

“My life is over, but it is not yet ended” - Winston Churchill



In Memoriam

Professor Doctor Jan Gerben Frans Worst, Ophthalmologist
30 March 1928 - 25 September 2015



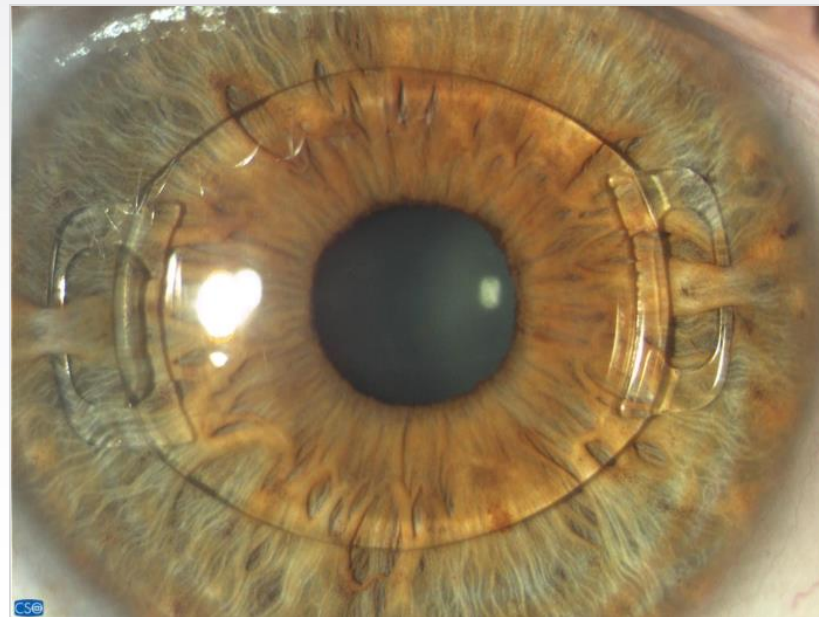
OPHTEC BV · Groningen, The Netherlands





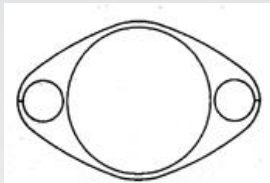
40 años de LIOs de Fijación Iridiana

- Artisan Afaquia pre y retro pupilar
- Artisan hipermetropía
- Artisan y Artiflex Tórica
- Artiflex Presbyopic: un concepto de siempre en un diseño de óptica revolucionario

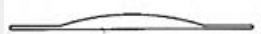




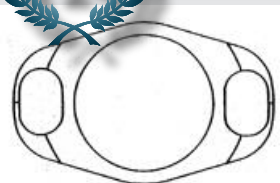
Historia



1978



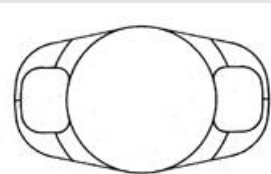
Model 205T Worst Iris Claw® Lens



1986



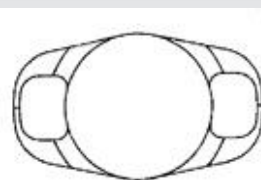
Model 209W Worst Fechner Claw® Lens
(no longer available)



1991



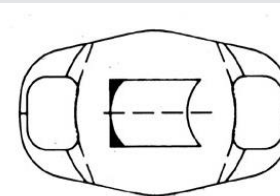
Model 206W ARTISAN™ Myopia Lens



1993



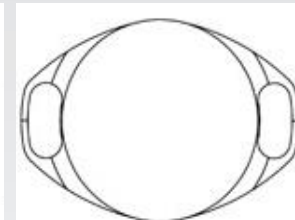
ARTISAN™ Hyperopia, Model 203W



1995



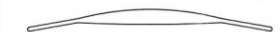
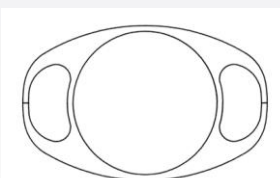
ARTISAN™ Toric Lens 0°



1997

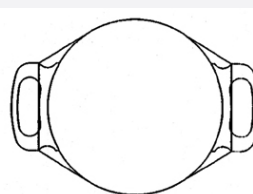


ARTISAN™ Myopia, Model 204W



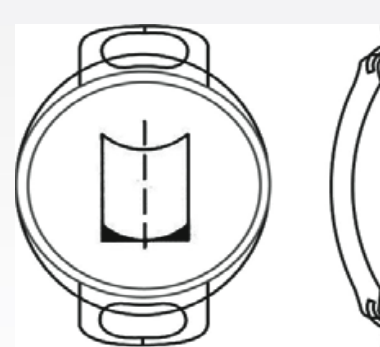
Artisan™ Aphakia Model 205Y

1998



ARTIFLEX® Phakic Lens

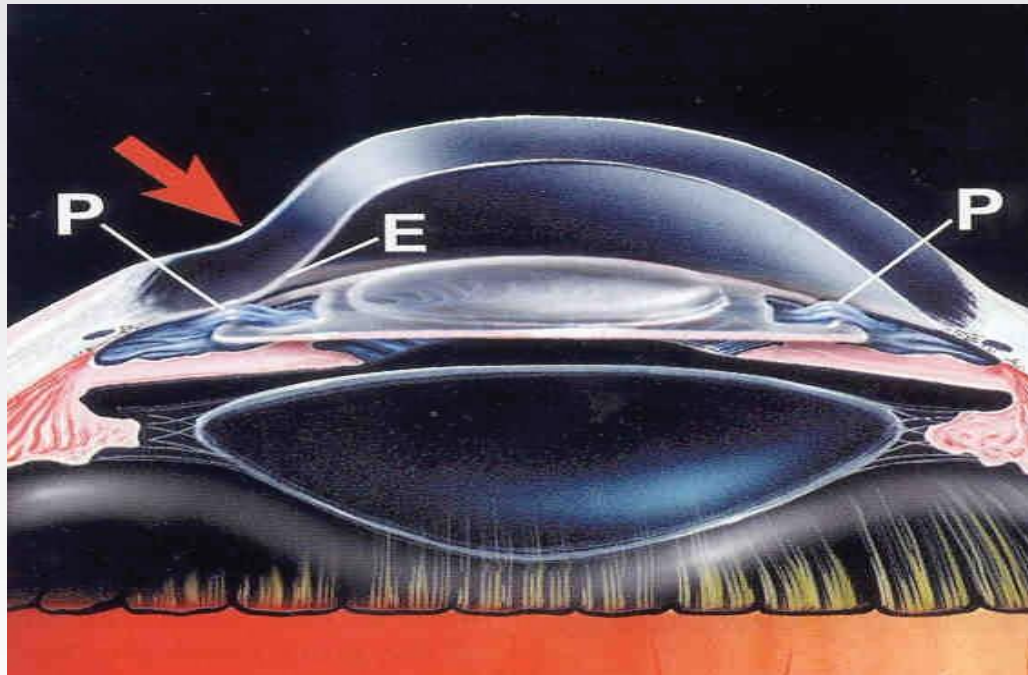
2003



2009



El concepto

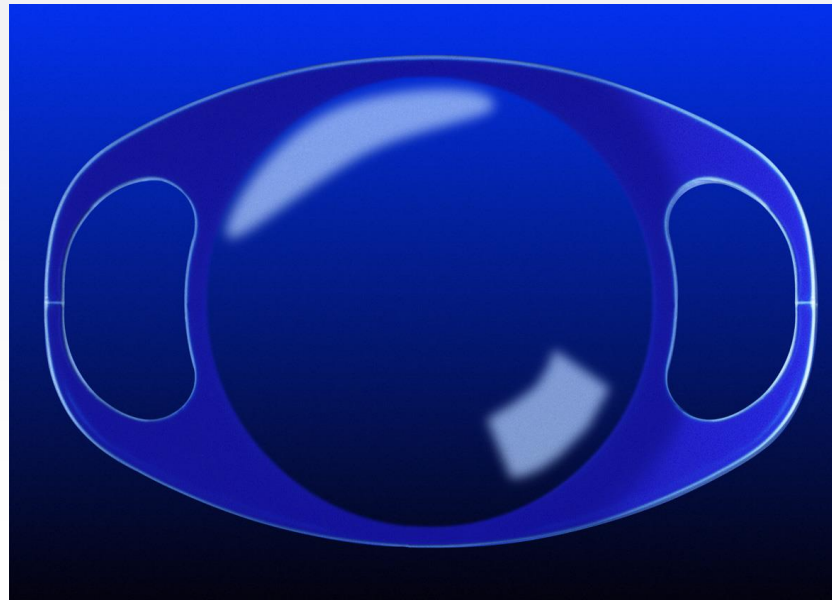


The ARTISAN® PIOL in situ



El Concepto

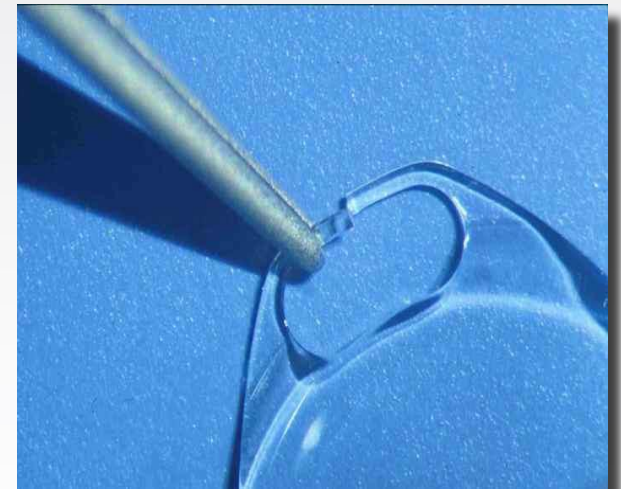
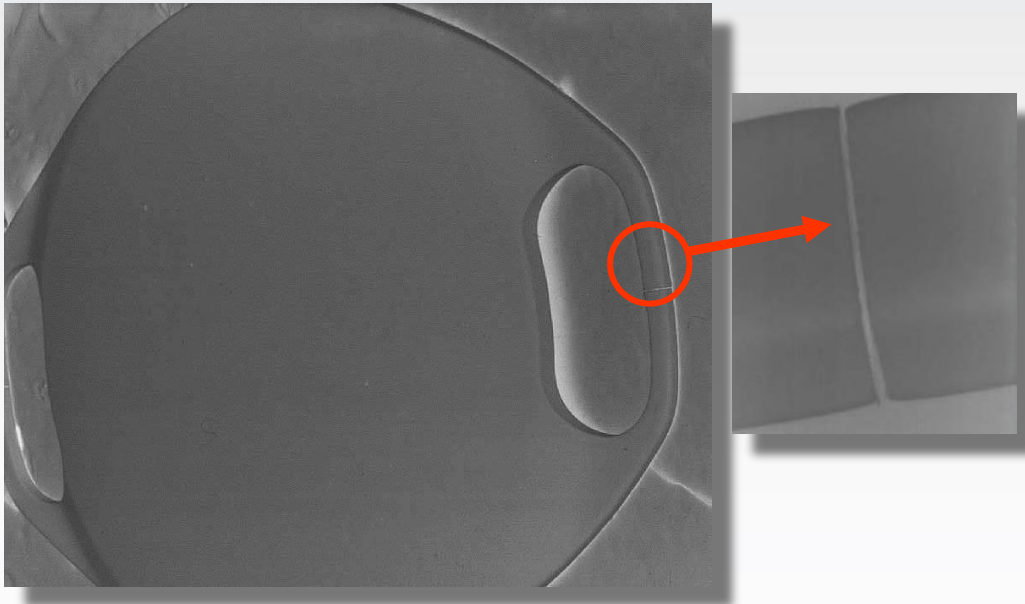
- **LIO monobloque de fijación iridiana**– los puntos de fijación se fijan en la parte inmóvil del iris periférico
- **Fijación estable gracias al “asa/manija”**– dejando la LIO centrada en el eje óptico y permitiendo excelente centrado





El Concepto

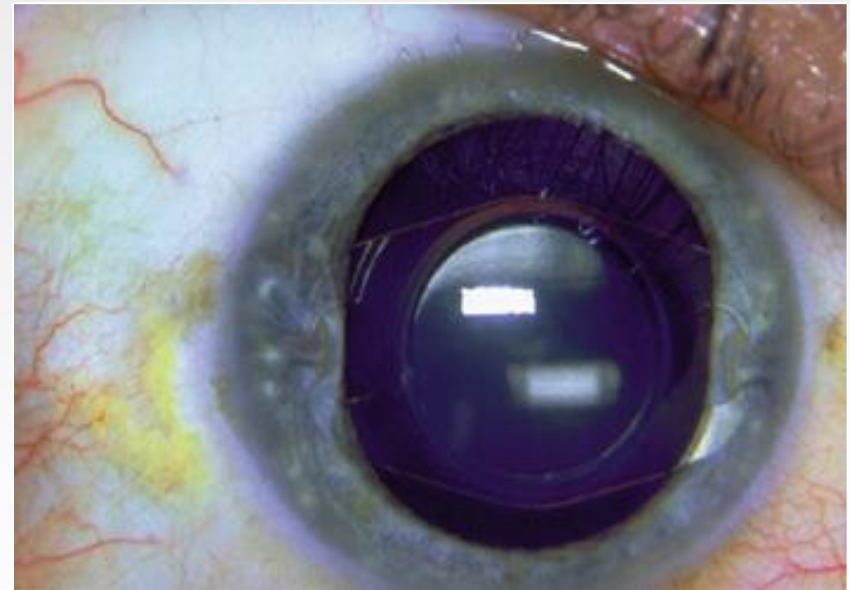
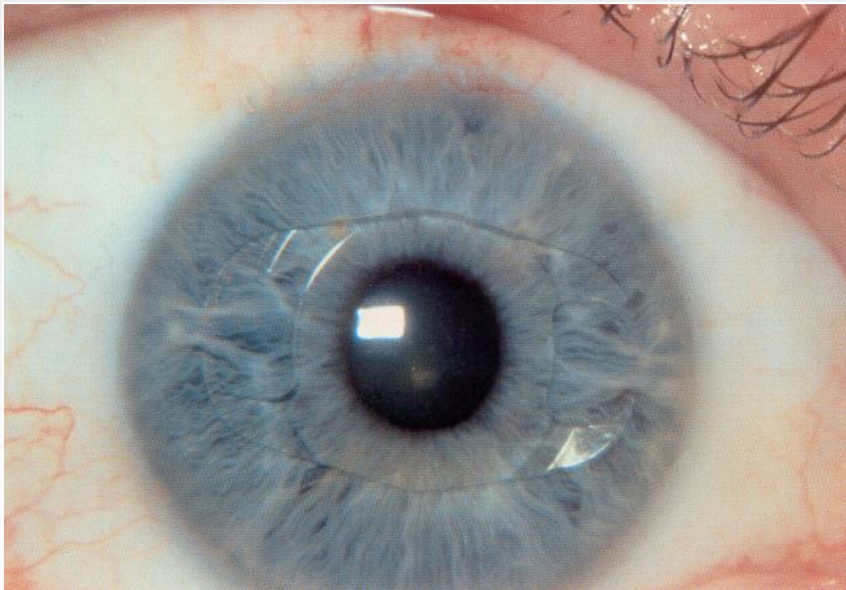
El Clipeo Mecanismo de fijación





El Concepto

Dilatación perfecta – hápticos fijados en la parte inmóvil y periférica del iris , permitiendo dilatar y contraer la pupila a nuestro antojo

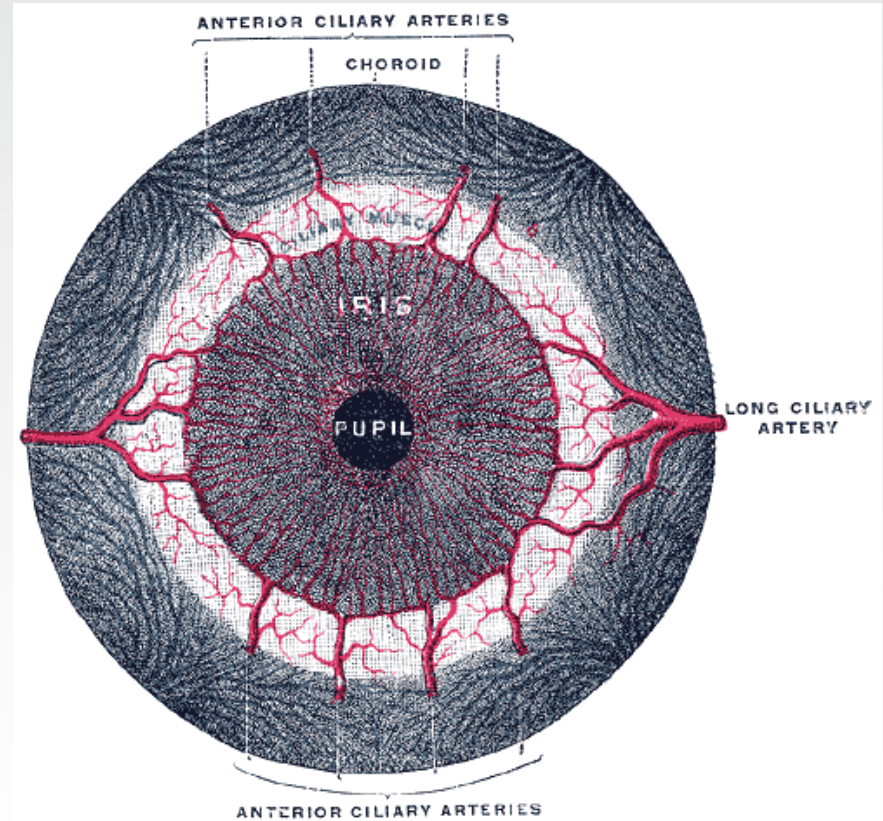




El Concepto

El iris:

- Esfinter (borde pupila)
- Parte central
- Periferia (iris inmóvil)
- Raíz

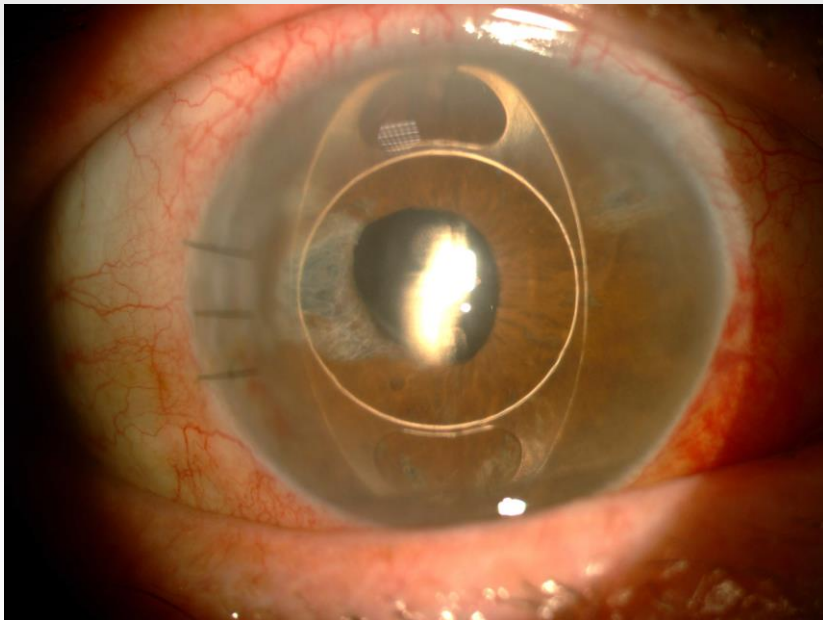




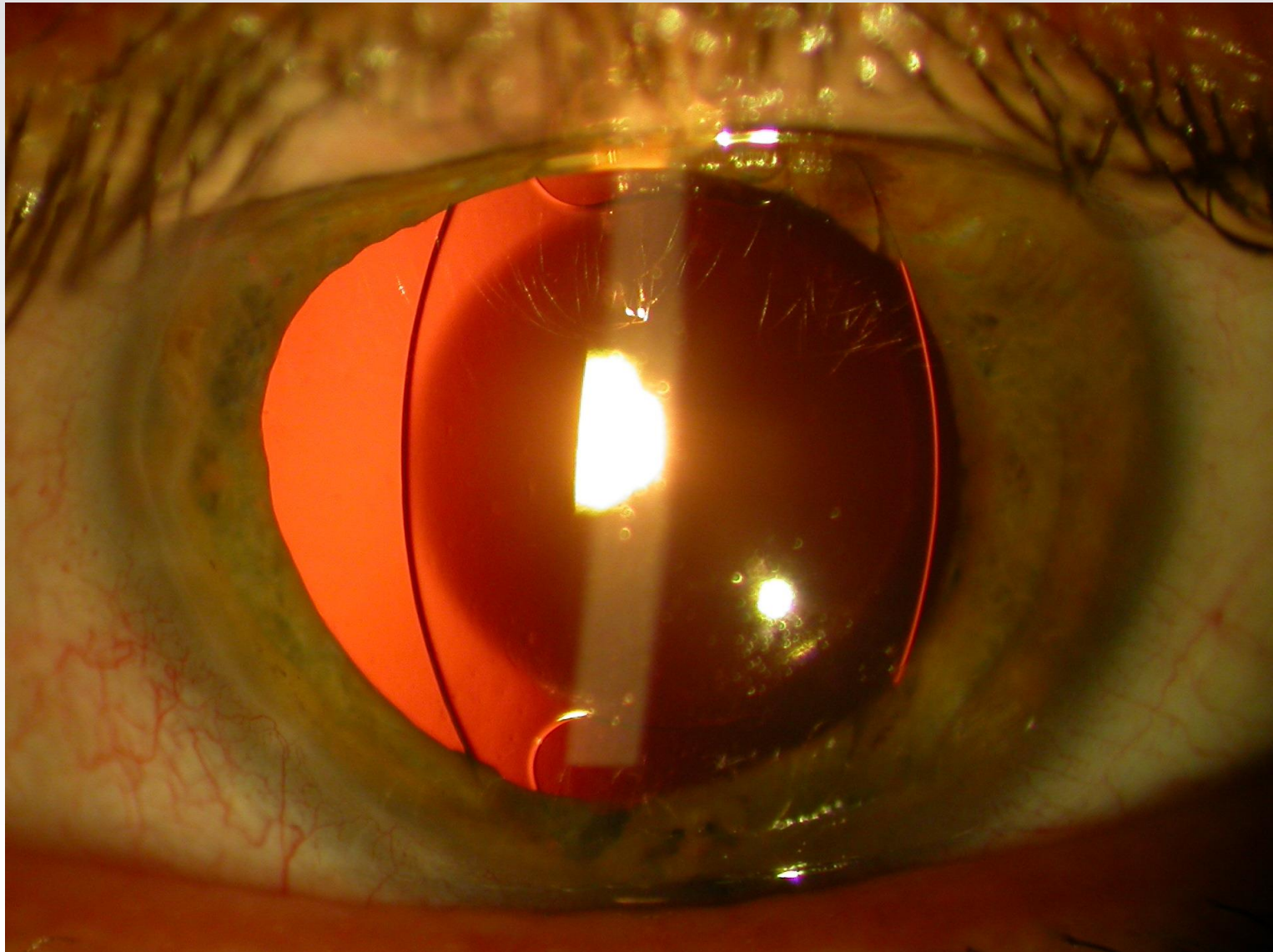
El Concepto

VERSATILIDAD

LIO puede ser implantada horizontal, vertical u oblícua



Cortesía del Dr. M. Royo





El Concepto

VERSATILIDAD

LIO puede ser implantada horizontal, vertical u oblicua

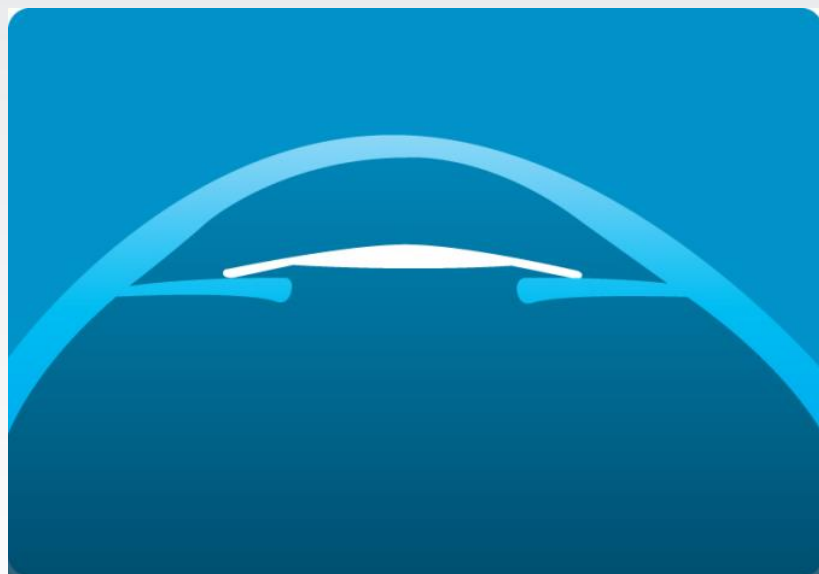




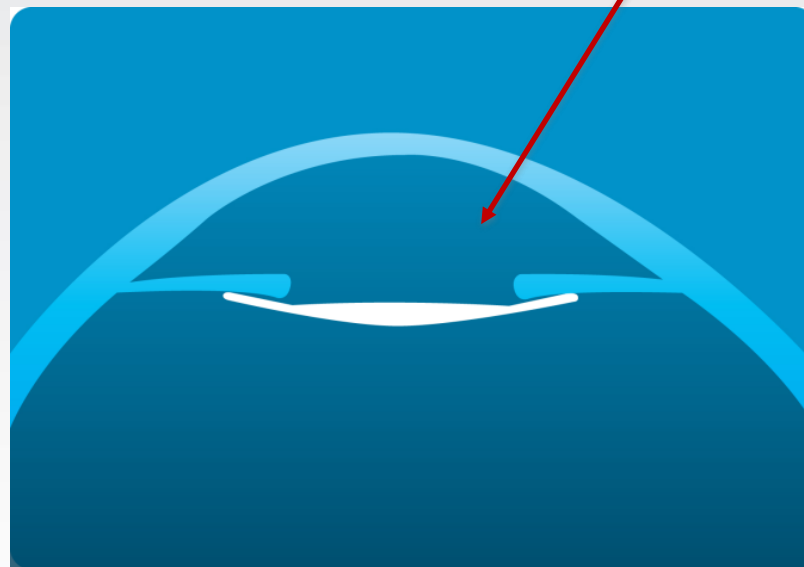
El Concepto

VERSATILIDAD

Artisan Afaquia modelo 205



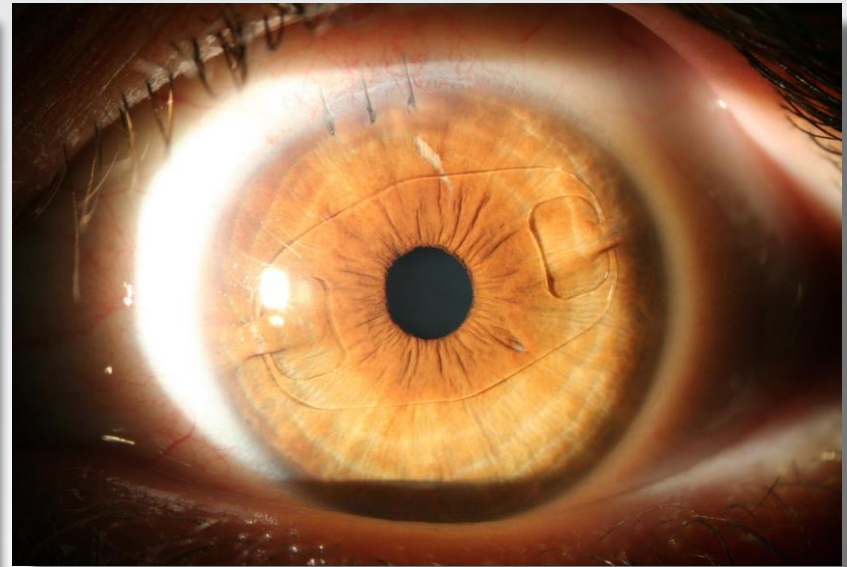
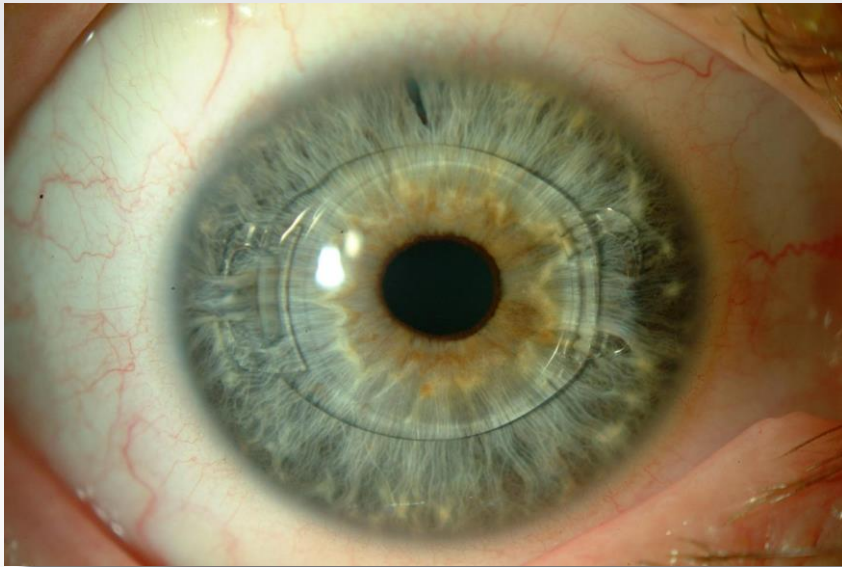
Prepupilar



Retropupilar



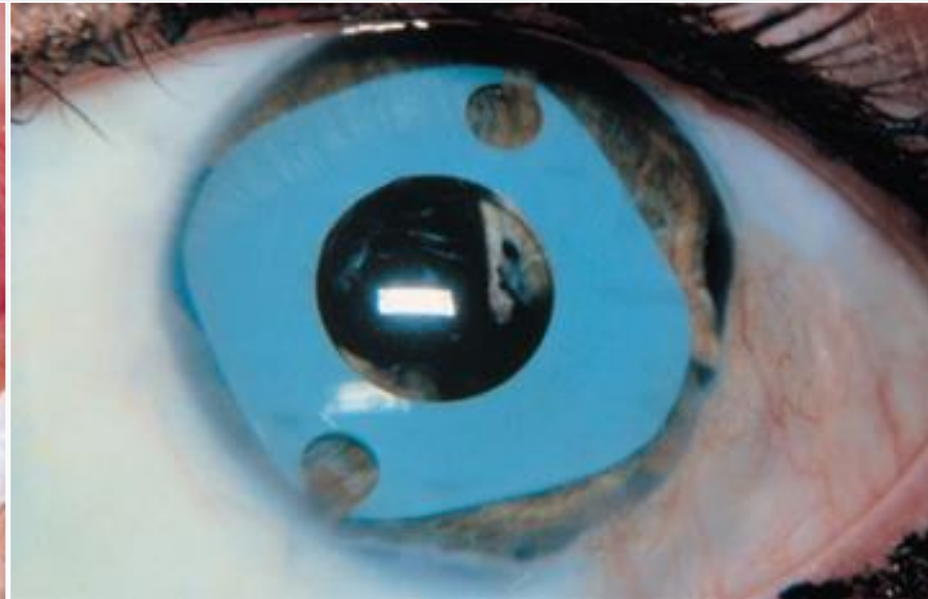
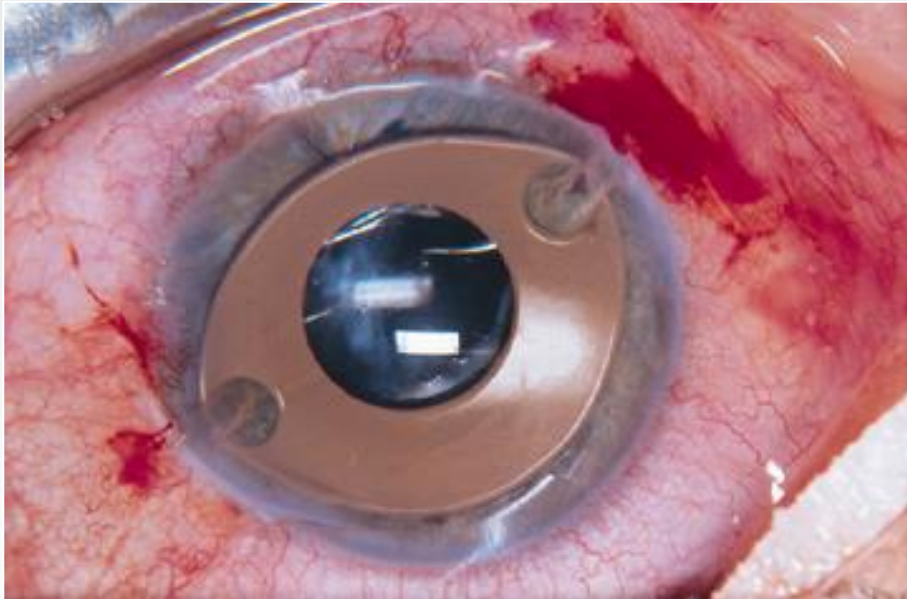
El Resultado





Otros modelos de Artisan

Lentes ARTISAN personalizadas





Otros modelos de Artisan

Oclusor Pupilar



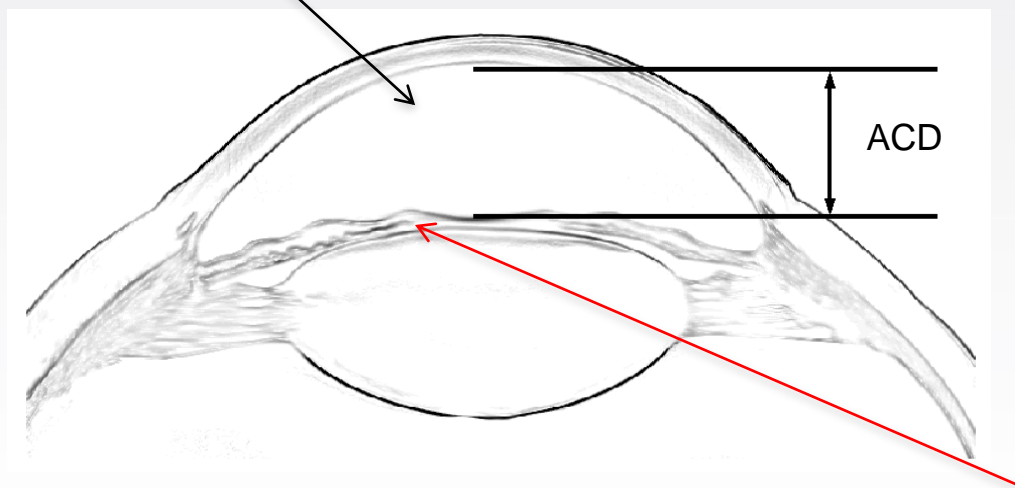
Para el tratamiento de la diplopia



El lugar de la Artisan

Se necesitan **milímetros** para implantar una **ARTISAN / ARTIFLEX FÁQUICA**

Se necesitan **micras** para implantar otro tipo de LIO en el sulcus





Prejuicios para el implante de Artisan

1. Atrofia de iris
2. Dilatación pupilar
3. Daño endotelial
4. Pigmento
5. Bloqueo pupilar





Prejuicios para el implante de Artisan

1. Atrofia de iris

Fluorescein angiographic studies by *Strobel and Izák* have shown no leakage of the iris vessels at the enclavation sites. In addition no iris atrophy has been reported in the area of the fixation. Since its invention 25 years ago, the fixation principle of the ARTISAN® Lens has remained unchanged.

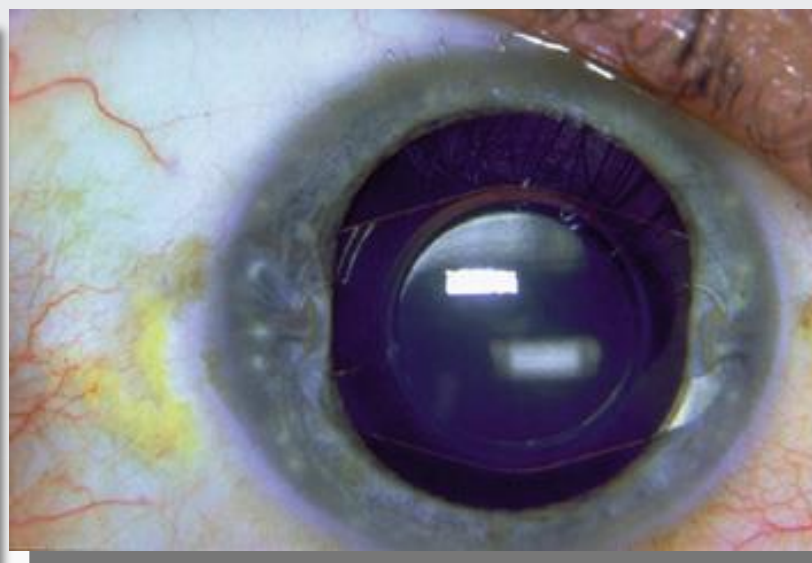
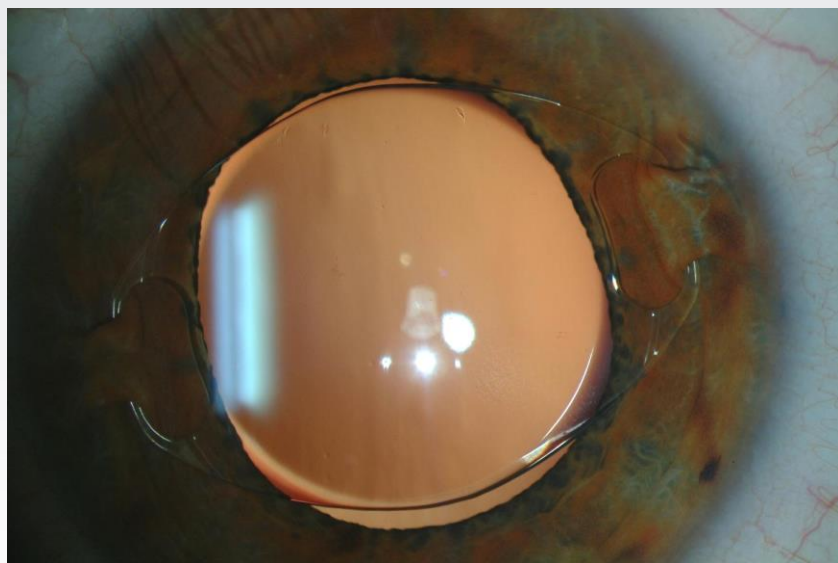


Fig.: Fluorescein Angiography



Prejuicios para el implante de Artisan

2. Dilatación Pupilar

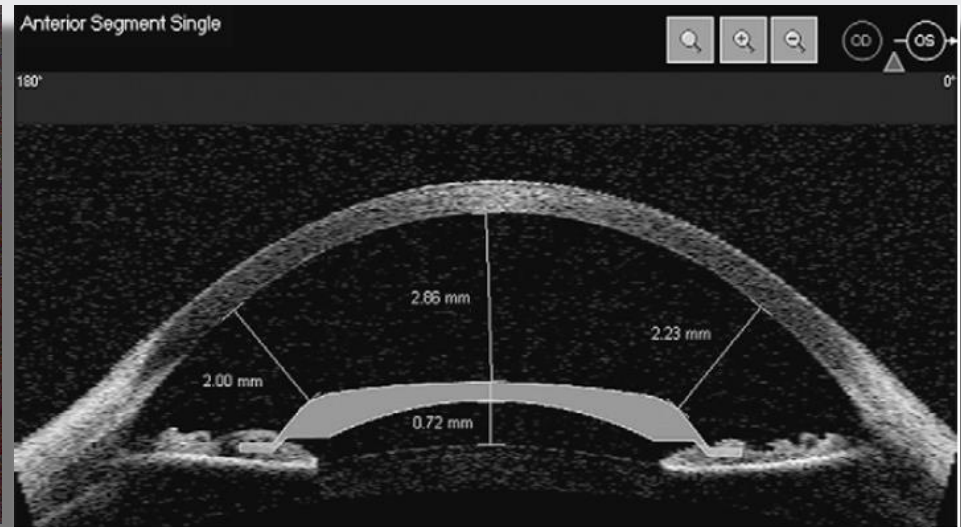
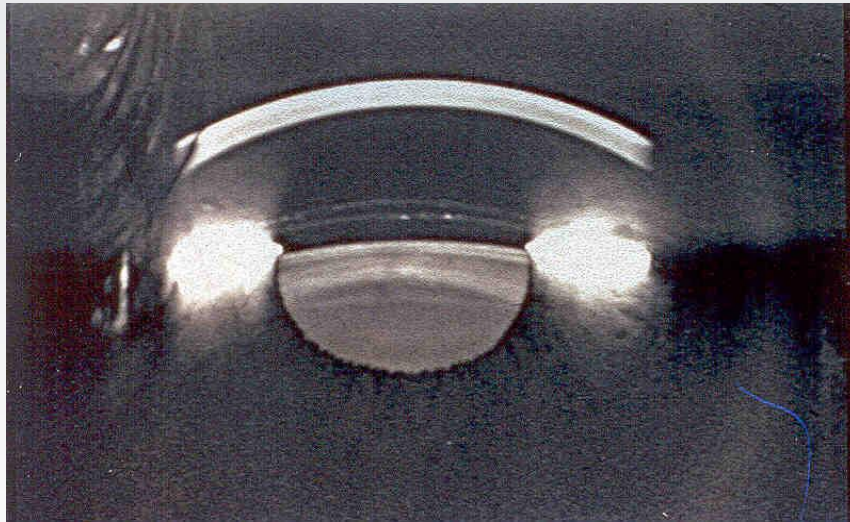


Enclavación en el iris periférico e inmóvil



Prejuicios para el implante de Artisan

3. Daño endotelial



a) Respetar la ACD mínima requerida
3.0 mm desde epitelio > Artisan

¹Tahzib NG, Nuijts RM, Wu WY, Budo CJ Long-term Study of Artisan Phakic Intraocular Lens Implantation for the Correction of Moderate to High Myopia Ten-Year Follow-up Results. Ophthalmology 2007; 114(6):1133-42

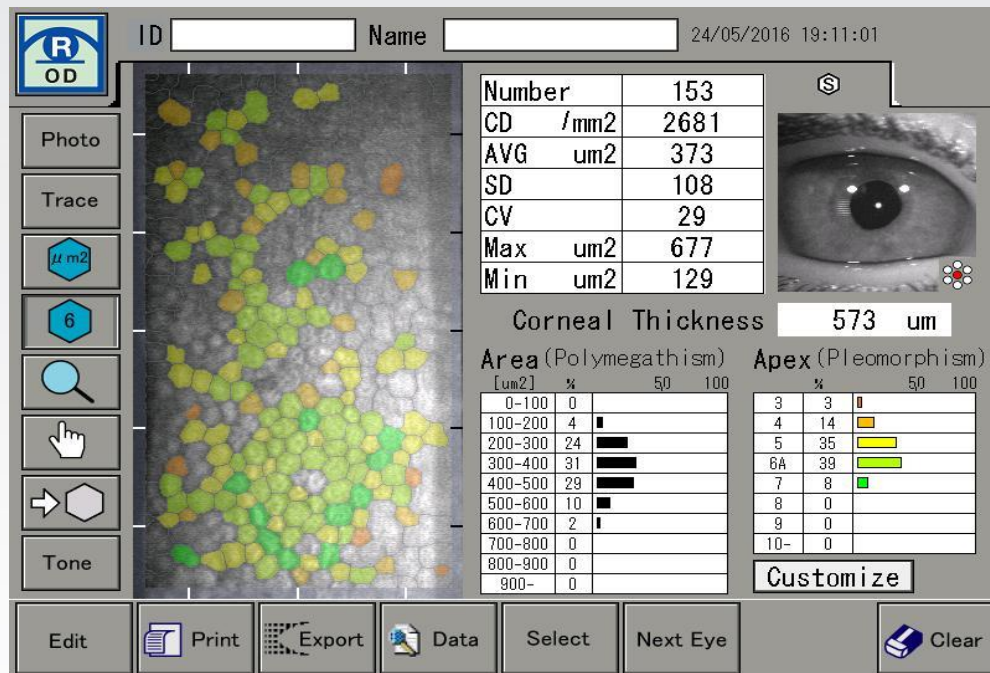


Prejuicios para el implante de Artisan

3. Daño endotelial

b) Valorar células endoteliales

- Recuento: suficientes cc/mm²
- Morfología

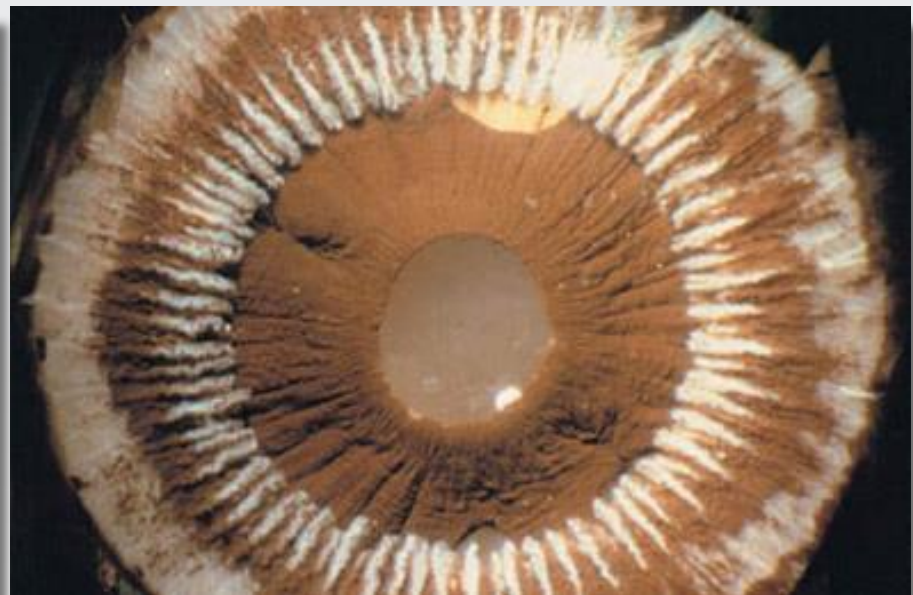
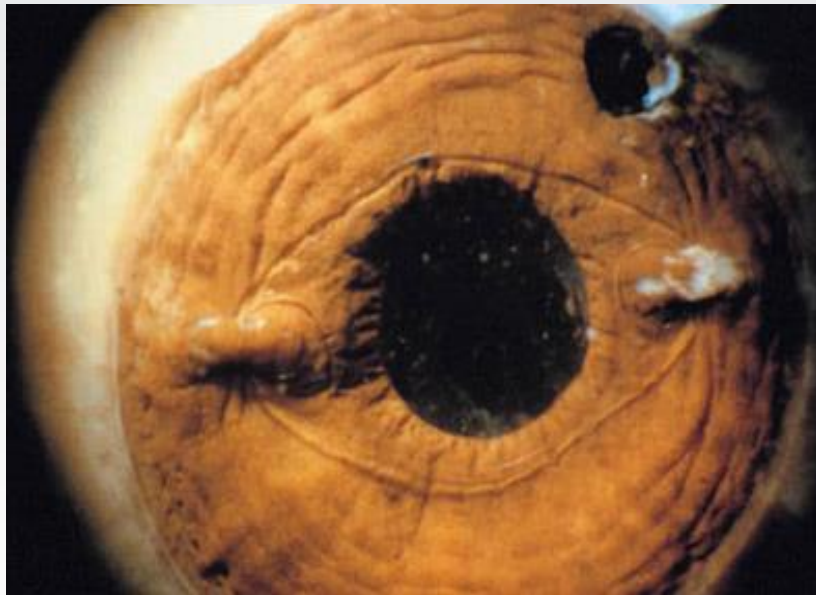


¹Tahzib NG, Nuijts RM, Wu WY, Budo CJ Long-term Study of Artisan Phakic Intraocular Lens Implantation for the Correction of Moderate to High Myopia Ten-Year Follow-up Results. Ophthalmology 2007; 114(6):1133-42



Prejuicios para el implante de Artisan

4. Pigmento

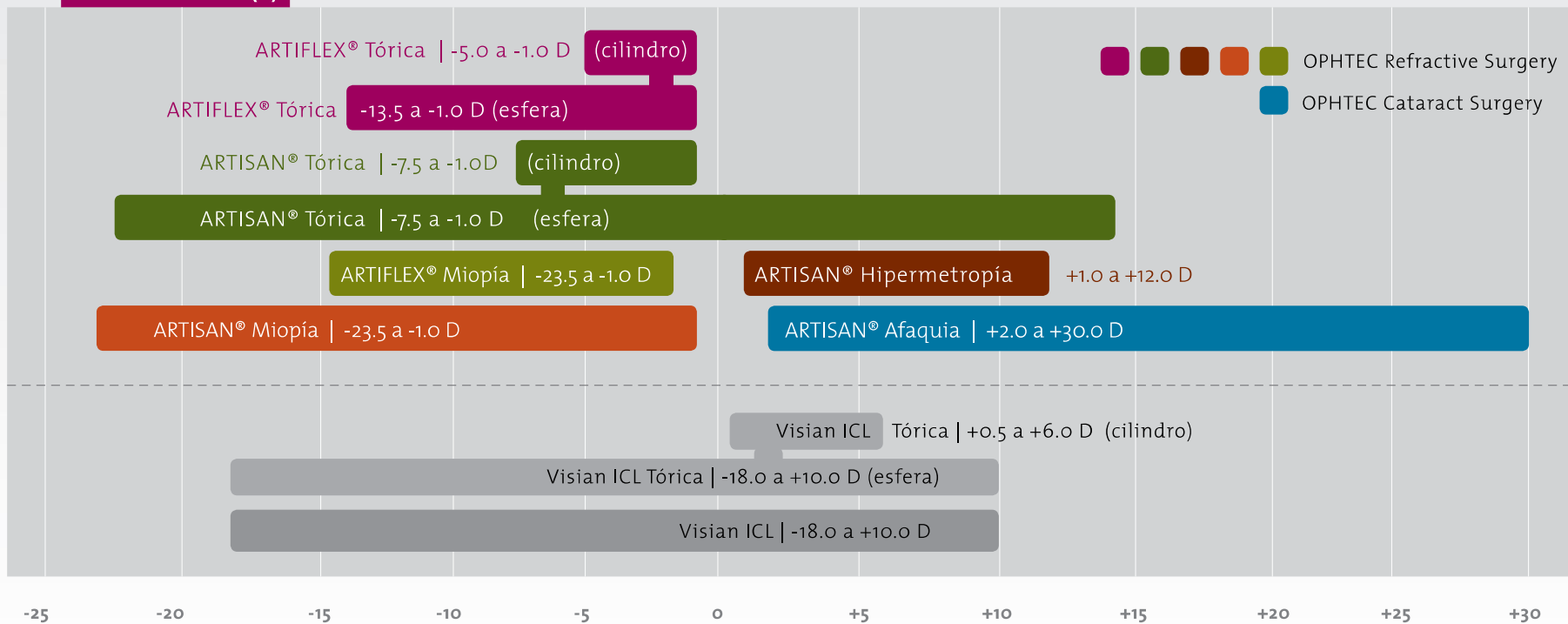


Ojos post mortem 6 años después de la implantación

No hay pérdida de pigmento en la parte posterior del iris en los puntos de enclavación

Artisan Rango dióptrico

RANGO DIÓPTRICO (D)





Material:	PMMA CQ-UV
Haptics:	Iris claw
Overall Ø:	8.5 mm
Body Ø:	5.4 mm Biconvex*
A-constant:	<p>Ultrasound: 115.0</p> <p>Optical: 115.7 (SRK T) 115.7 (SRK II) -0.160 (Haigis a0) 0.400 (Haigis a1) 0.100 (Haigis a2) 3.62 (Hoffer-Q pACD) -0.08 (Holladay 1 sf) 0.15 (Barrett suite LF) 0 (Barrett suite DF)</p>
A-constant Retropupillar:	<p>Ultrasound: 116.8</p> <p>Optical: 116.9 (SRK T) 116.8 (SRK II) -0.250 (Haigis a0) 0.400 (Haigis a1) 0.100 (Haigis a2) 4.34 (Hoffer-Q pACD) 0.54 (Holladay 1 sf) 0.78 (Barrett suite LF) 0 (Barrett suite DF)</p>
Dioptric Powers:	+2.0 D to +30.0 D (1.0 D increments) +14.5 D to +24.5 D (0.5 D increments)

* +2.0 D to +9.0 D Plano-convex



Indicaciones

- Catarata senil
- Catarata traumática
- Catarata congénita o joven
- Implante secundario después de la afaquia
- Subluxación del complejo IOL-bag
- Complicaciones en la cirugía de cataratas:
 - - Bolsa capsular rota
 - - Zonnula dañada
- Piggy Bag

EPIDEMIA INMINENTE by Roibeard O'hEineachain¹

- Un fuerte aumento en la tasa de dislocaciones tardías de LIO en las últimas décadas y el número de pacientes con la complicación es probable que aumente en los próximos años, Ulf Stenevi MD, Sahlgrenska Univ. Hosp. Sweden
- El aumento del LIO tardío y de la subluxación de las cápsulas pareció seguir a la introducción generalizada de la facoemulsificación en el decenio de 1990
 - Si las tendencias actuales continúan, la incidencia de las dislocaciones tardías de LIO se duplicará en los próximos 7 u 8 años

¹ Posted in Feb 2016 · Cataract and Refractive · Eurotimes Stories · <http://www.eurotimes.org/node/2266>

LOOMING EPIDEMIC by Roibeard O'hEineachain¹

- Todos los autores están de acuerdo en que la pseudoexfoliación es el factor de riesgo más importante para la dislocación de la LIO
- Probablemente debido a las zonas más débiles y a las cápsulas más delgadas y quebradizas con la condición
- Otros factores de riesgo incluyen la enfermedad ocular concomitante
 - Cirugía ocular previa
 - Larga longitud axial
 - Largo tiempo de facoelmsificación

¹ Posted in Feb 2016 · Cataract and Refractive · Eurotimes Stories · <http://www.eurotimes.org/node/2266>

EPIDEMIA INMINENTE by Roibeard O'hEineachain¹

- La historia termina de la siguiente manera:
 - Siguiendo las explicaciones la mayoría de los ojos recibieron LIOs artesanales retropupilares by Prof. Thomas Kohnen

¹ Posted in Feb 2016 · Cataract and Refractive · Eurotimes Stories · <http://www.eurotimes.org/node/2266>

- Iritis recurrente o crónica
- Desprendimiento de retina o del nervio óptico
- Inflamación crónica
- Atrofia grave del iris
- Glaucoma crónico no controlado

1. Retrospective Study of the ARTISAN Aphakia IOL with 10 year follow-up

Nayyirih G. Tahzib, Ophthalmology
2007; 114(6):1133-42

2. Paired-eye comparison of corneal endothelial cell counts after unilateral iris-claw phakic intraocular lens.

Merce Morral, MD, PhD, José L. Güell, MD, PhD, Mostafa A. El Hussein, MD, Daniel Elies, MD, Oscar Gris, MD, PhD, Felicidad Manero, MD Journal of Cataract & Refractive Surgery January 2016

• Long-term endothelial cell loss with the iris-claw intraocular Phakic lenses (Artisan®)

Virgilio Galvis^{1,2,3} & John F. Villamil^{1,4} & María Fernanda Acuña^{2,3} & Paul A. Camacho^{2,3} & Jesús Merayo-Llaves^{5,6} & Alejandro Tello^{1,2,3} & Sandra Lizeth Zambrano^{2,4} & Juan José Rey³ & Juan Vicente Espinoza^{2,4} & Angélica María Prada¹

– Received: 25 June 2019 /Revised: 19 August 2019 /Accepted: 7 October 2019

Long-term Study of Artisan Phakic Intraocular Lens Implantation for the Correction of Moderate to High Myopia

Ten-Year Follow-up Results

Nayyirih G. Tahzib, MD,¹ Rudy M. Najib, MD, PhD,² Wensly Y. Wu, MD,¹ Camille J. Budo, MD¹

Purpose: To determine the long-term performance of the Artisan phakic intraocular lens (PIOL) for the correction of myopia.

Design: Long-term (10 years) retrospective follow-up study.

Participants: Eighty-nine eyes of 49 patients who underwent Artisan PIOL implantation for the correction of myopia.

Methods: Comparisons were made between preoperative clinical data and the clinical data at 1, 6, and 10 years after surgery.

Main Outcome Measures: Refractive stability, refractive predictability, safety, efficacy, best-corrected visual acuity (BCVA), uncorrected visual acuity (UCVA), intraocular pressure, intraoperative problems, corneal endothelial cell density, corneal endothelial cell loss, and glare levels were evaluated.

Results: The mean spherical equivalent (SE) after 10 years was -0.70 ± 1.00 diopters (D; range, -4.00 to 2.00 D), with no significant change in mean SE between 1, 6, and 10 years. At 10 years, 68.8% of all eyes were within 1.0 D of the intended correction. At 10 years, 31.2% ($n = 24$) gained 1 or more Snellen lines of BCVA and 2.6% ($n = 2$) lost more than 2 Snellen lines of BCVA; 93.3% reached a BCVA of 20/40 or better, and 82.0% reached a UCVA of 20/40 or better. The mean intraocular pressure remained stable and was 15.5 ± 3.5 mmHg (range, 7–25 mmHg) at 10 years. The mean endothelial cell loss was $-8.86 \pm 16.01\%$ (range, -51.69% to 34.43%) at 10 years.

Conclusions: Long-term results demonstrate that the implantation of an Artisan PIOL for the correction of moderate to high myopia is a stable, predictable, and safe method when strict inclusion criteria for surgery are applied. There was no significant loss of corneal endothelial cells and no reports of long-term glare. *Ophthalmology* 2007;114:1133–1142 © 2007 by the American Academy of Ophthalmology.

Gratias Actio for Clinical and Experimental Ophthalmology
https://doi.org/10.1007/s00417-019-04069-9

REFRACTIVE SURGERY



Long-term endothelial cell loss with the iris-claw intraocular phakic lenses (Artisan®)

Virgilio Galvis^{1,2,3} · John F. Villamil^{1,4} · María Fernanda Acuña^{2,3} · Paul A. Camacho^{2,3} · Jesús Merayo-Llaves^{5,6} · Alejandro Tello^{1,2,3} · Sandra Lizeth Zambrano^{2,4} · Juan José Rey³ · Juan Vicente Espinoza^{2,4} · Angélica María Prada¹

Received: 25 June 2019 / Revised: 19 August 2019 / Accepted: 7 October 2019
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Abstract

Purpose: To evaluate the endothelial cell loss in patients with iris-claw phakic lenses (Artisan®) in a long-term follow-up.

Methods: We analyzed the medical records of patients who had undergone iris-claw phakic lens implantation and who had at least 5 years of follow-up.

Results: We included 67 eyes with myopic errors (follow-up 9.6 ± 3.0 years) and 10 eyes with mixed astigmatism or hyperopic errors (follow-up 8.8 ± 2.5 years). The mean total endothelial density loss at the last follow-up visit was $18.5\% \pm 17.0\%$ and $10.5\% \pm 12.3\%$, respectively. 29.9% of the eyes in the myopic group and 20% in the hyperopic group lost more than 25% of the preoperative endothelial cell density. During the postoperative follow-up period, 60.8% of the eyes in the myopic group and 40% of the eyes in the hyperopic group lost a higher percentage than the expected physiological loss. Two eyes in the myopic group (3.0%) had a final cell density of less than 1200 cells/mm². None of the variables studied had a statistically significant association with the percentage of annual endothelial loss in the postoperative period. Three phakic lenses were explanted: two by cataract and one by contact and severe decrease of the endothelial density (862 cells/mm²).

Conclusions: There is a significant endothelial cell loss in a low percentage of the eyes with Artisan® lenses in the long term, and it can decrease to critical levels. Periodic endothelial density evaluations are required for these patients. The selection criteria of surgical candidates could be reevaluated.

Keywords: Phakic intraocular lenses · Corneal endothelial cell loss · Corneal edema · Refractive surgery · Corneal endothelium · Cornea

Introduction

LASIK surgery has limitations for the correction of very high refractive errors (approximately above 8.00 Diopters (D)) for myopia and 5.00 D for hyperopia), since considerable undesirable effects of the photorefractive procedure may occur, such as loss of vision, decreased contrast sensitivity, and night vision symptoms, as well as long-term regression of the refractive correction. In addition, the excessive corneal tissue ablation necessary for these high corrections is a risk factor for iatrogenic corneal ectasia [1–3]. As an alternative in these cases, various intraocular lenses have been designed to be implanted in these patients without removing the lens, known as phakic intraocular lenses (PIOLs) [4–7]. Within this group are the angle-supported lenses that were initially implanted in the mid-1950s and withdrawn a few years later due to serious complications. New

✉ Alejandro Tello
alejandro@grad.ums

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³ Faculty of Health Sciences, Universidad Autónoma de Bucaramanga, Bucaramanga, Colombia

⁴ Faculty of Health Sciences, Universidad Industrial de Santander, Bucaramanga, Colombia

⁵ Instituto Universitario Fendolés Mayo, Oviedo, Spain

⁶ Ophthalmology Department, Universidad de Oviedo, Oviedo, Spain



ARTISAN & ARTIFLEX Phakic IOL [Training Manual]

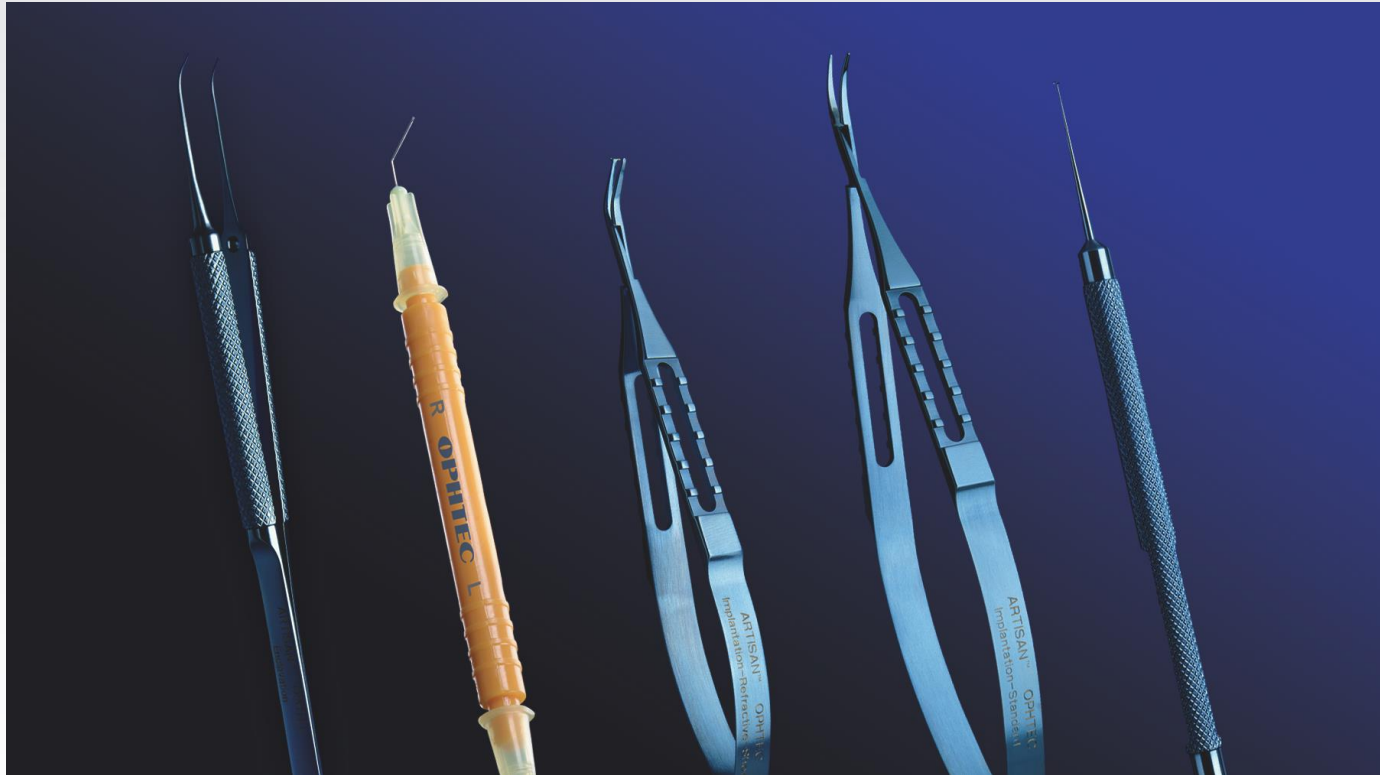


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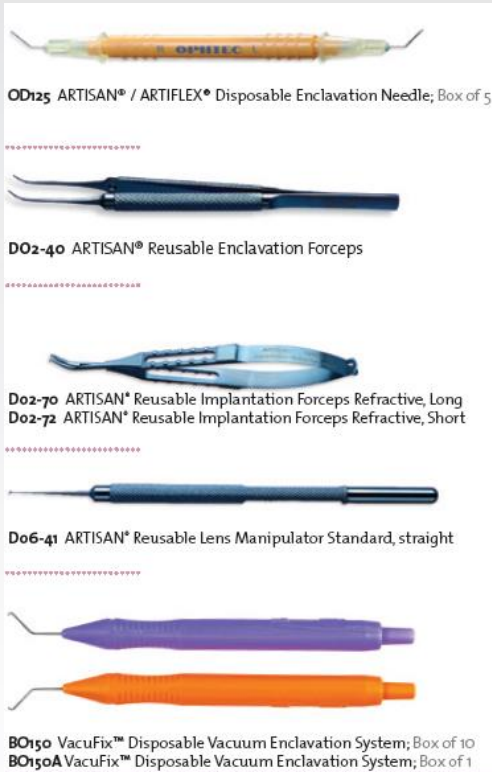


Instrumental

Instrumental Artisan



Pinzas Artisan

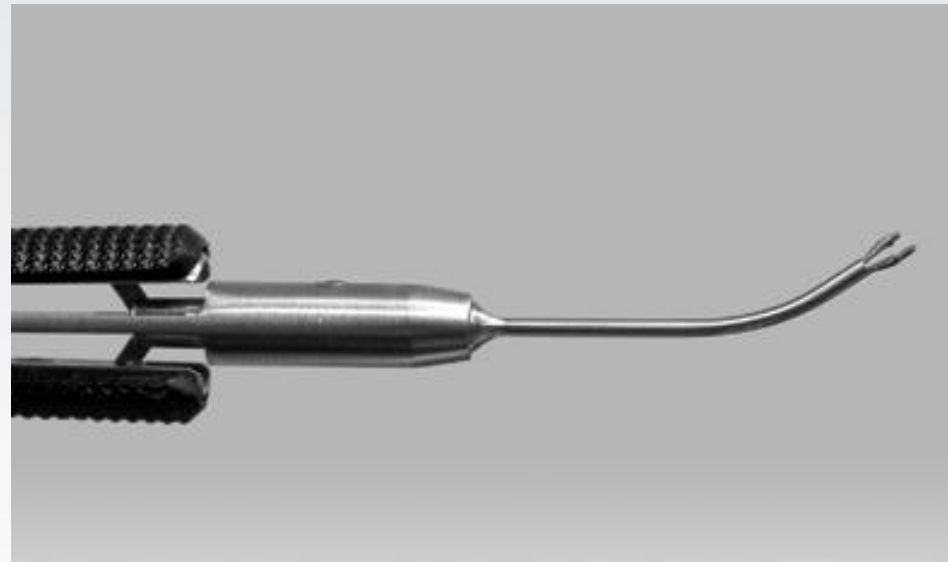
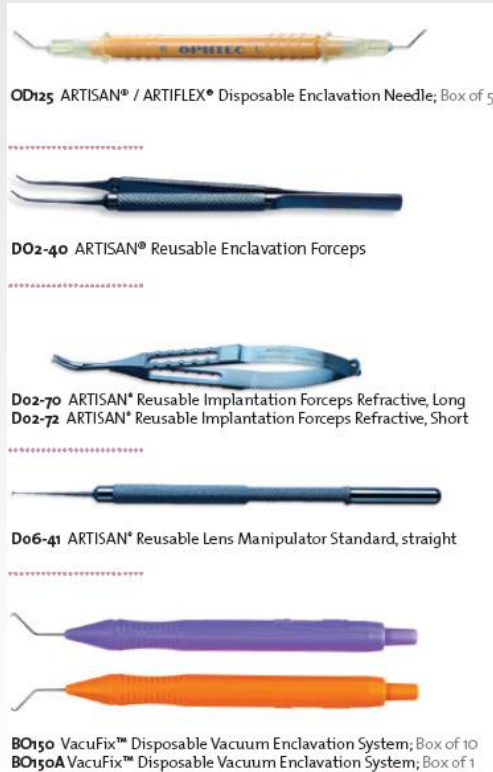


ARTISAN® Pinza de Implantación larga (DO2-70)



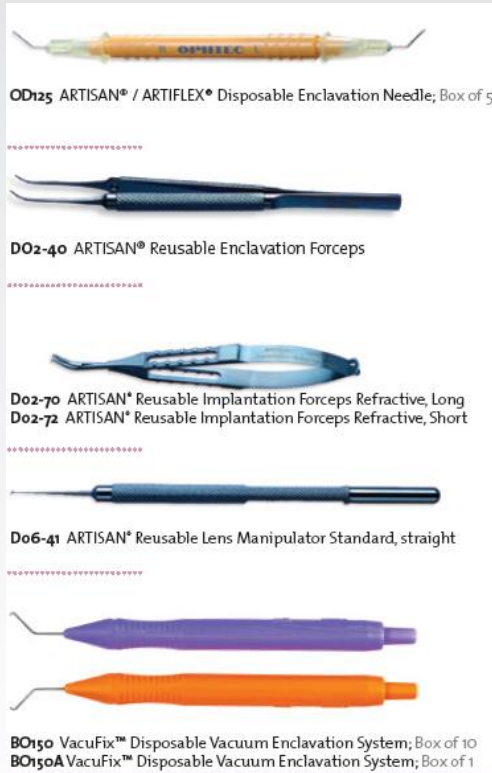
ARTISAN® Pinza de Implantación corta (DO2-74)

Pinzas Artifix • retropupilar



ARTIFIX® Pinza de Implantación (H65.12.003)

Enclavar Artisan

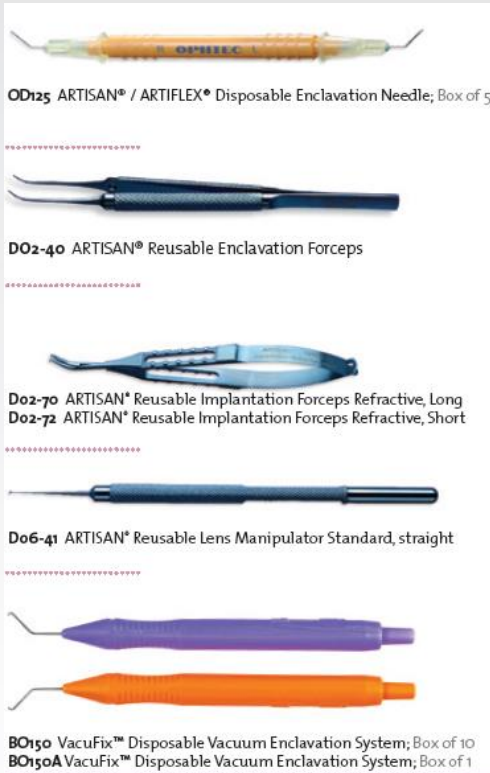


ARTISAN® Pinza de Enclavación Standard (DO2-40)



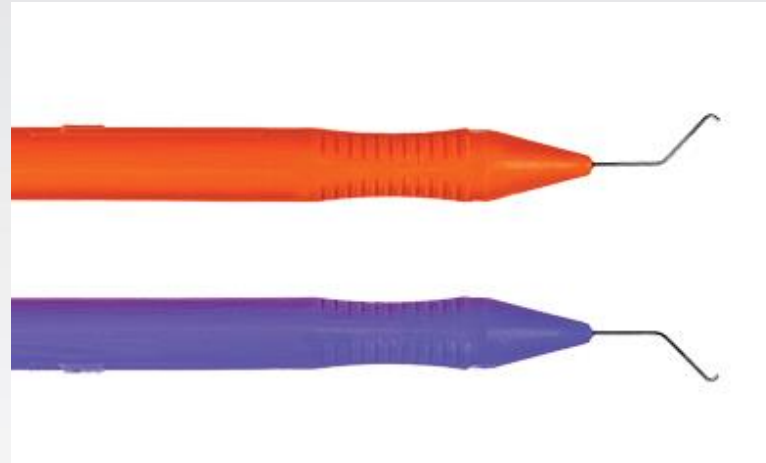
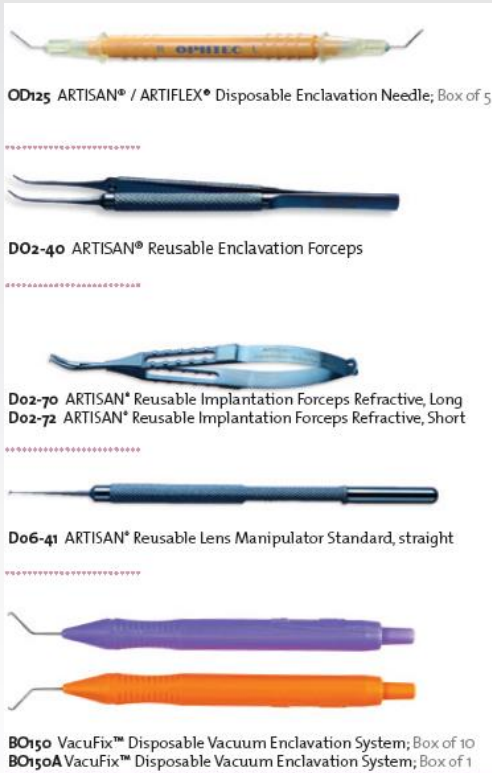
ARTISAN® Aguja de enclavación (OD-125)

Enclavar Artisan

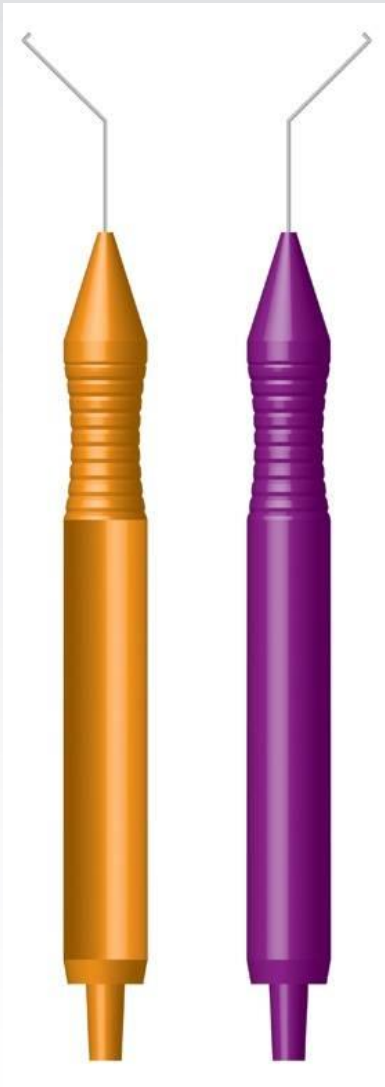


ARTISAN® Manipulador estándar (DO6-41)

Enclavar Artisan



VACUFIX®



VACUFIX Sistema de Enclavación

- 2 piezas de mano que se adaptan al sistema de I/A de cualquier Facó
- Enclavación por vacío

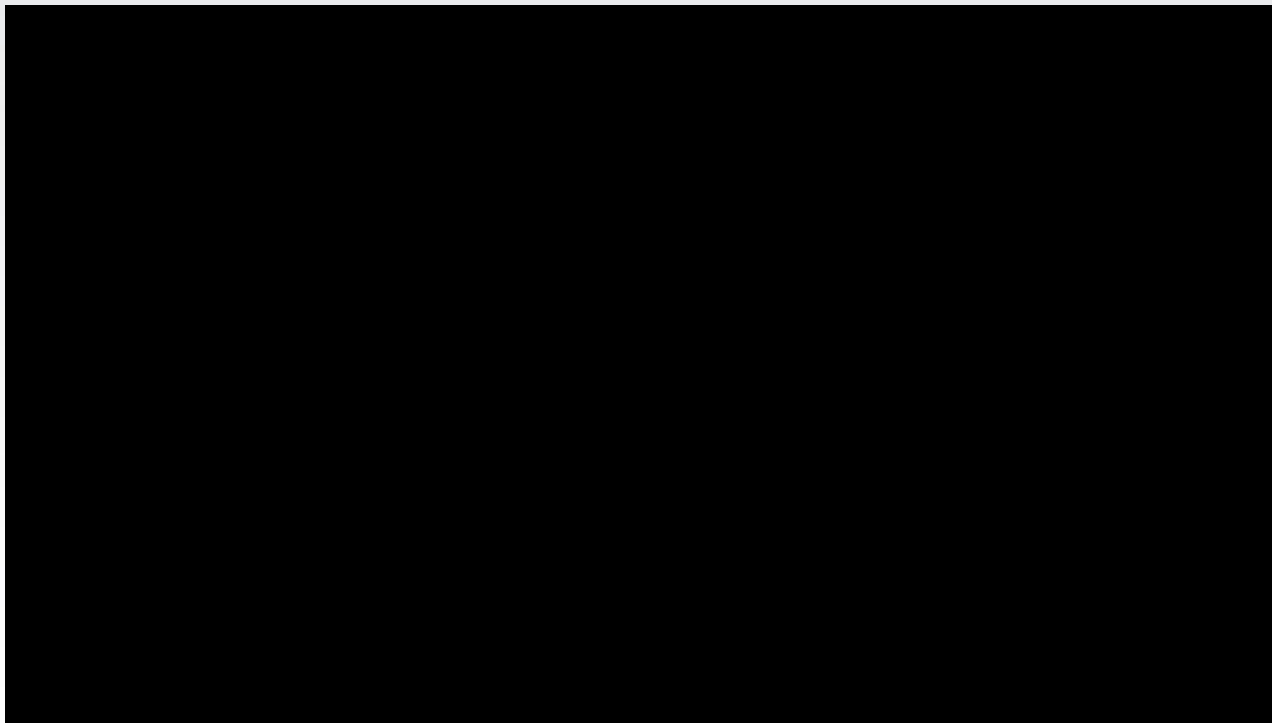
VACUFIX Sistema de Enclavación

- Siempre la misma cantidad de iris
- Muy fácil para casos de Artisan Afaquia
- Enclavación en el sitio planeado
 - Centrado perfecto para Artisan / Artiflex Tórica



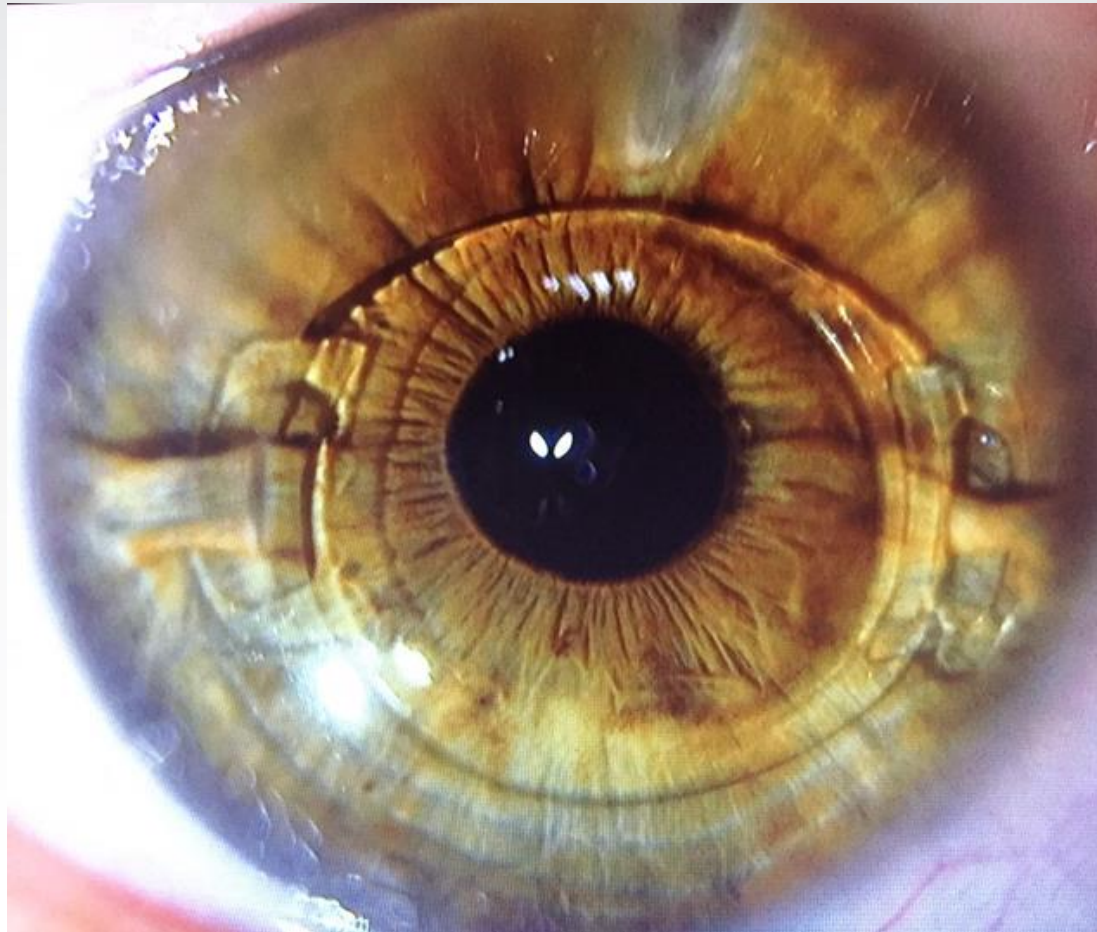


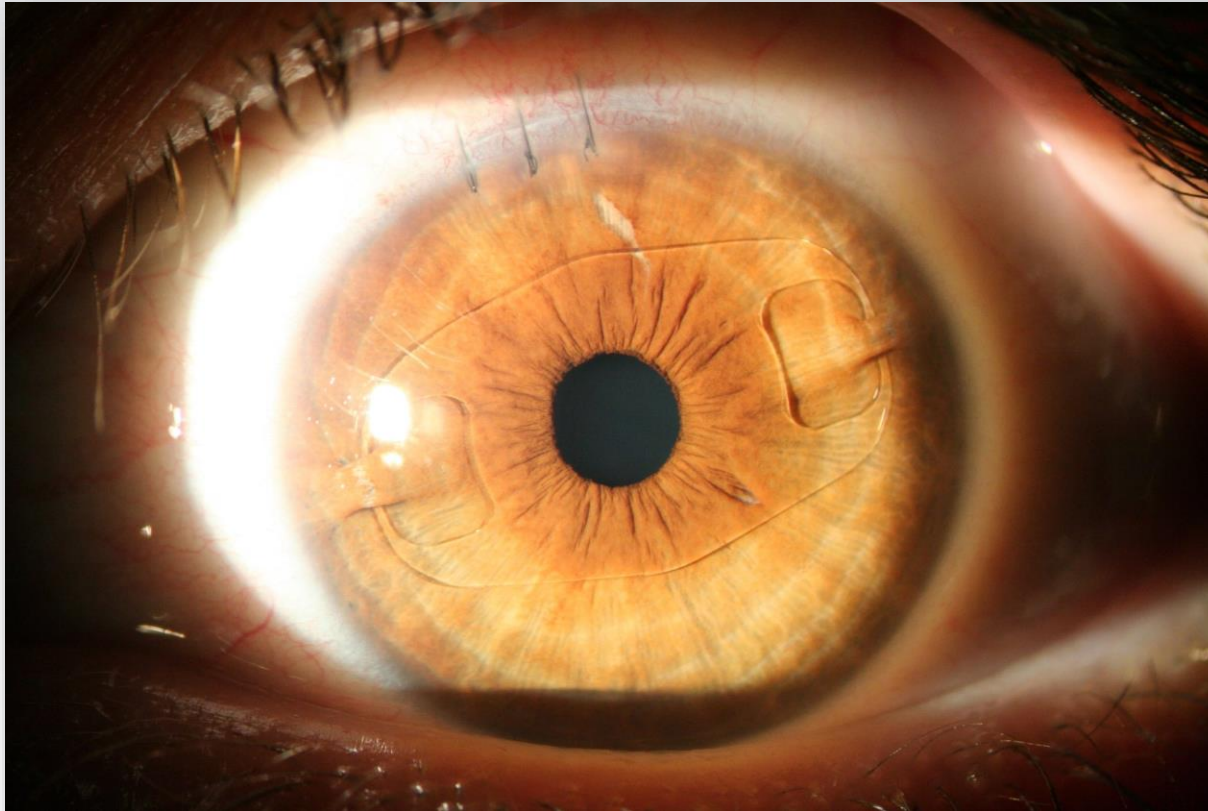
VACUFIX Sistema de Enclavación





Curva de aprendizaje

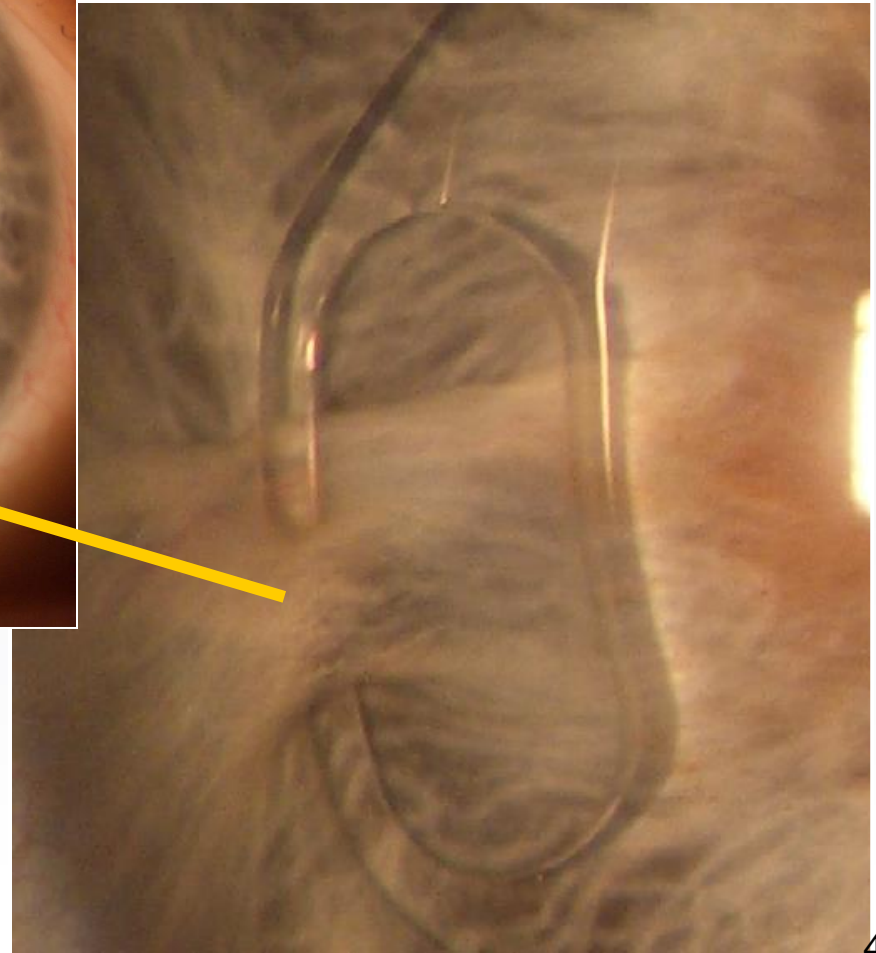
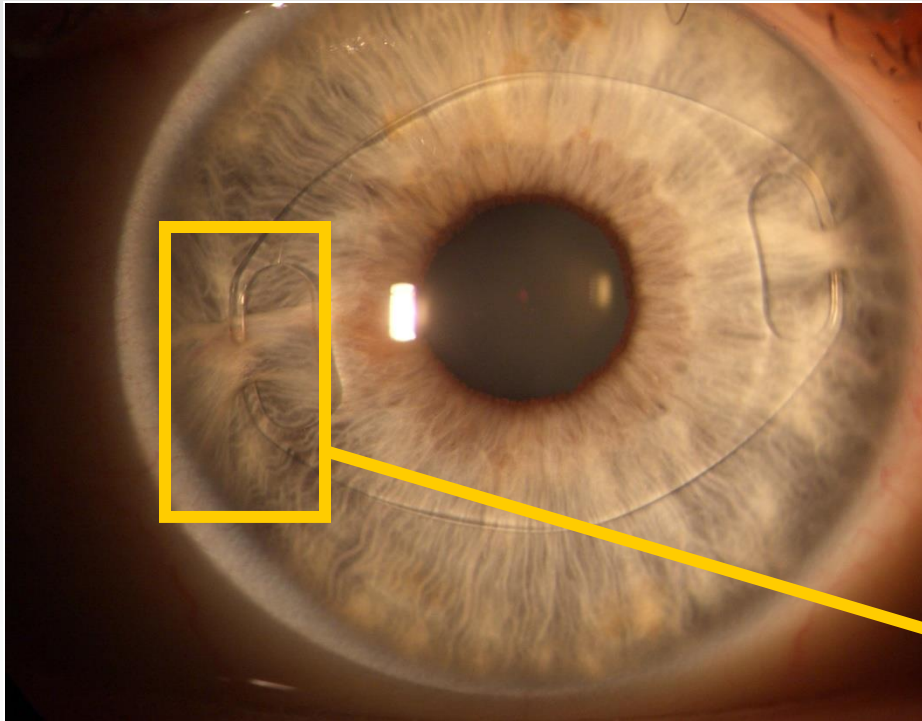




- Sutura parcial para extracción viscoelástico
- 3 puntos sueltos para 5.5 mm incisión



Esto está mal

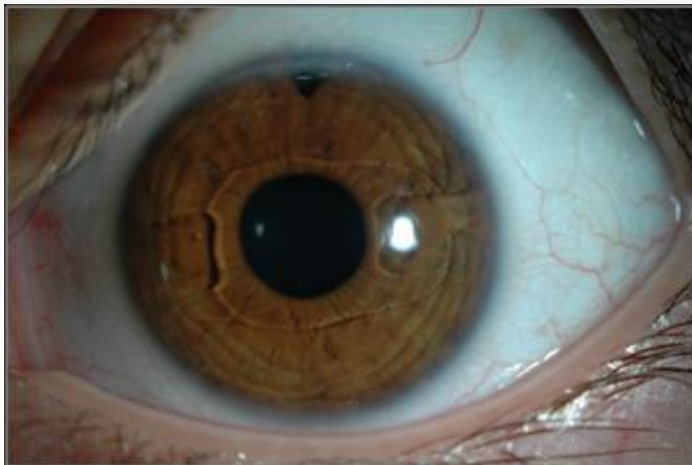




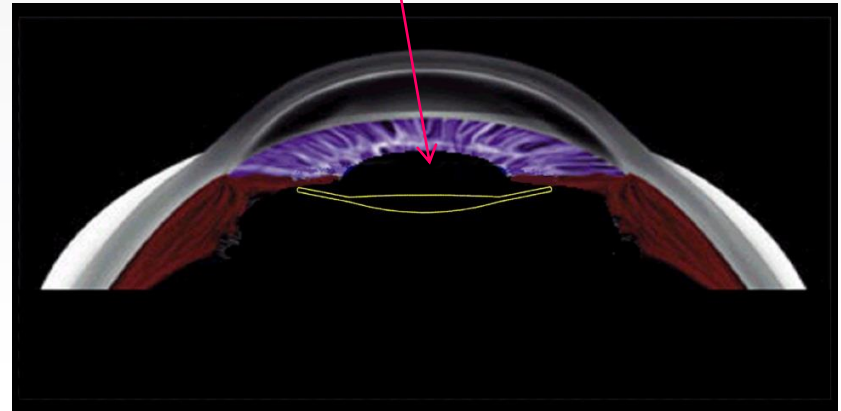
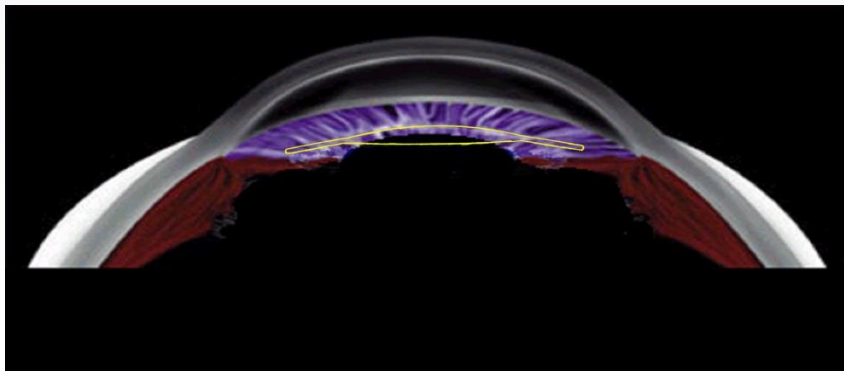
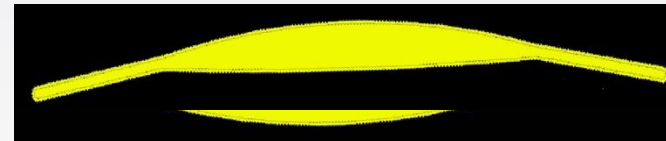
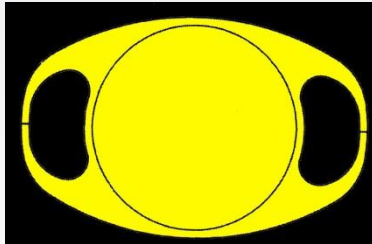
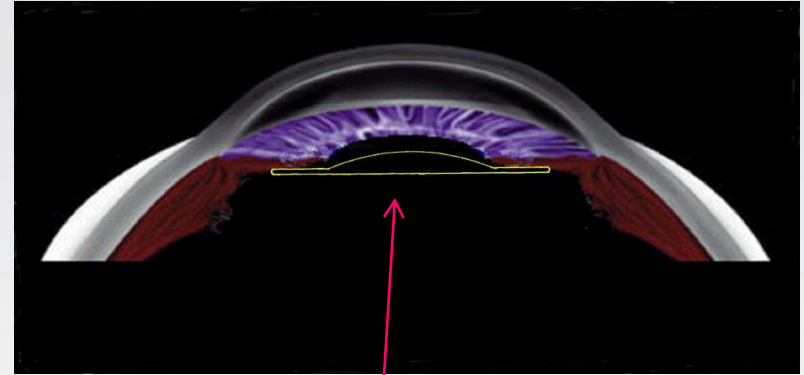
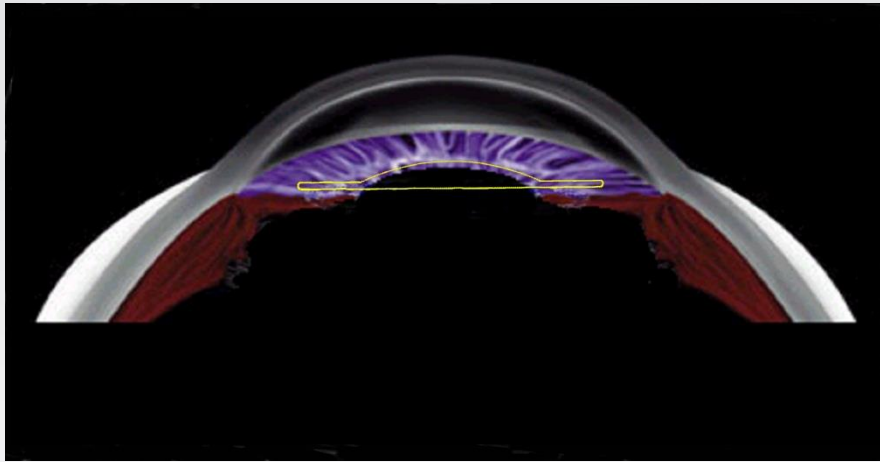
Otras Aplicaciones para LIOs de Fijación Iridiana



- Cirugía en niños o en ojos pequeños
- Cataratas congénitas y/o traumatismos)



Implantación retropupilar de Artisan Afaquia





IOLMaster

IOL	A Scan a-constant	SRK T a-constant	SRK II a-constant	Haigis			Hoffer-Q pACD	Holladay 1 sf	Barrett suite	
				a0	a1	a2			LF	DF
Artisan Aphakia 205	115,0	115,7	115,7	-0,160	0,400	0,100	3,62	-0,08	0,15	0
Artisan Aphakia 205 (retropupillar)*	116,8	116,9	116,8	-0,250	0,400	0,100	4,34	0,54	0,78	0

Advantages

- Potencialmente menos dañino para el endotelio
- Técnica rápida y atraumática
- Teóricamente menos deslumbrante que el AC-IOL
- Aumento insignificante de las HOA
 - higher-order aberrations (HOAs)/ aberraciones de alto orden

¹ Kaymak C, Mester U. ESCRS-Meeting, Lisbon 2005

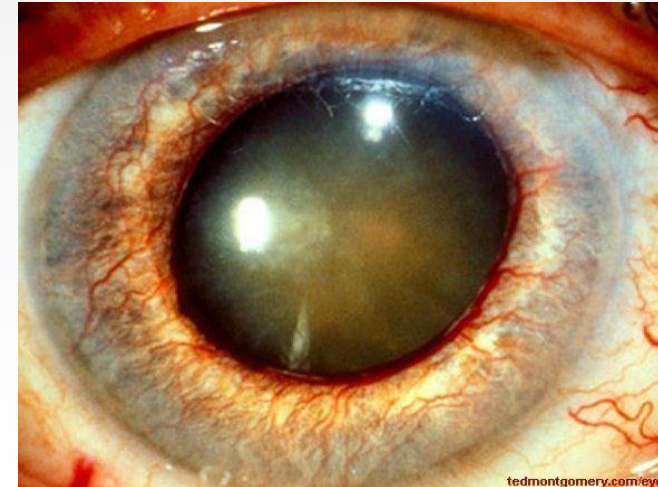
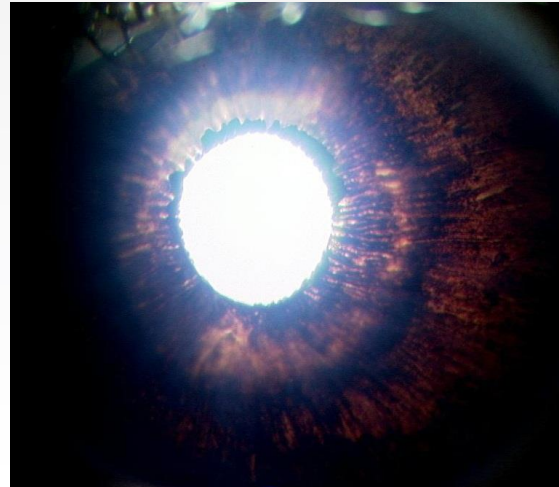
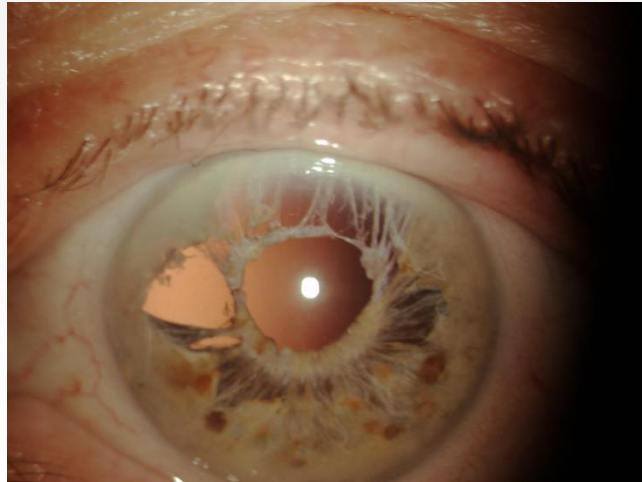
Buenos candidatos

- Movilidad normal de la pupila
- Claro del medio periférico a la córnea central
- No hay synechia anteriores
- Región esclerocorneal intacta
 - Problemas en la cirugía de cataratas con desinserción capsular masiva
- Pacientes anticoagulados
 - Acceso por incisión corneal

¹ Kaymak C, Mester U. ESCRS-Meeting, Lisbon 2005

No son candidatos/Contra-Indicaciones

- Ojos isquémicos o "**rubeosis** iridis" con glaucoma no controlado
- Ojos con uveítis no controlada
- Tenga en cuenta la iridodonesis en los ojos miopes altos
 - Ojos con calidad de imagen inasible o impresión parpadeante



Resumen

- Procedimiento rápido
- Reversible
- Una talla única para todos
- Utilizado con mayor frecuencia
- No hay biodegradación ni erosión de la córnea

Pero ten en cuenta que puedes perder el LIO en el segmento posterior de un ojo vitrectomizado durante la curva de aprendizaje de la fijación retropupilar. Vea el vídeo en línea en :

[http://www.jcrsjournal.org/article/S0886-3350\(15\)00954-2/abstract](http://www.jcrsjournal.org/article/S0886-3350(15)00954-2/abstract)

Use of a security suture during retropupillary implantation of an iris-claw IOL, Joshua C. Teichman, MD

Más información en www.youtube.com/ophtecbv

The screenshot shows a YouTube channel page for 'Ophtecbv'. The channel name is 'Artisan Aphakia' with 22 videos and 1,391 views. The page displays two columns of video thumbnails and titles. The left column shows a playlist of 10 videos, and the right column shows a list of 10 individual videos. Each video title includes the name of the procedure and the surgeon's name.

Video Number	Video Title	Channel
1	ARTISAN Aphakia IOL in Pediatric surgery by Dr. J.L. Güell	Ophtecbv
2	Retro-pupillary ARTISAN in patient with Axenfeld-Rieger and Marfan's by Dr. A. John Kanelopoulos	Ophtecbv
3	ARTISAN Aphakia implantation using the enclavation forceps Dr C. Peckar	Ophtecbv
4	ARTISAN Aphakia "The ideal IOL for secondary implantation" by Dr. J.L. Güell	Ophtecbv
5	ARTISAN Aphakia Retropupillar "The Dark side of the moon" implantation by Dr. A. Mohr	Ophtecbv
6	Artisan Aphakia IOL implantation by dr. Adrián Hernández Martínez	Ophtecbv
7	Artisan Aphakia implantation by Sergio Bonafonte, Barcelona	Ophtecbv
8	Artisan Aphakia enclavation using VacuFix by Dr. V.I. Apostolov	Ophtecbv
9	Femto DSAEK and ARTISAN IOL exchange by Dr. Kanelopoulos	Ophtecbv
10	Artisan Aphakia retro-pupillary by Dr. M Marcos Robles	Ophtecbv
1	Enclavation of The Artisan PIOL by Budo	Ophtecbv
2	ARTISAN PIOL implantation technique by Dr. C. Budo	Ophtecbv
3	ARTIFLEX PIOL implantation technique by Dr. C.Budo	Ophtecbv
4	Needle enclavation of the ARTIFLEX PIOL	Ophtecbv
5	ARTIFLEX implantation. Lateral. By Dr J.L. Güell	Ophtecbv
6	ARTIFLEX enclavation using the VacuFix by Dr. J.L. Güell	Ophtecbv
7	ARTIFLEX implantation in depth Part 1, Enclavation pointing by Chan Young Im	Ophtecbv
8	ArtiLens radio commercial	Ophtecbv
9	Vacufix vs Enclavation needle: Comparative study By: Dr. O. BARRADA, Egypt	Ophtecbv
10	ARTIFLEX implantation by Dr J.L. Güell	Ophtecbv



MUCHAS GRACIAS!



<https://www.ophtec.com/>

<https://www.youtube.com/user/Ophtecbv>