

# Trifocal IOLs Implantation in Cataract Patients That Have Experienced Previous Laser Vision Correction : Five Years Follow-Up



**\*Matteo Piovella, MD & \*\*Barbara Kusa, MD**

**\*President of Italian Ophthalmological Society – SOI**

**\*Medical Director**

**\*\* Piovella Global Center for Ophthalmology  
Monza - Milan  
Italy**

**Dr Piovella Has the Following Financial Interests or Relationships to disclose.**

**As Consultant:**

- Acufocus
- Carl Zeiss Meditec
- Johnson & Johnson
- TearLab

**As Lectures Fees:**

- BVI Beaver Visitec International
- Mynosys Cellular Devices Inc.
- TearScience

**Dr. Kusa Does Not Have Financial Interests to Disclose.**

# Inclusion criteria



**Previous laser vision correction**

**Regular cornea**

**Opportunity to apply precised advanced biometry (IOL MASTER 700 TK)**

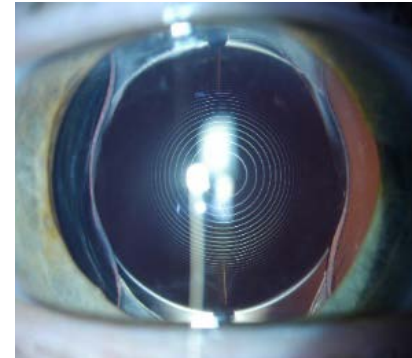
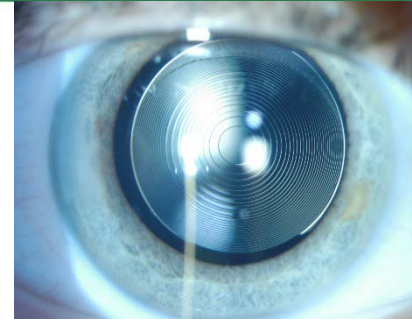
**Meibomian glands occlusion management**

**with Blephex and LIPIFLOW treatment before the surgery**

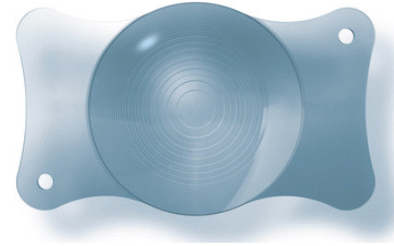
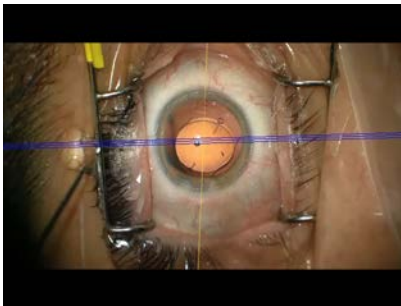
## Trifocal IOLs

- **IOLs Technology Submitted and Approved for Distance, Intermediate and Near Vision**
- **Less Sensitive to Small Post Operative Refractive Errors Then Bifocal IOLs**
- **Best Technology for Clear Near Vision**

M. Piovella MD, S. Colonval MD A. Kapp MD , J. Reiter MD , F. Van Cauwenberge MD J. Alfonso MD  
Patient outcomes following implantation with a trifocal toric IOL: twelve-month prospective multicentre study  
Nature, Eye, October 2018



- AT LISA® trifocal IOL implanted in 29 eyes of 17 patients
- Mean Age  $54.44 \pm 7.33$
- Mean Time Follow Up 3 years  $\pm 3.6$  Months
- Mean Preoperative Sphere Equivalent  $-1.16 \pm 3.61$
- 12 eyes (42.4%) implanted with TRIFOCAL IOL
- 17 eyes (58.6%) implanted with TORIC TRIFOCAL IOL

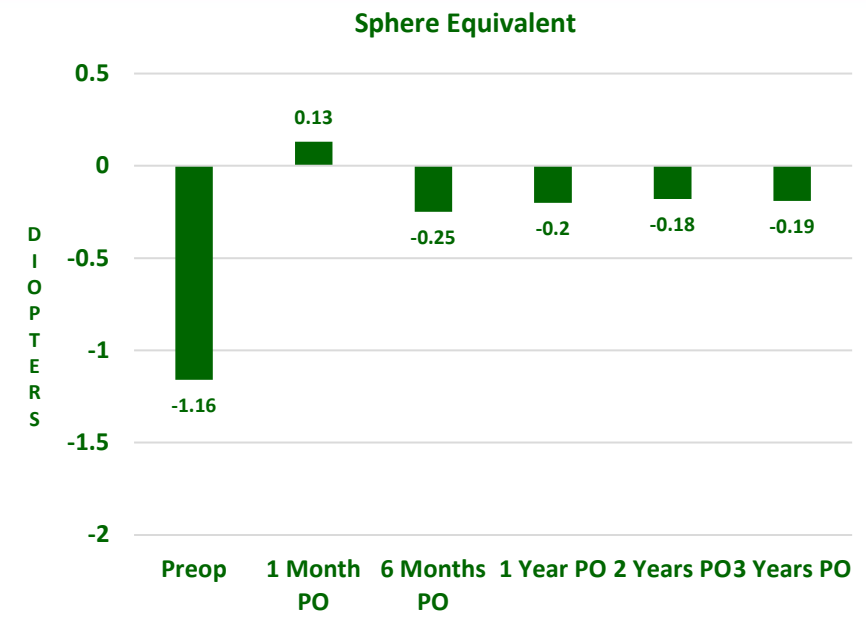
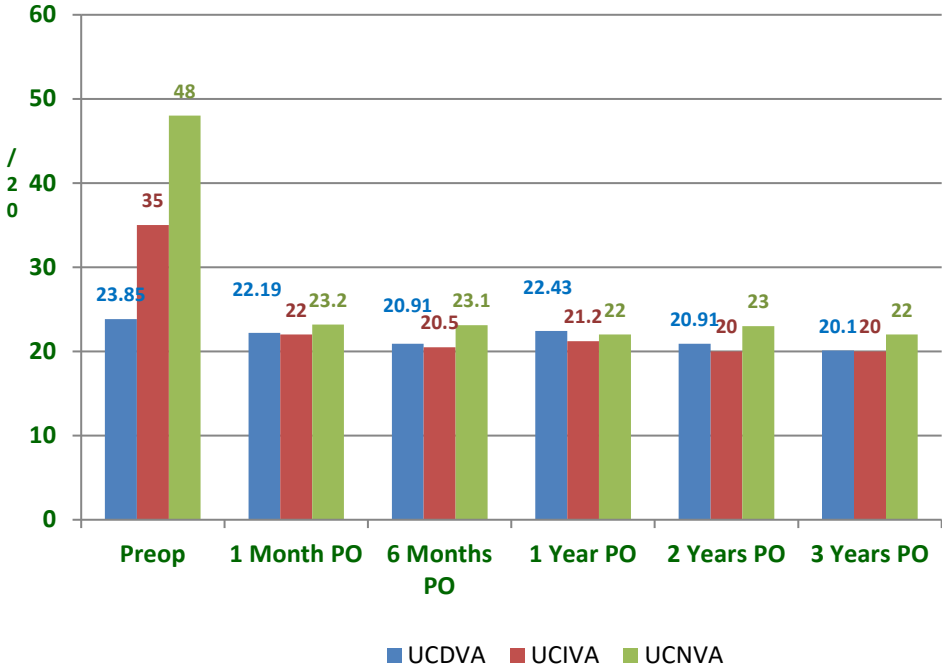


AT LISA® TRIFOCAL 839 MP IOL

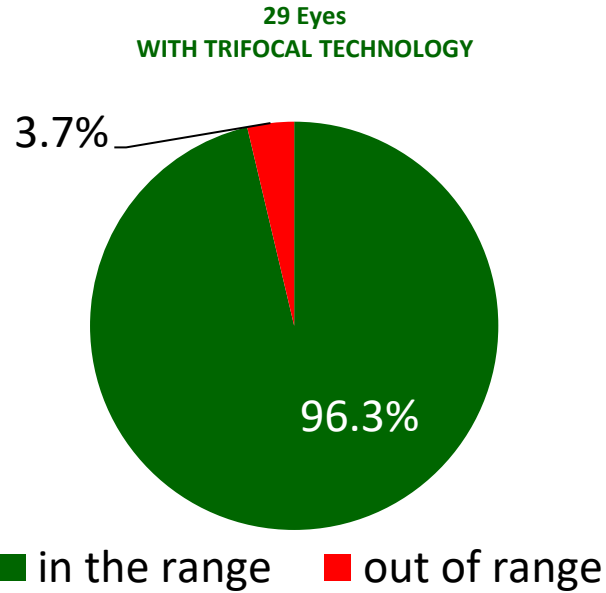


AT LISA® TORIC TRIFOCAL 939 MP IOL

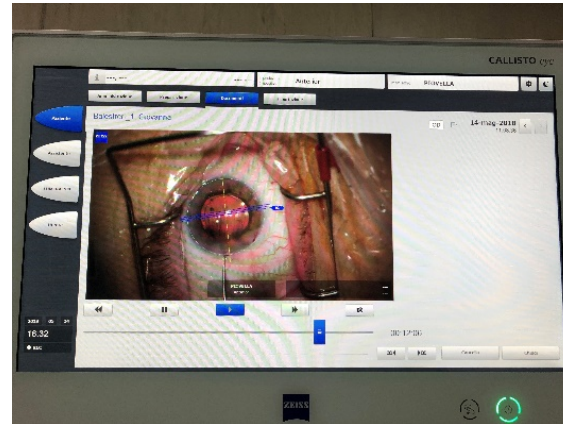
# Monocular Results



Advanced Biometry Outcome is a Key Point  
"Right Range" : Sphere Equivalent Within -  $\pm 0.75$  Sph  
Avoid the Eye Cyclotorsion Effect Adopting IOL Master 700 and Callisto System



IOL MASTER 700

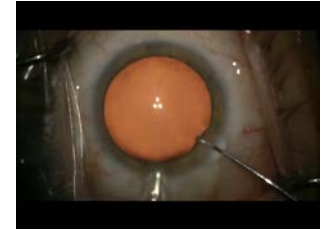


CALLISTO EYE

# Clinical Indications, Patient and Eye Selection and Surgical Center Organization to Adopt Safely and Successfully Advanced Technology IOLs in Refractive Cataract Surgery : The Italian Ophthalmological Society (SOI) Report



1. Dry Eye and Meibomian Glands Dysfunction(MGD) Management to Provide Healthy Cornea Surface
2. With Blocked Meibomian Glands Apply Treatments to Unblock the Excretory Ducts of Glands
3. Advanced Biometry: IOL Master 700 or Equivalent Technologies
4. Advanced Biometry Exam Performed Two Times Before and After MGD Management
5. Adopting Different Formulas and New IOLs Calculators Depending Axial Length or Previous Laser Vision Correction
6. Continuous Update of Constants
7. Callisto Markerless System or Equivalent Technologies to Overcome Eye Cyclotorsion : Avoid Toric IOLs Manual Alignment
8. Corneal Astigmatism Management : Apply Toric IOLs When 0.75 Diopter of Astigmatism is Detected
9. Target Postoperative Refraction :  $\pm 0.50$  D or Emmetropia
10. Automated Mechanical Capsulotomy More Precise Than Capsulorhexis : It Reduces the Complications Rate of Refractive Cataracts
11. The Importance of an Indication Based Mainly on the Selection of the Eye and not on the Evaluation of the Habits or Requests of Patients
12. Preoperative Normal Convergence ,Stereopsis and Near Vision
13. A New Surgical Center Organization
14. Professional Refraction Management



# Piovella Global Center for Ophthalmology Surgical Center – Monza – Italy

## % Cataract Patients Implanted with Trifocal IOLs Years 2015 /2021



➤ 74 % in Year 2015	Toric IOLs	53%
➤ 73 % in Year 2016	Toric IOLs	44%
➤ 69 % in Year 2017	Toric IOLs	51%
➤ 84 % in Year 2018	Toric IOLs	35%
➤ 98 % in Year 2019	Toric IOLs	64%
➤ 96 % in Year 2020	Toric IOLs	65%
➤ 100% in Year 2021 (update June)	Toric IOLs	57%

**Personalized Advanced Biometry” Was Applied in All Patients**

**We Adopted Zeiss AT LISA® tri for Presbyopia Correction Since May 2012**

**Our Center Monitored Multicenter Victory Study on Zeiss Trifocal Toric Lens (2013 - 2017)**

**July 2014 I Had Trifocal IOLs Technology Implanted in my Own Eyes by B. Dick - Germany**



Thank you for your attention