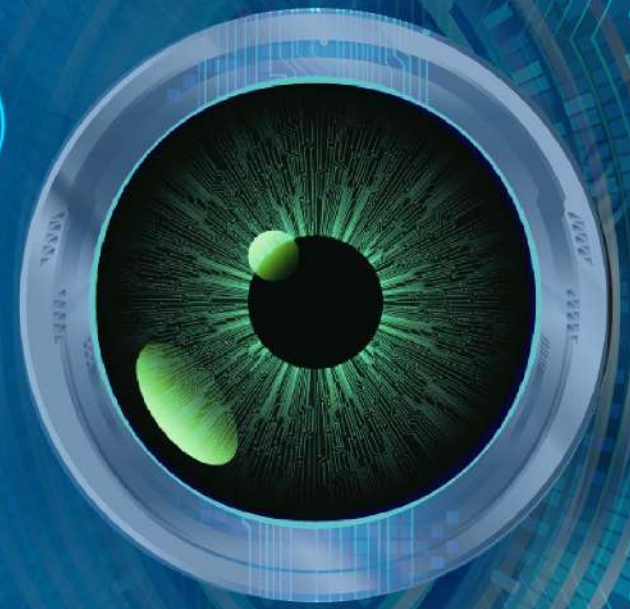
NATIONAL FORUM

IOL Revolution

HIGH QUALITY VISION

DIRETTORE SCIENTIFICO: GASPARE MONACO

RESPONSABILE SCIENTIFICO: GIANLUCA RUBIOLINI



02 / 03 OTTOBRE 2026

MILANO

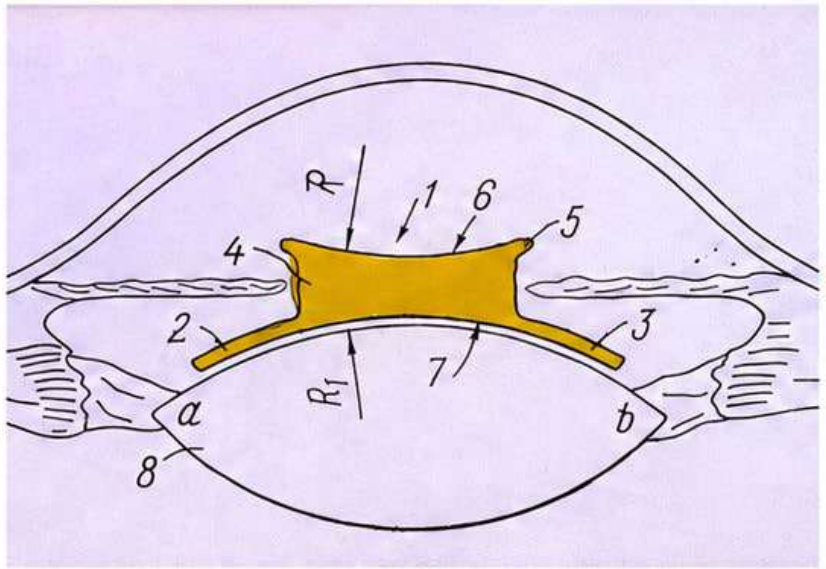
SHERATON MILAN SAN SIRO

IOLREVOLUTION.IT

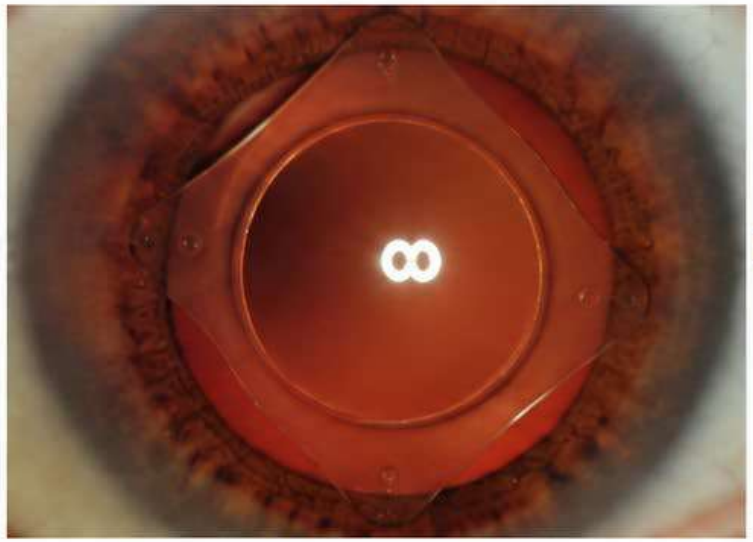
After the Phakic IOL: Management, Surprises and New Scenarios

What We Learned After Forty Years

1986 → 2026



1986
First prototype



From vision correction …



… to a brighter future

Dimitrii Dementiev, MD
Blue Eye (VISTA VISION GROUP)
Milan, Italy

Clear Vision
A Brighter Future

Phakic IOLs in use from middle 80's

1.History: Three different investigators, three anatomical strategies, three different types of material



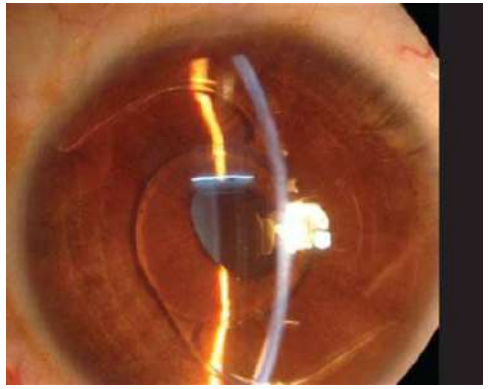
Georges Baikoff



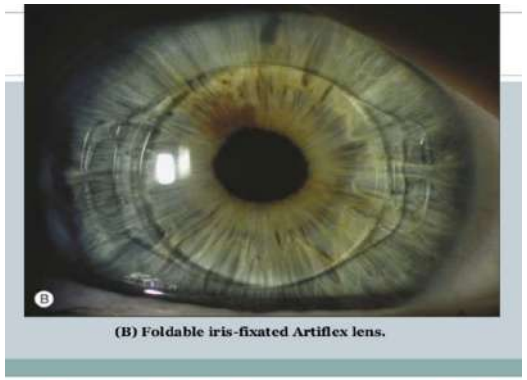
Jann Worst



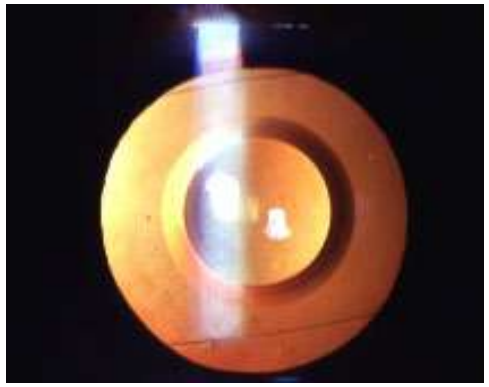
Svyatoslav Fedorov



ANGLE-SUPPORTED/ AC
PMMA, Hydrophilic Acryl

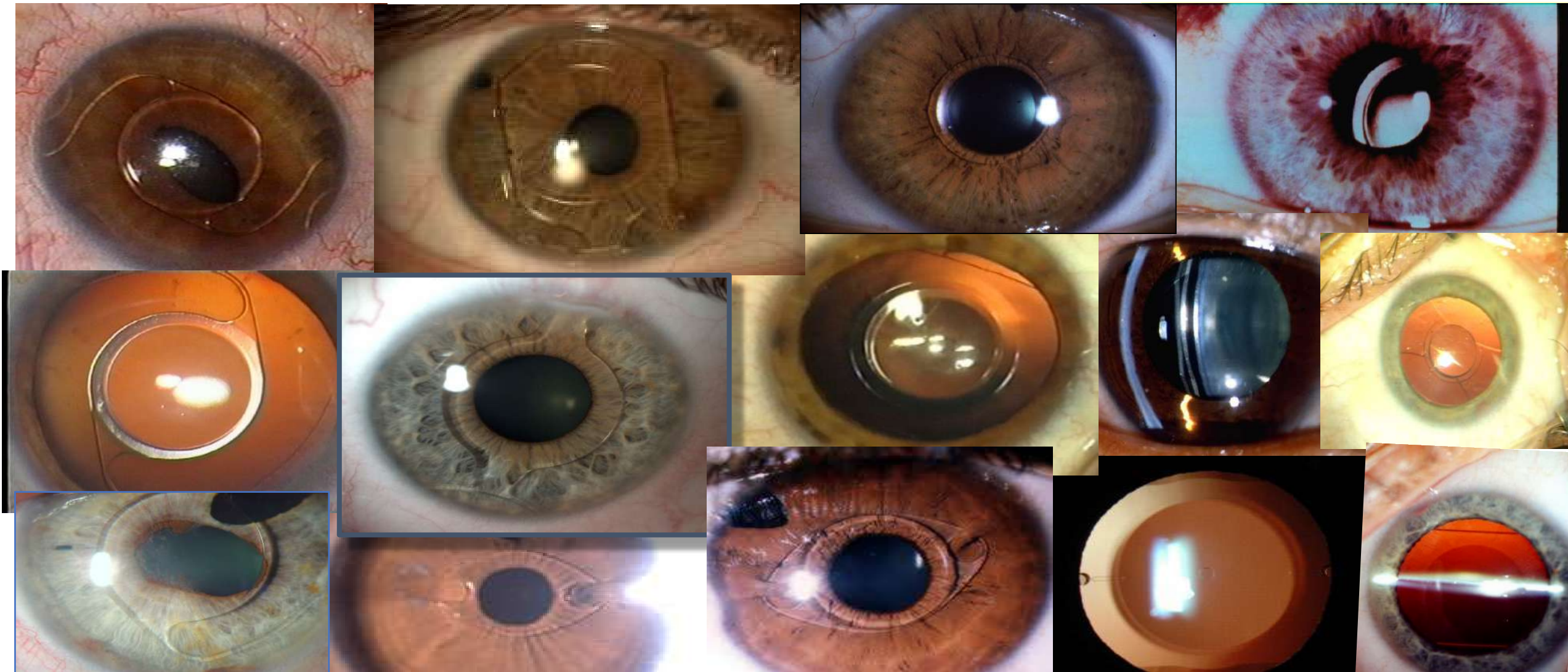


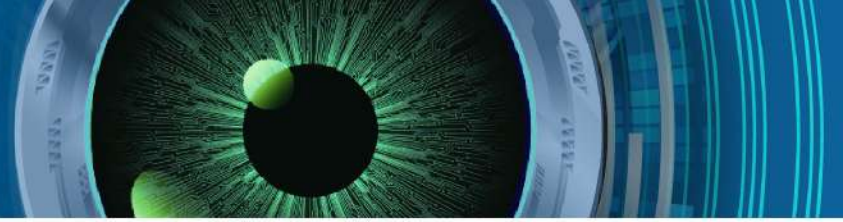
IRIS-CLAW/IRIS FIXATION/AC
PMMA



POSTERIOR CHAMBER
Silicone, Collamer

40 years of Phakic Implants Evolution





2. What we learned with Phakic IOL

REVERSIBILITY

implant can be removed

VIRGIN CORNEA

no tissue ablation
stable KK values with time

PREDICTABILITY

Even for high ammetropia

ACCOMMODATION

natural lens preserved

QUALITY OF VISION

minimal induced corneal HOA
magnification effect (eye like Galileo telescope)

FUTURE SURGERY

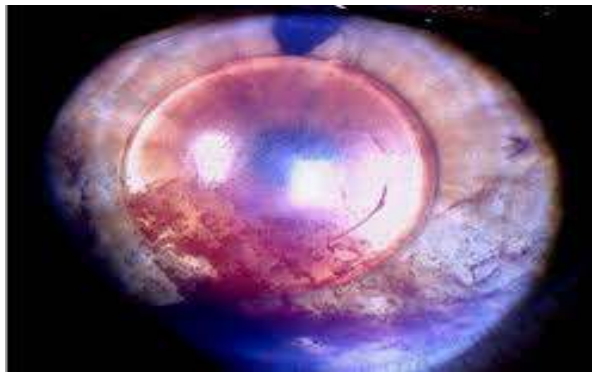
options preserved for later life

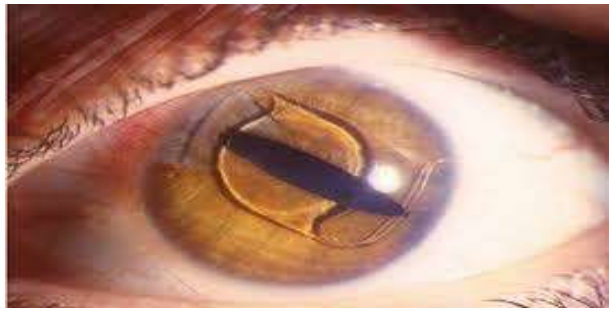
THE ADVANTAGES BECAME MORE IMPORTANT WITH TIME


Surprises
Perfect optics did not mean
zero complications

Angle-Supported Anterior Chamber PIOL Complications

- Loss of Corneal Endothelial Cells
- Pupil Ovalization / Iris Retraction(Sizing is very important)
- Poor optical Quality, Glare, Halos
- Surgically Induced Astigmatism (big incision)
- Cataract formation
- Difficulties in removal
- Special surgical technique for further cataract surgery





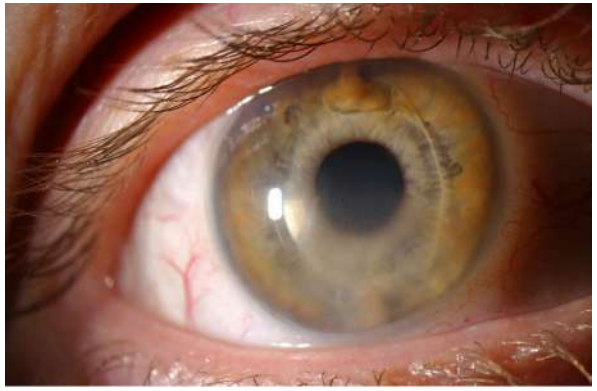


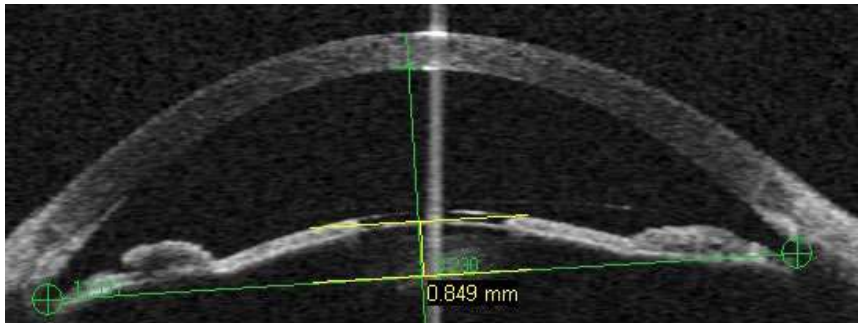
No one in use anymore including Cachet (Alcon)
Most of implanted AC IOLs have to be removed ASAP

Iris_Fixated.Anterior.Chamber.PIOL COMPLICATIONS

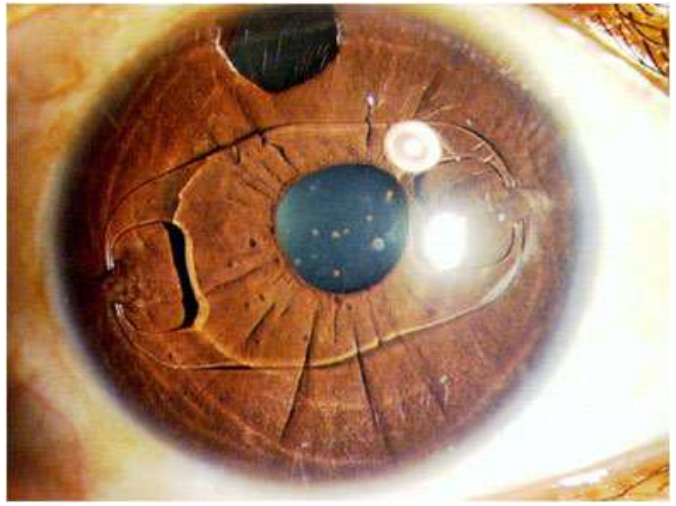
Because the iris claw PIOLs fixed on the iris by haptics, many complications related to the iris and pupils:

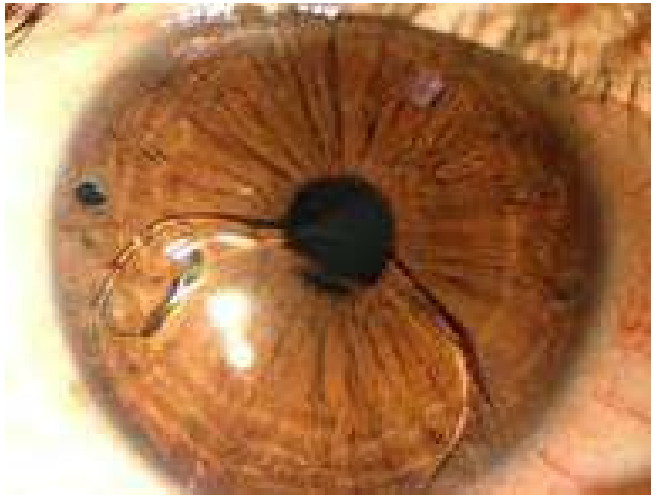
- Iris atrophy
- Surgically Induced Astigmatism
- Loss of Corneal Endothelial Cells
- Cosmetics
- Chronic Inflammation / Uveitis
- Pigment deposits on the IOL surface
- Pigment dispersion
- Pupil ovalization
- Halo & glare
- Cataract
- PIOL decentration









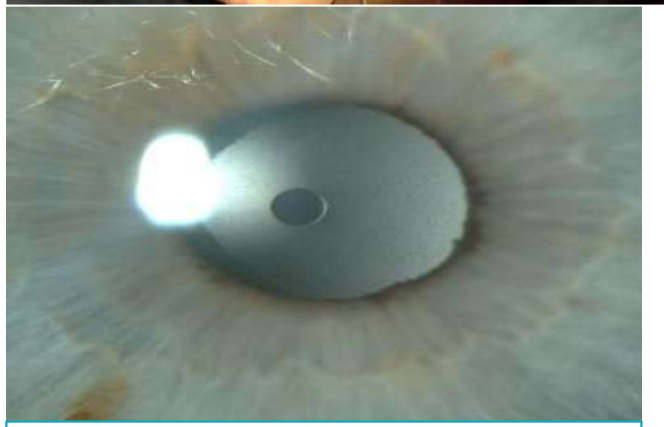


Posterior Chamber PIOL Complications

- Cataract formation: An anterior subcapsular opacity on the natural crystalline lens caused by mechanical contact or nutritional disruption from low lens vaulting.
- High or low vaulting: Improper lens sizing can cause either excessive forward bowing that leads to iris chafing and pigment dispersion, or an inadequate gap (low vault) touching the crystalline lens.
- Pupillary block: An elevation in intraocular pressure due to inadequate fluid flow through or around the lens, requiring a patent peripheral iridotomy.
- Lens malposition or rotation: Inverted or tilted placement of the toric or-non toric optic, which can distort vision or induce astigmatism.



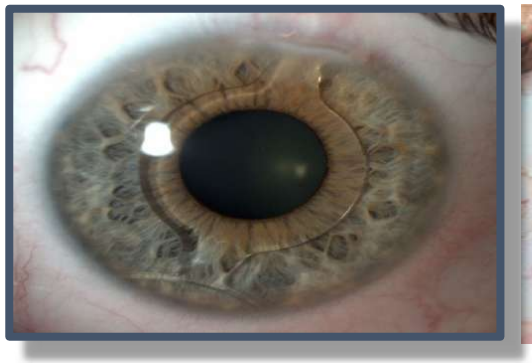




Courtesy of Dr Jaime Aramberri Spain

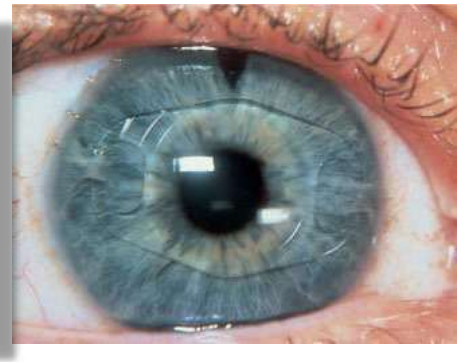
PHAKIC IOL EVOLUTION — 40 YEARS

From competing anatomical concepts to posterior-chamber dominance



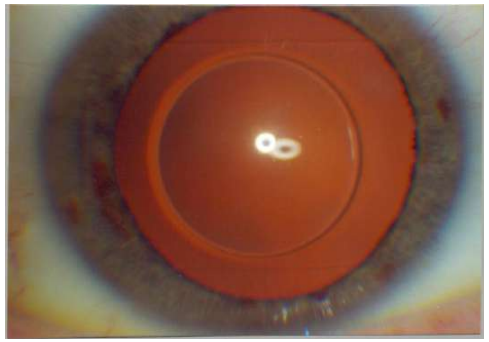
ANGLE-SUPPORTED AC

WITHDRAWN



IRIS-FIXATED

NICHE / SELECTED MARKETS



POSTERIOR CHAMBER

GLOBAL STANDARD

2026

POSTERIOR CHAMBER

DOMINATES GLOBALLY

4 MILLION+

sold worldwide

85+ countries

recent global run-rate*

≈ 500,000 posterior-chamber phakic lenses/year

*Approximation: 3M sold Mar 2024 → 4M+ Feb 2026 (~0.52M lenses/year).
Angle-supported AC pIOLs were withdrawn for long-term endothelial safety concerns.
Iris-fixated pIOLs remain available in selected markets.

ADVANTAGES OF PC IOLS VS AC







REFRACTION

OD -10.50 sph = **1.0**
OS -9.75 sph = **1.0**

CORNEA

K1 43.1 D
K2 43.8 D
Pachymetry 560 µm

AXIAL LENGTH

OD 27.8 mm
OS 27.6 mm

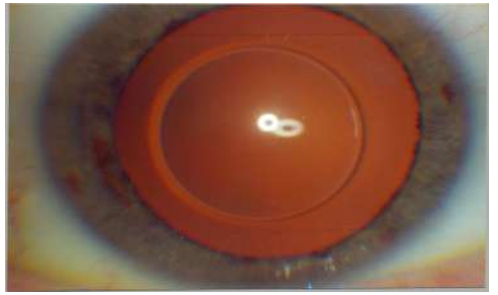
DIAGNOSIS

High myopia OU
Healthy anterior segment
Suitable for Phakic IOL (ICL/PRL)

YOUNG PATIENT.
BIG PLANS.
A LIFETIME OF CLEAR VISION.



POSTERIOR.CHAMBER.PHAKIC.IOL
IMPLANTED.IN.BOTH.EYES



VIS OD 10/10
VIS OS 10/10

40 years later...

Cataract and presbyopia have changed the picture

"I don't want to wear glasses again..."



CORNEA

K1 43.2 D
K2 43.5 D
Pachymetry 555 µm

LENS

Nuclear cataract Grade 2–3
Posterior chamber PIOL (in situ)

DIAGNOSIS

- Visually significant cataract
- Presbyopia
- Posterior chamber phakic IOL (to be explanted)
- Candidate for cataract surgery with premium IOL



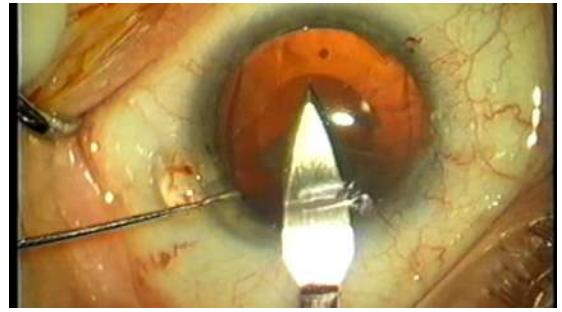
YOUNG	40 YEARS LATER	NEXT STEP
Myopia	Cataract + presbyopia	PIOL explantation
PIOL implantation	VA 0.6	Cataract surgery
VA 1.0 (without glasses)	Does not want glasses	Premium IOL

Clear Vision A Brighter Future

The patient returns — the next refractive chapter

THE PIOL DID NOT FAIL WITH TIME . THE PATIENT AGED.

THEN	→	NOW	→	NEXT
Young • high myopia clear lens • accommodation		Presbyopia • cataract higher visual expectations		PIOL removal + phaco + definitive IOL

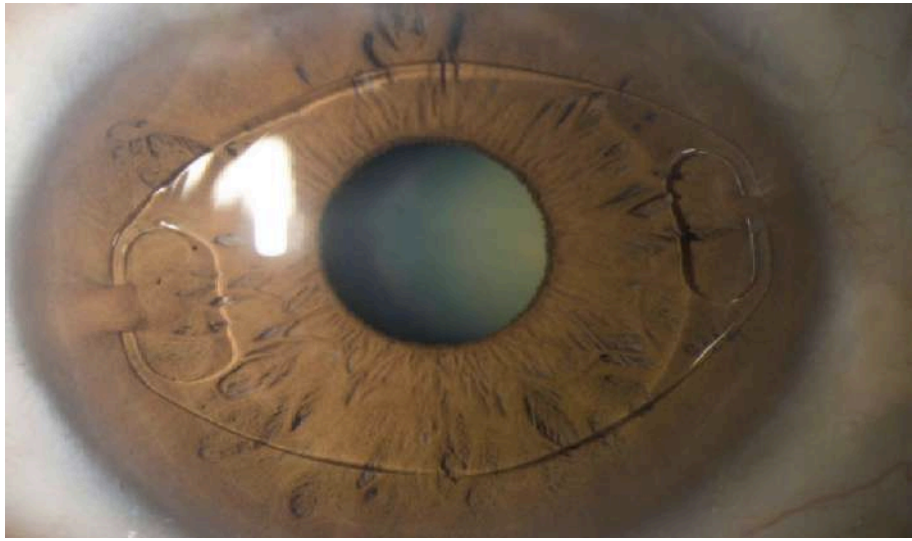






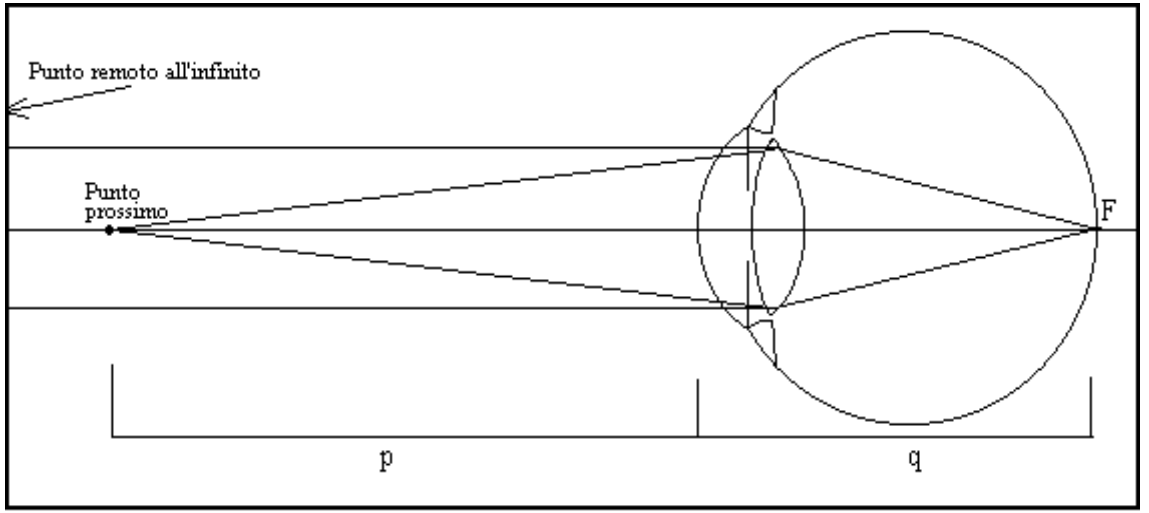
When to perform Cataract surgery in the eyes with the PIOLs

- It does not matter if lens opacification was created by the phakic implant, surgical trauma or natural way of lens agging
- This patient has to undergo the cataract surgery with the previous PIOL removal in short time in order to keep his vision in good shape
- The main difference between the post Phakic IOL implantation cataract surgery and standard cataract surgery procedure is that the PIOL has to be removed first from the eye



EMMETROPIA IS A GOAL

What.both.doctor..and..patient..are..expected.like.a..final.result.of.the.surgery

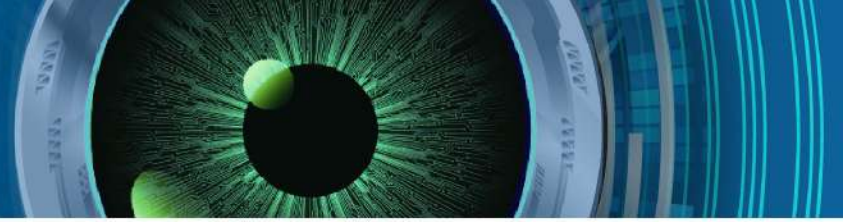


- Precise preoperative measurements
- Right IOL choice
- Right IOL power calculation formula
- Different surgical technique for every type of PIOL removal

IOL Power Calculation

- IOL power calculation in eyes after previous Phakic IOL implantation in comparison with eyes after previously performed corneal refractive procedure (RK,LASIK,PRK,SMILE etc.) is more precise and predictable.
- The corneal topography was not changed (Virgin cornea)
- IOL Power calculation can be done the same way like it is done at any standard cataract eye without phakic IOL inside
- The precision of the AXL measurement and K readings are very important





REFRACTIVE PRECISION AFTER DECADES: PIOL VS LASER REFRACTIVE SURGERY

NO CORNEAL ABLATION

The hidden asset: a virgin cornea

- ✓ Stable corneal geometry
- ✓ Trustworthy keratometry
- ✓ Standard optical biometry
- ✓ More predictable refractive targeting

Preserve the cornea today → preserve precision tomorrow.

IOL choice



Points for the right IOL choice :

- Refractive defect before implantation of Phakic IOL (anisometropia)
- Actual corneal astigmatism (Toric IOL)
- State of the crystalline lens capsule (pseudoexfoliation)
- Zonular integrity - suspect of lens subluxation
- IOLs with less possible PCO statistics
- Multifocal IOLs (recommended if power not less than +10.0D)



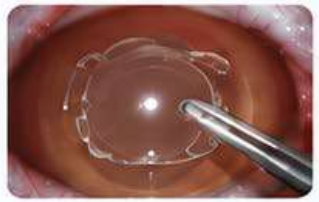
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IOL Revolution

HIGH QUALITY VISION

Surgical techniques

3 steps:

1. 

   Previously implanted Phakic IOL removal

2. 

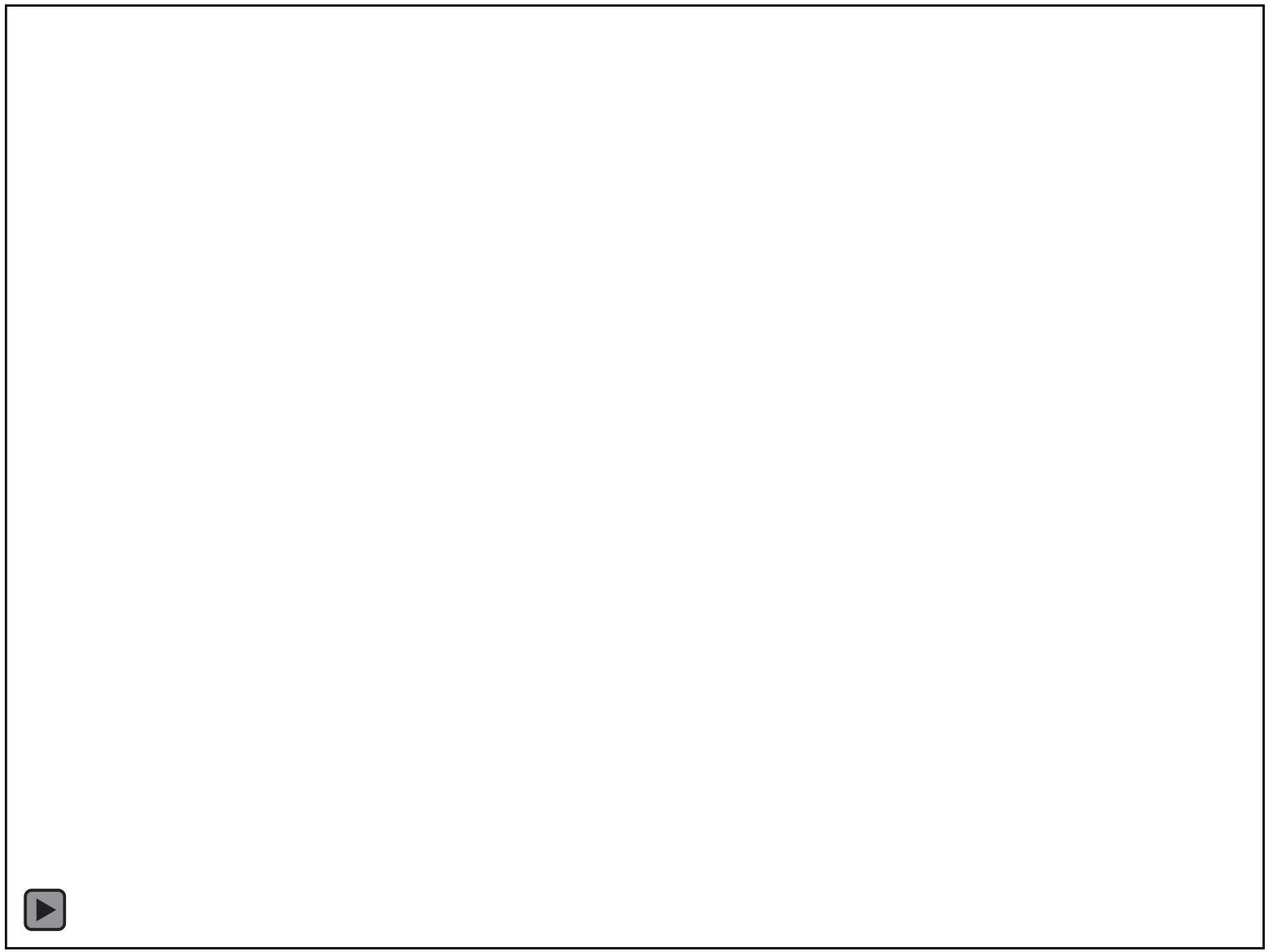
   Phacoemulsification

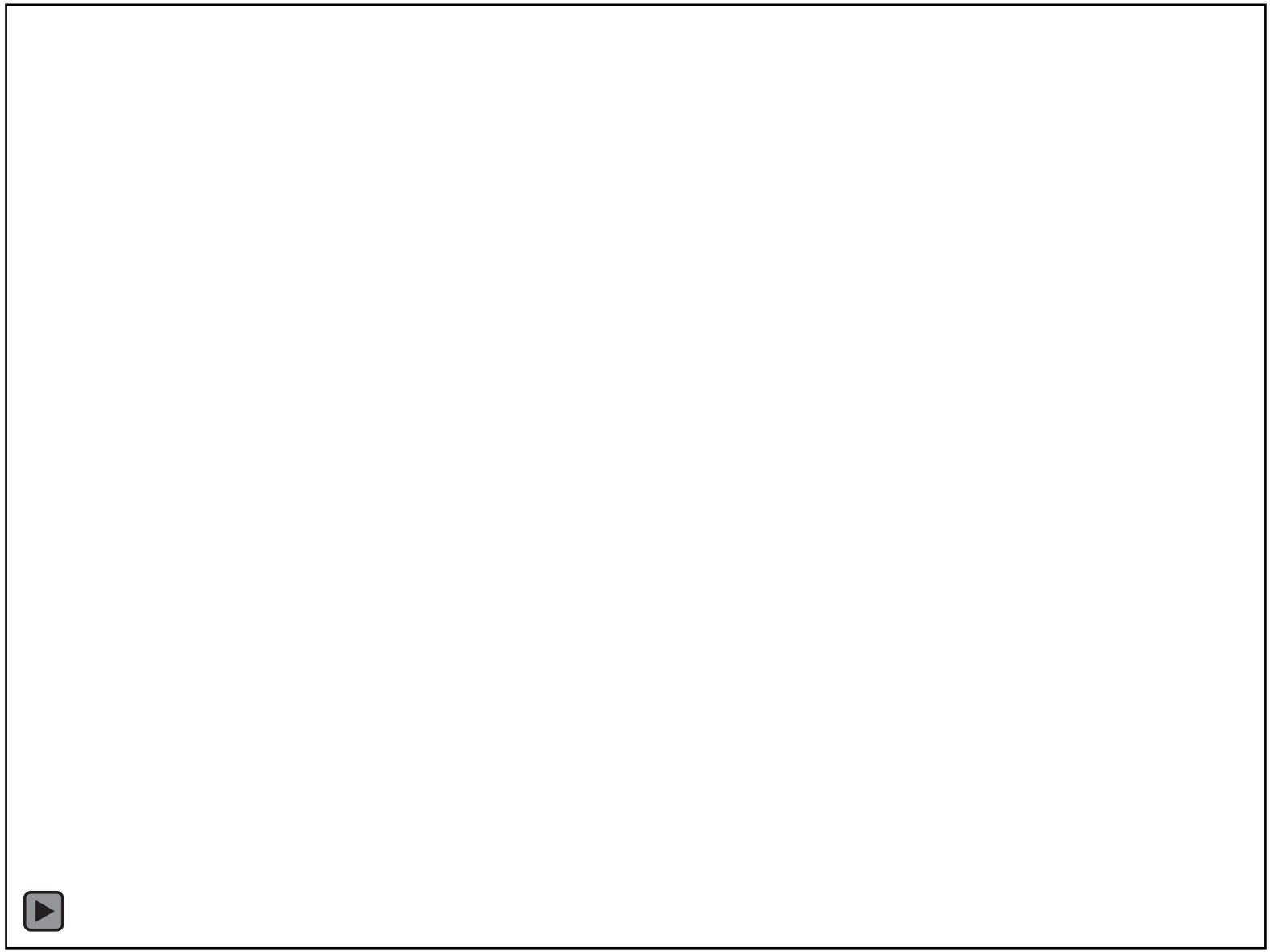
3. 

   IOL implantation

A sequential strategy for a new stage of vision.

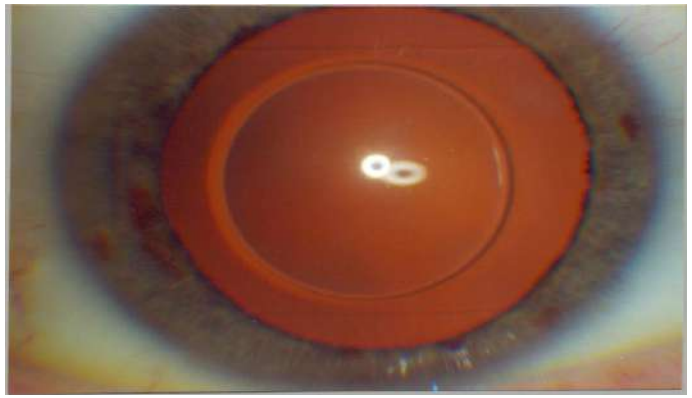


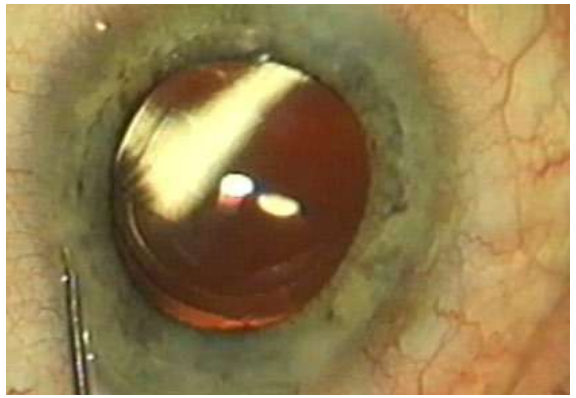


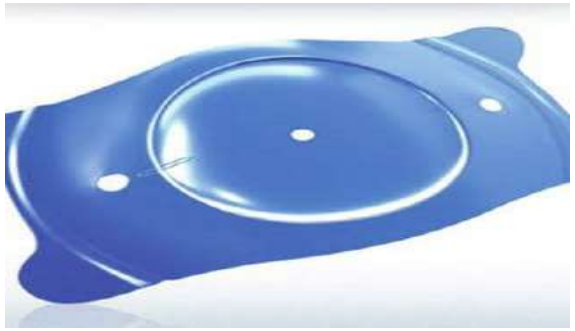


3. New scenarios — from PIOL to premium pseudophakia

THE GOAL REMAINS HIGH-QUALITY SPECTACLE INDEPENDENCE









PIOL OUT → CATARACT / LENS OUT → MULTIFOCAL / EDOF IOL IN

NATIONAL FORUM

IOL Revolution

HIGH QUALITY VISION

FROM ANTERIOR CHAMBER TO POSTERIOR CHAMBER



THE IMPLANT FULFILLED ITS MISSION.

OUR MISSION CONTINUES.

From refractive correction to lifetime vision.

Clear Vision
A Brighter Future









Still Clear Vision
A Brighter Tomorrow

YOUNG PATIENT
Myopia
PIOL implantation
Spectacle independence

40 YEARS LATER
Cataract + presbyopia
Vision reduced
Does not want glasses again

NEXT STEP
PIOL explantation
Cataract surgery
Premium IOL

LIFELONG VISION
Active life
Freedom
New opportunities

SAME PATIENT. A NEW CHAPTER.

OUR MISSION CONTINUES.