

# Ophthalmic Solutions

/ Devices / Drugs / Digital

75

Years of  
innovation



 Rayner



Leading the way in  
ophthalmic innovation



Since the implantation of the first Rayner intraocular lens (IOL) by Sir Harold Ridley in 1949, Rayner has continuously pioneered IOL design with a goal to improve vision and restore sight worldwide. Today, Rayner's mission remains to deliver innovative and clinically superior ophthalmic products that respond to the expectations of our global customers to improve the sight and quality of life of their patients.

Headquartered in Worthing, United Kingdom, Rayner markets its medical devices, pharmaceuticals and digital solutions worldwide through a network of distributors and direct sales teams.

Follow us on  
 



1910

Rayner is founded in London, UK.

1949

Rayner makes the world's first IOL.

1979

Rayner has the first IOL approved by the US FDA.



2007

Rayner launches:

- The first multifocal toric IOL.\*
- The first pseudophakic supplementary IOL.\*
- The first FDA approved IOL from a non-American manufacturer in two decades (C-flex Spheric).



2011

C-flex Aspheric launches in the USA.



2016

- Brand new HQ and state-of-the-art manufacturing facility opens in Worthing, UK.
- RayOne fully preloaded IOL system is unveiled.

2017

RayOne Trifocal premium preloaded IOL is launched.\*



1910



1949



2016

2018

- RayOne Hydrophobic and RayOne Toric preloaded IOLs are released.\*
- Sulcoflex Trifocal, the world's first supplementary trifocal IOL, launches.\*
- AEON eye drop family is introduced, designed specifically for use before and after surgery.\*
- RayOne Aspheric is FDA approved.



2019

- RayPRO digital platform for collecting patient reported outcomes data is released.
- RayOne Trifocal Toric completes Rayner's trifocal IOL family.\*



2020

RayOne EMV enhanced monofocal IOL is launched.



2021

- RayOne EMV FDA approval is received.
- RayOne Hydrophobic BLF is released, Rayner's first blue light filtering IOL.
- Rayner acquires OMIDRIA®.



2022

- Rayner invests in premium surgical instrument manufacturer, HASA OPTIX.
- RayOne EMV Toric is launched.\*



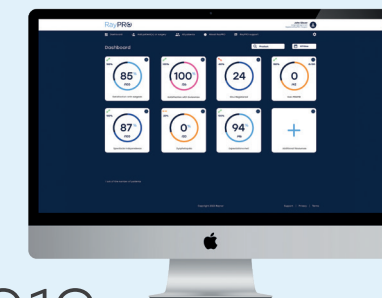
2024

- 2024 Rayner acquires This AG, manufacturer of Sophi phaco machines.\*

\* Product not currently approved by the US FDA



2018



2019



2024

# Designed to deliver without compromise

RayOne with patented Lock & Roll technology offers smooth, consistent rolling and delivery of the lens via micro incision.

## Our anti-vaulting haptic technology provides excellent fixation in the capsular bag:

- Superb centration – Average offset of only 0.08 mm 3 to 6 months after surgery<sup>1</sup>
- Excellent rotational and torsional stability – 1.83° mean IOL rotation 3 to 6 months after surgery<sup>1</sup>

## Enhanced 6 mm optic:

- Zero glistenings
- Amon-Apple enhanced square edge for minimal Nd:YAG 1.7% at 24 months<sup>2</sup>

## One solution for all your patients:

- Largest fully preloaded power range on the market
- Easy to use and efficient IOL delivery time<sup>3</sup>

1. Bhogal-Bhamra GK et al. Journal of Refractive Surgery. 2019;35(1):48-53. 2. Mathew RG, Coombes AGA. Ophthalmic Surg Lasers Imaging. 2010 Nov-Dec; 41(6):651-5. 3. Nanavaty MA and Kubrak-Kisza M. J Cataract Refract Surg. 2017 Apr;43(4):558-563.



## Preloaded Monofocal IOLs

Model Name	RayOne Aspheric RAO600C	RayOne Spheric RAO100C
Power Range	+8.0 to +29.5 D (0.5 D increments) +30.0 to +34.0 D (1.0 D increments)	

Monofocal IOLs	
Material	Single piece Rayacryl hydrophilic acrylic
Water Content	26% in equilibrium
UV Protection	Benzophenone UV absorbing agent
UV Light Transmission	UV 10% cut-off is 380 nm
Refractive Index	1.46
ABBE	56
Overall Diameter	12.5 mm
Optic Diameter	6 mm
Optic Shape	<b>RayOne Aspheric &amp; RayOne Spheric:</b> Positive powers: bi-convex. Negative powers: bi-concave. -0.5, 0.0 and 0.5 Dioptres: convex / concave
Asphericity	<b>RayOne Aspheric:</b> Anterior aspheric surface with aberration-neutral technology
Optic Edge Design	Amon-Apple 360° enhanced square edge
Haptics	0° Angulation, uniplanar. Anti-Vaulting Haptic (AVH) technology

Delivery System	
Injector Type	Single use, fully preloaded IOL injection system
Incision Size	1.65 mm nozzle for 2.2 mm incision
Bevel Angle	45°
Lens Delivery	Single handed plunger

Estimated Constants for Optical Biometry									
	SRK/T	Haigis			HofferQ	Holladay	Holladay II	Barrett Universal II	
	A-constant	a0	a1	a2	pACD	SF	pACD	LF	DF
Aspheric & Spheric	118.6	1.17	0.40	0.10	5.32	1.56	5.32	1.67	0

For Contact Ultrasound, the estimated A-constant for Aspheric and Spheric is 118.0.  
Please note that the constants indicated for all Rayner lenses are estimates and are for guidance purposes only. Surgeons must always expect to personalise their own constants based on initial patient outcomes, with further personalisation as the number of eyes increases.





# Extending range without compromise



Developed in collaboration with Professor Graham Barrett, RayOne EMV’s truly non-diffractive optic utilises positive spherical aberration to uniquely extend vision whilst avoiding the problems that can arise with diffractive lenses.

RayOne EMV offers:

- **Increased range of focus:** Up to 1.5 D<sup>1/2</sup> with an emmetropic target.
- **High quality vision:** Truly non-diffractive IOL with monofocal levels of contrast sensitivity<sup>1</sup>, dysphotopsia<sup>3,4</sup> and high levels of patient satisfaction.<sup>5</sup>

1. Ferreira TB. Presented at ESCRS 2022 [Paper].  
2. Royo, M. Presented at ESCRS 2023.  
3. Ferreira TB. Presented at ESCRS 2022 [Symposia].  
4. Findl O. et al. (2022, Sept 28). Rayner ESCRS 2022 Symposium: challenges in cataract surgery and advanced technology IOLs [Webinar]. Peer2Peer.  
5. Data on file. Rayner. RayPRO.



## Preloaded Enhanced Monofocal IOLs

Model Name	RayOne EMV RAO200E
Power Range	+10.0 to +30.0 D (0.5 D increments)

Enhanced monofocal IOLs	
Material	Single piece Rayacryl hydrophilic acrylic
Water Content	26% in equilibrium
UV Light Transmission	UV 10% cut-off is 380 nm
Refractive Index	1.46
ABBE	56
Overall Diameter	12.5 mm
Optic Diameter	6 mm
Optic Shape	Biconvex (positive powers)
Asphericity	Aspheric anterior surface
Optic Edge Design	Amon-Apple 360° enhanced square edge
Haptic Angulation	0°, uniplanar
Haptic Style	Closed loop with anti-vaulting haptic (AVH) technology

Delivery System	
Injector Type	Single use, fully preloaded IOL injection system
Incision Size	1.65 mm nozzle for 2.2 mm incision
Bevel Angle	45°
Lens Delivery	Single handed plunger

Estimated Constants for Optical Biometry									
	SRK/T	Haigis			HofferQ	Holladay	Holladay II	Barrett	
	A-constant	a0	a1	a2	pACD	SF	pACD	LF	DF
EMV	118.6	1.044	0.40	0.10	5.32	1.56	5.32	1.51	0
IOLcon.org Optimised Constants for EMV	118.416	0.1481	0.237	0.1612	5.178	1.437	N/A	1.51	0

For Contact Ultrasound, the estimated A-constant is 118.0

Please note that the constants indicated for all Rayner lenses are estimates and are for guidance purposes only. Surgeons must always expect to personalise their own constants based on initial patient outcomes, with further personalisation as the number of eyes increases.



# Long-term, real-time, patient reported insights

RayPRO

As a surgeon, the most important thing to you is the long-term outcome and satisfaction of your patients. RayPRO is a web-based digital platform that collects insightful Patient Reported Outcomes (PROs) over three years.

- **New insightful trends**

- Promote your services to new patients, with easy-to-understand metrics.
- Supports appraisals, recertification and auditing.

- **Fast and simple**

- Patients are registered in seconds.
- Only value-adding data is collected.

- **Automated collection of PROs**

- Patients provide their feedback in just a couple of minutes.
- Responses are anonymous to encourage patient honesty.
- Reports are always live, with no data analysis needed.
- Use product and patient trends to improve your service.

- **Secure cloud-based platform**

- Designed for data security and to be GDPR and HIPAA compliant.
- Only you can see your personal RayPRO reports and metrics.
- Questionnaire responses are non-identifiable to protect patients' data privacy.



RayPRO

## RayPRO collects insightful patient outcomes:

### 1 Week

- Satisfaction with the surgeon.
- Satisfaction with the hospital.

### 1 Month

- Supports clinically validated Cat-PROM5 questionnaire.

### 3 Months

- Satisfaction with the surgery outcomes.
- Spectacle independence at multiple distances.
- Achievement of target refraction.

### 1 Year

- Satisfaction with the surgery outcomes.
- Any visual disturbances experienced.
- Additional procedures (last 12 months).

### 2 Years

- Additional procedures (last 12 months).

### 3 Years

- Additional procedures (last 12 months).

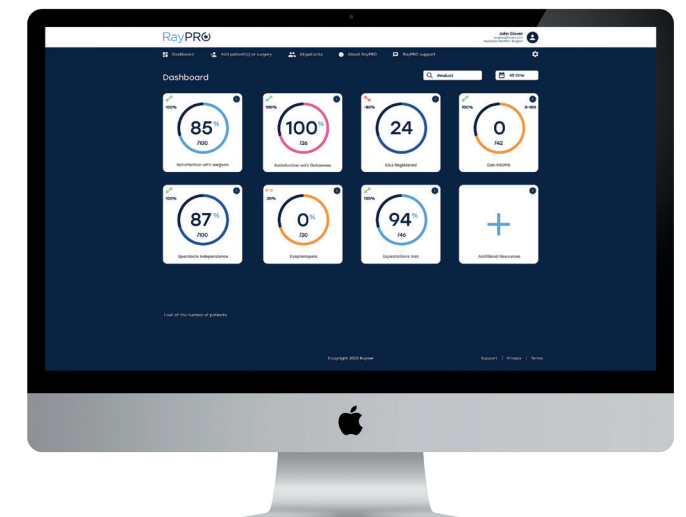
For FAQs, videos and support,

visit [www.rayner.com/raypro/support](http://www.rayner.com/raypro/support)

**RayPRO is FREE for users of Rayner IOLs.**  
**Subscription available for non-Rayner IOL users.**

Learn more at [rayner.com/raypro](http://rayner.com/raypro)

**Now supporting all IOLs**

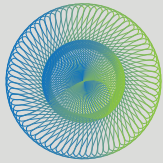




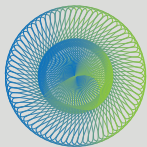
# Premium single-use recyclable instruments

HASA OPTIX is a Belgian medical device company that designs and manufactures a wide range of premium recyclable single-use instruments. Through partnership with HASA OPTIX, Rayner is pleased to offer surgeons an extensive portfolio of pre-sterilised instruments and sets that adhere to the highest standards of materials.

HASA OPTIX demonstrates its unwavering commitment to our planet by developing an integrated re-use cycle for the fully recyclable stainless steel instruments, giving them a second life as non-medical objects. This initiative is meant to mitigate the global environmental impact of ophthalmic surgery. HASA OPTIX ophthalmic solutions contribute to a more cost-controlled work environment, optimise OR organisation, and elevate the overall quality of care provided.



HASA OPTIX  
Belgium



HASA OPTIX

## HASA OPTIX:

- **Premium and constant quality:**  
Only producer of single use ophthalmic surgical instruments with quality standards as high as reusable.
- **Sustainable organisational solution:**  
Instrument sets are presented in a paper pouch avoiding heavy plastic inserts.
- **Cost controlling:**  
Integrated solutions allow the calculation of a fixed cost per surgery.

- **Circular economy:**  
Recyclable instruments allow you to integrate a “cradle to cradle” waste management program.





# Optimize time. Maximize control.

## Go dropless with OMIDRIA.

OMIDRIA, as part of a dropless regimen, streamlines cataract surgery for surgeons and patients by reducing postoperative time and costs while maximizing control over medication delivery and compliance with the only FDA-approved intracameral NSAID.



DISCOVER  
MORE



OMIDRIA®

(phenylephrine and ketorolac  
intraocular solution) 1% / 0.3%

#### INDICATIONS AND USAGE

OMIDRIA® is added to ophthalmic irrigating solution used during cataract surgery or intraocular lens replacement and is indicated for maintaining pupil size by preventing intraoperative miosis and reducing postoperative ocular pain.

#### IMPORTANT SAFETY INFORMATION

OMIDRIA must be added to irrigating solution prior to intraocular use.

OMIDRIA is contraindicated in patients with a known hypersensitivity to any of its ingredients.

Systemic exposure to phenylephrine may cause elevations in blood pressure.

Use OMIDRIA with caution in individuals who have previously exhibited sensitivities to acetylsalicylic acid, phenylacetic acid derivatives, and other

nonsteroidal anti-inflammatory drugs (NSAIDs), or have a past medical history of asthma.

The most commonly reported adverse reactions at  $\geq 2\%$  are eye irritation, posterior capsule opacification, increased intraocular pressure, and anterior chamber inflammation.

Please see the Full Prescribing Information for OMIDRIA at [www.omidria.com/prescribinginformation](http://www.omidria.com/prescribinginformation)

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This is a studied post-operative cataract surgery regimen that may not be for everyone.  
Rayner does not recommend any specific combination use of products.  
For further advice please consult a medical provider.





# Supporting surgeons for over 70 years

Rayner has been focused on providing the best visual outcomes for surgeons and patients for over 70 years. Our mission is to deliver innovative and clinically superior ophthalmic products that consistently respond to the expectations of our global customers and reward the profound trust placed in us to improve sight and quality of life.

Rayner is a British company and the only manufacturer of intraocular lenses in the UK.

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**Not all Rayner products are approved for sale in every country.**

**Please contact your local Rayner representative for details of which products are available in your area.**

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