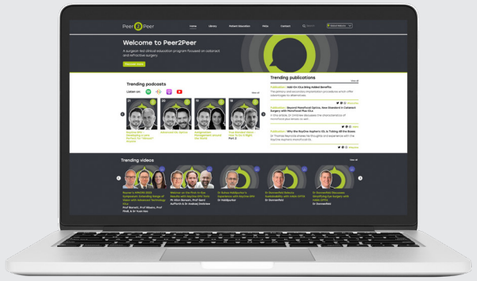
Monofocal IOLs

Designed to deliver without compromise

Don’t miss what your peers are saying

Leading surgeons from around the world share their real-world experience with RayOne EMV - watch engaging webinars, listen to insightful interviews and podcasts, and read interesting case study articles.

Visit **www.rayner.com/peer2peer** to access videos and articles, download resources and join future events and discussions.



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Rayner

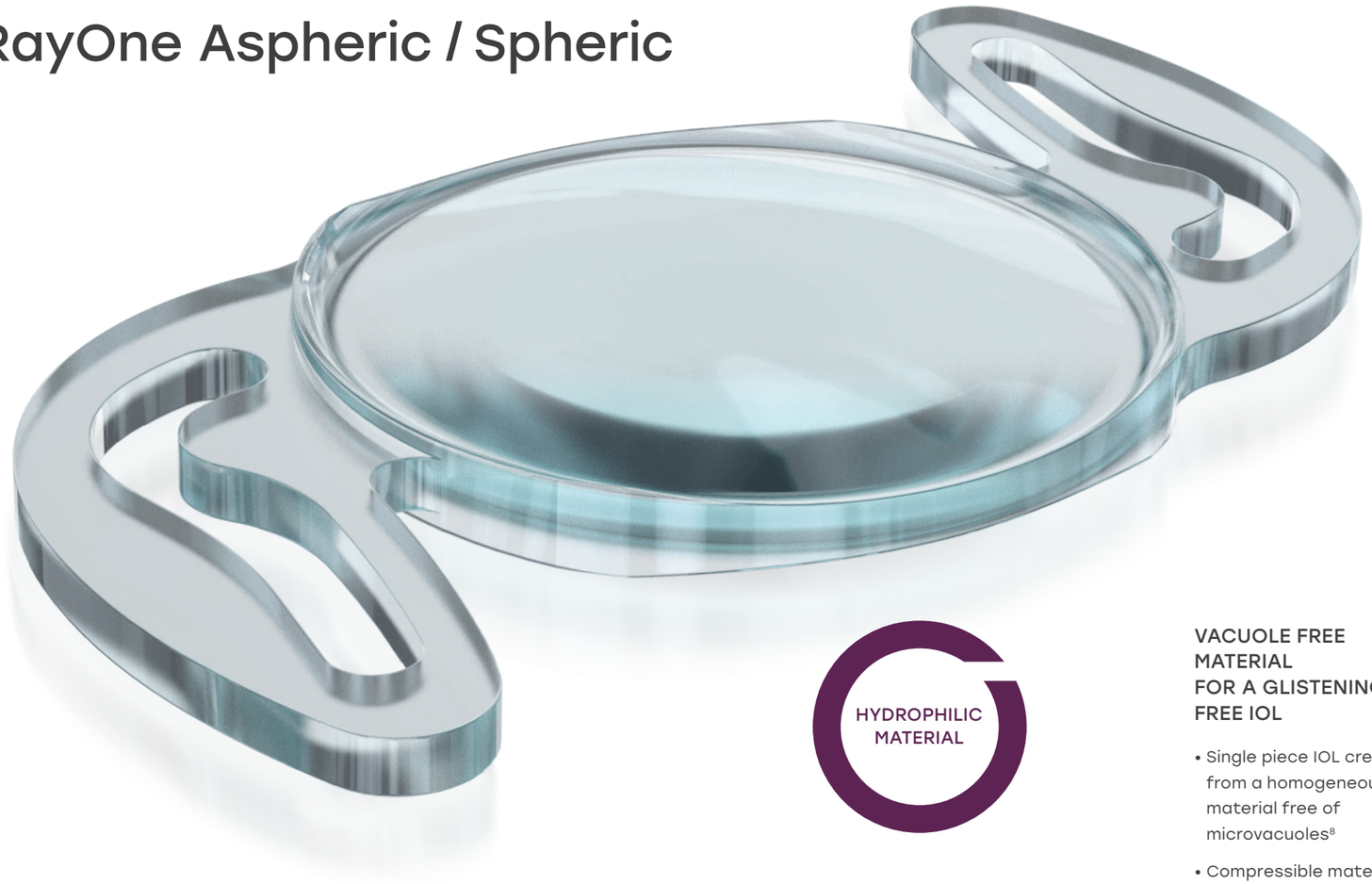
MADE IN UK

RayOne ASPHERIC

RayOne SPHERIC

Rayner

RayOne Aspheric / Spheric



HYDROPHILIC MATERIAL

KEY INFORMATION

Available as:
- Spheric
- Aberration-neutral aspheric

- Fully preloaded power range
- Aspheric & Spheric
  -10.0 D to +34.0 D sphere
- Amon-Apple enhanced square edge for minimal PCO 1.7% at 24 months[6]
- Average offset of only 0.08 mm 3 to 6 months after surgery[14]
- 1.83° mean IOL rotation 3 to 6 months after surgery[14]

VACUOLE FREE MATERIAL FOR A GLISTENING FREE IOL

- Single piece IOL created from a homogeneous material free of microvacuoles[8]
- Compressible material for delivery through a micro incision
- Excellent handling characteristics with controlled unfolding within the capsular bag
- Low silicone oil adherence[9]
- Excellent uveal biocompatibility[10]
- Hydrophilic acrylic material with low inflammatory response[11]

When considering an intraocular lens, what's important to you?

RayOne Aspheric is designed with an aspheric anterior surface that creates no spherical aberration.

Studies have demonstrated that aberration-neutral technology:

- Offers improved contrast sensitivity compared with spherical IOLs[1,2]
- Provides better low light level visual acuity than spherical IOLs[3]
- Can offer more depth of field than aberration-negative IOLs by retention of the patient's natural level of corneal spherical aberration[4]
- Are less susceptible to the effects of decentration than aberration-negative IOLs[5]
- Twice as many patients preferred the aberration-neutral IOL than aberration-negative[4]
- Three times fewer reports of visual disturbances with the aberration-neutral IOL than aberration-negative[4]

Reducing dysphotopsia by design

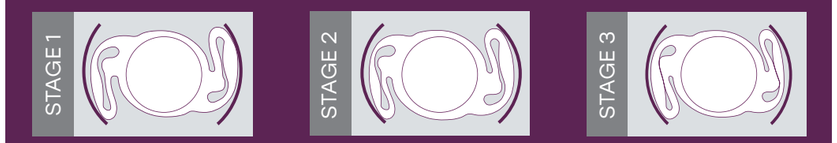
- Rayner's Enhanced Square Edge Technology shows no general increase in glare from previous models without a square edge[6]
- Low refractive index (1.46)[15]

360° Optimised Barrier to reduce PCO

Rayner's 360° Amon-Apple Enhanced Square Edge creates an optimum barrier to reduce epithelial cell migration including at the haptic-optic junction.[6,7]

ND: YAG CAPSULOTOMY RATES[6]		MEAN TIME TO ND: YAG CAPSULOTOMY[2]
At 12 months	0.6%	9.3 ± 5.5 mths (range 2.6 - 22.7 mths)
At 24 months	1.7%	Follow-up period: 5.3 - 29 mths

Extremely low Nd:YAG capsulotomy rates, comparable with hydrophobic acrylic lenses with square-edge optics.[6]

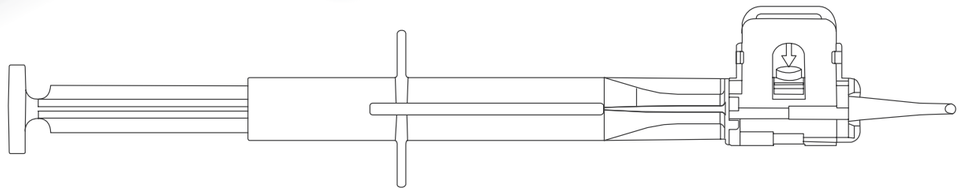


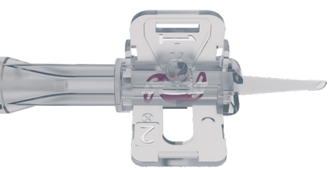
Outer haptics begin to take up the compression forces of post-operative capsule contraction

Outer haptics engage the inner haptics

Haptic tips gently meet the IOL optic and are effectively locked into position

RayOne injector





TWO-STEP SYSTEM

- **Step 1:**
  Insert OVD into cartridge via port
- **Step 2:**
  Lock cartridge ready for implantation
- Easy to use[12]
  - Minimal learning curve
  - Minimises error
- Efficient IOL delivery time[12]
  - Designed for repeatability
  - Reduces operating time

13. RayOne Instructions for Use.

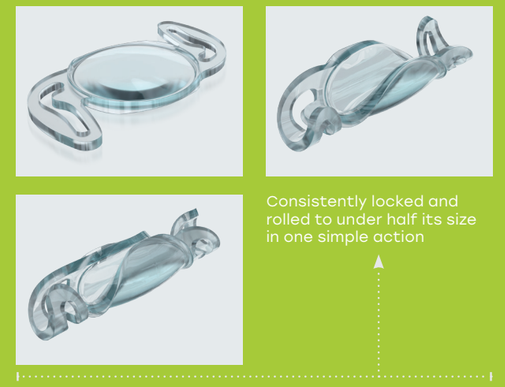
FEATURES & BENEFITS

- 1.65 mm nozzle for 2.2 mm incision
- Smallest fully preloaded injector nozzle
  - Ease of insertion
  - Enables true micro incision
- Parallel sided for minimal stretch
  - 2.2 mm delivery
  - Maintains incision architecture
- Ergonomic design for ease of handling
- Single handed plunger with minimal force required

Unique patented Lock & Roll technology for consistent delivery

- Rolls the lens to under half its size before injection
  - Consistent, smooth delivery
  - Reduces insertion forces
- Fully enclosed cartridge with no lens handling
  - Reduces the risk of lens damage
  - Minimises chance of contamination

Lock & Roll technology

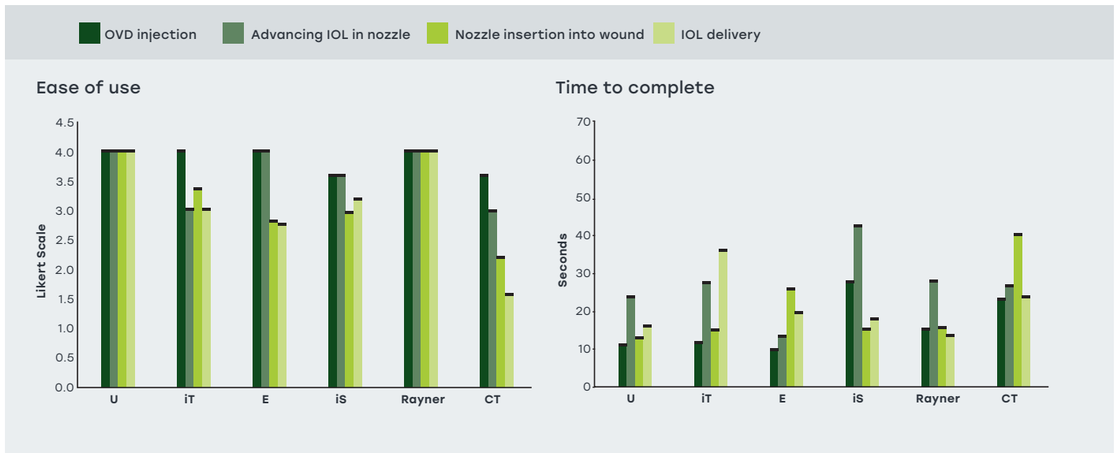


In a comparative study of six market-leading preloaded delivery systems[12]

1. RayOne received the maximum score for 'ease of use' for all delivery steps:[12]

OVD priming | Advancing OVD in the nozzle | Nozzle insertion into the wound | IOL delivery

2. RayOne was the least time consuming system for delivering the IOL[12]
3. RayOne showed less injector tip damage post-insertion than 50% of the tested delivery systems[12]
4. RayOne showed minimal wound stretch compared to other tested delivery systems when inserted through a 2.2 mm incision[12]



Ultrasert (U) (Alcon Laboratories, Inc.), iTec (iT) (Abbott Medical Optics, Inc.), Eyecee (E) (Bausch & Lomb, Inc.), iSert (iS) (Hoya Surgical Optics, Inc.), and CT Lucia (CT) (Carl Zeiss Meditec AG). All trademarks are property of their respective owners

RayPRO

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

RayPRO is a comprehensive Patient Reported Outcome Measurements (PROMs) platform that allows clinics to gain essential data on patient outcomes which can be used to inform.

- A truly unique patient-reported outcomes (PROMs) platform which has the ability to track patients over 3 years post-surgery.
- Giving actionable feedback and insight from patients on their experiences and perspectives post-surgery.
- Supporting all IOL brands and models as well as validated clinical questionnaires.
- Utilising a unique multiple-patient upload feature to quickly and effectively add patients.

Cat-PROM5 integrated
Clinically validated questionnaire designed by Sparrow JM, Frost NA, Donovan JL et al.

Comparison view
This unique feature within RayPRO allows users to directly compare the performance of up to four different IOLs patient data.

Multiple patient upload
Supporting fast and efficient upload of patients via an intuitive multiple patient upload system. In some cases, this can be automated with scripts.

Automated collection & reporting
RayPRO sends patient follow-up questionnaires automatically at predefined time points and displays the results in real-time.

DPIA/GDPR/HIPPA compliant
RayPRO cooperates with all national data protection standards.

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

Learn more at rayner.com/raypro

RayOne References:

1. Nanavaty MA, Spalton DJ, Boyce J, Saha S, Marshall J. J Cataract Refract Surg. 2009; 35:663-671. **2.** Yagci R, Uzun F, Acer S, Hepsen IF. Eur J Ophthalmol. 2014 Jul 24; 24(5):688-92. **3.** Pepose JS, Qazi MA, Edwards KH, Sanderson JP, Sarver EJ. Graefe's Archive for Clinical and Experimental Ophthalmology July 2009, Vol 247, Issue 7, pp 965-973. **4.** Johansson B, Sundelin S, Wikberg-Matsson A, Unsbo P, Behndig A. J Cataract Refract Surg. 2007; 33:1565-1572. **5.** Altmann GE, Nichamin LD, Lane SS, Pepose JS. J Cataract Refract Surg. 2005; 31(3): 574-585. **6.** Mathew RG, Coombes AGA. Ophthalmic Surg Lasers Imaging. 2010 Nov-Dec; 41(6):651-5. **7.** Vyas AV, Narendran R, Bacon PJ, Apple DJ. J Cataract Refract Surg 2007; 33:81-87. **8.**Rayner. Data on File (RDTR 1937). **9.** McLoone E, Mahon G, Archer D, Best R. Br J Ophthalmol. 2001; 85:543-545. **10.**Tomlins PJ, Sivaraj RR, Rauz S, Denniston AK, Murray PI. J Cataract Refract Surg. 2014; 40:618-625. **11.** Rayner. Data on File. **12.** Nanavaty MA and Kubrak-Kisza M. J Cataract Refract Surg 2017; 43:558-563. **13.** RayOne Instructions for Use. **14.** Bhogal-Bhamra GK, Sheoppard AL, Kolli S, Wolffsohn JS. J Refract Surg. 2019;35(1):48-53. **15.** Ferreira T. et al. J of Refract Surg. 2019; 35(7): 418-25.

Technical information

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	RayOne Aspheric & RayOne Spheric
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	**RayOne Aspheric & RayOne Spheric** Positive powers: bi-convex Negative powers: bi-concave -0.5, 0.0 and 0.5 Dioptres: convex / concave (surfaces close to plano)
Asphericity	**RayOne Aspheric:** 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.