- Topography is a must for all cataract patients.

2- Plan should be done for preexisting astigmatism for every patient.

3- **Full thickness OCCI Nomogram** is a helpful tool to correct astigmatism during phacoemulsification

Summary

4- OCCI helps in the absence of toric power.

5- Occi helps in companioning the economic value for patients who couldn’t afford the toric IOL

6- OCCI helps in assistance of full correction of astigmatism when full toric IOL is unavailable
Summary

The presence of Toric, and Multifocal Toric IOLs solved the problem of astigmatism, but still CCI and OCCI Nomogram helps in assisting the new technology with a simple non expensive procedure.

Thank you

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