

ESCRS Clinical Report

Reported by Saima Khokhar, Head of Eye Science

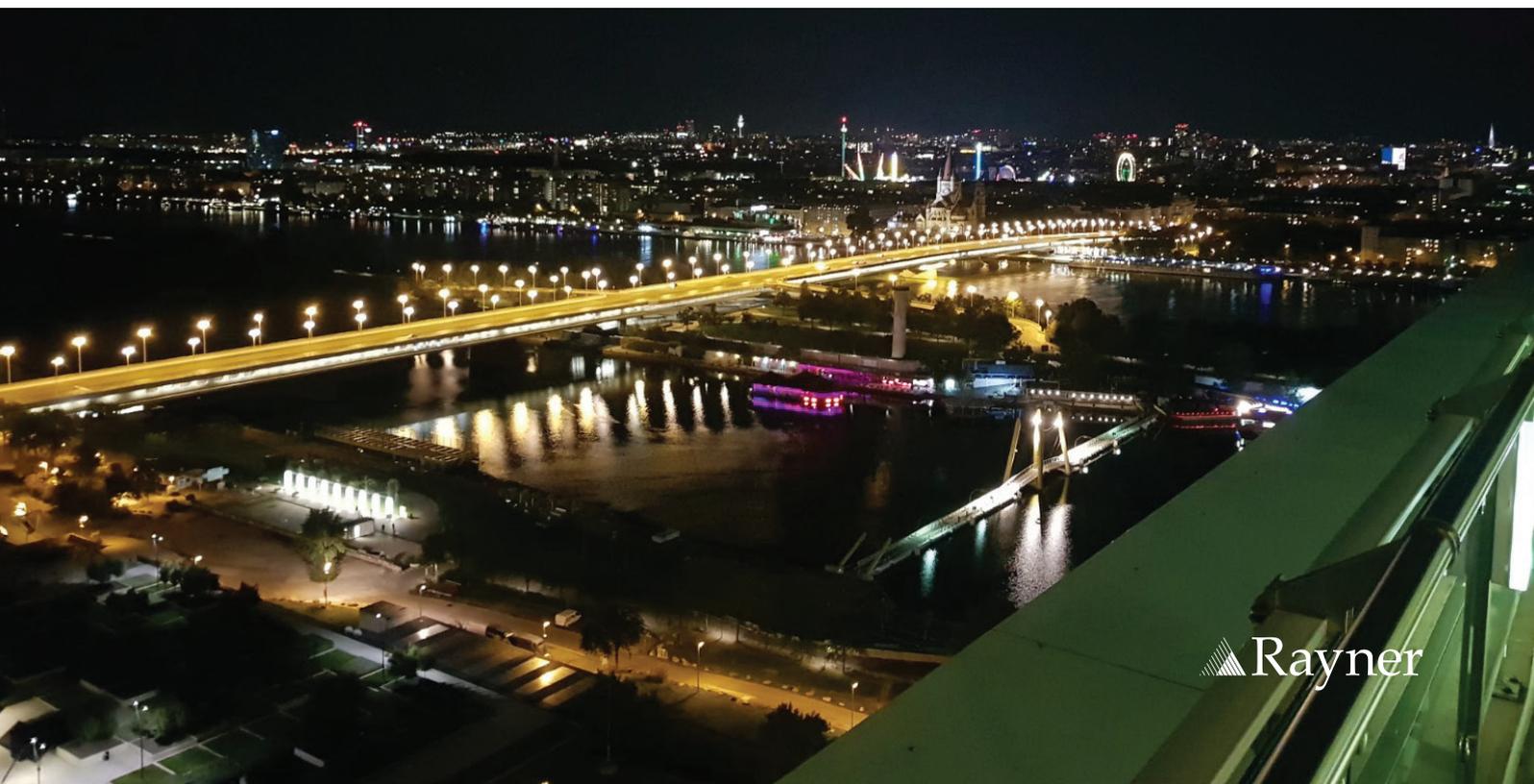
RayPRO[™]

Rayner were delighted to exhibit at the 36th Congress of the European Society of Cataract and Refractive Surgeons (ESCRS) in the beautiful city of Vienna, Austria. Renowned for its cultural events, imperial sights, cosy coffee houses and wine taverns, the team at Rayner were pleased to be embraced by the Viennese charm.

With 9,330 delegates attending the ESCRS from all over the world, Rayner had a very strong presence at the congress launching 3 innovative new products:

- **Sulcoflex[®] Trifocal** in collaboration with Professor Amon, the first supplementary IOL with Trifocal technology.
- **RayPro[®]**, a unique digital platform to collect insightful cataract patient reported outcomes over 3 years (the importance of patient reported outcomes was a topic discussed by President Beatrice Cochener, Professor Boris Malyugin, Professor Findl, Professor Amon and Professor Spalton at *The Best of the Best review session*).
- **AEON[™]** a new innovative eye drop range to support patients before and after cataract surgery for the management of ocular surface disease and improved patient outcomes.

In addition to these incredible and successful launches, Rayner were pleased to organise two clinical educational events for ophthalmologists attending the ESCRS from around the world.



Saturday 22nd September- Patient Satisfaction and a NEW Portfolio of Versatile Refractive products: New Rayner Trifocal Technologies and the RayOne® Hydrophobic.

On the evening of Saturday 22nd September at Wolke 19 Ares Tower with scenic views over Vienna, a panel of 7 surgeons gathered to present and discuss **"Patient Satisfaction and a NEW Portfolio of Versatile Refractive products: New Rayner Trifocal Technologies and the RayOne® Hydrophobic"** This was an evening of clinical evidence and clinical excellence. We were thrilled to open the doors to 140 cataract and refractive surgeons from across Europe.



Dr Matteo Piovella, President of the Italian Ophthalmological Society Medical Director of CMA Medical Centre for ambulatory microsurgery, Monza, Italy chaired the evenings clinical discussions and kicked off the meeting with an introduction to the prestigious surgeon panel.

He also discussed the **importance of adopting Trifocal technology into clinical practice and patient satisfaction**. The key messages he presented highlighted that *"Trifocal technology is the only technology approved for Distance, Near and Intermediate vision,"* He himself had trifocal IOL surgery 4 years ago in Germany. He went on to comment *"in the last 3 years I have implanted Trifocal in over 70% of cataract patients."* Professor Kohnen in addition to this responded *"to the audience, start the journey, get into the business because Trifocal technology is so good, I do now 63% of presbyopic correction. You need to work on your biometry, preop examination, spend time with the patient, but I can tell you patients are so happy"*

"...in the last 3 years I have implanted Trifocal in over 70% of cataract patients"

**70 % of Our Cataract Patients
Were Implanted with Trifocal IOLs Since 2015**



- **74% of Our Patients Were Implanted with Trifocal IOLs in Year 2015**
- **73% of Our Patients Were Implanted with Trifocal IOLs in Year 2016**
- **69 % of Our Patients Were Implanted with Presbyopic IOLs in Year 2017**
- **53%(2015) - 44%(2016) - 51%(2017) of These Groups Were Implanted with Trifocal Toric IOLs**
- **“Personalized Advanced Biometry” Was Applied in All Patients**

piovella@piovella.com

Do Patients with large pupils benefit from Rayner’s Trifocal optic design?

Reported by Sam Carter

- You will all have seen our headline figure of just **11%** light loss for the RayOne® Trifocal. This means 89% of light is reaching our foci and keeping contrast high*. (Industry Standard 3mm aperture on the optical bench to simulate a 3mm pupil).
- This figure compares very favorably with our established competitors: **Over 20% less scattered light** than Finevision (14% at 3mm) and AT LISA Tri (14% whole optic average)
- But let’s consider what happens when a patient has a larger pupil, often reported to result in the most complaints about bothersome halos and glare with diffractive lenses:

As you can see the RayOne® Trifocal and new Sulcoflex® Trifocal share the same optic design with just 16 diffractive steps and our proven monofocal aspheric optic in the zone outside 4.5mm

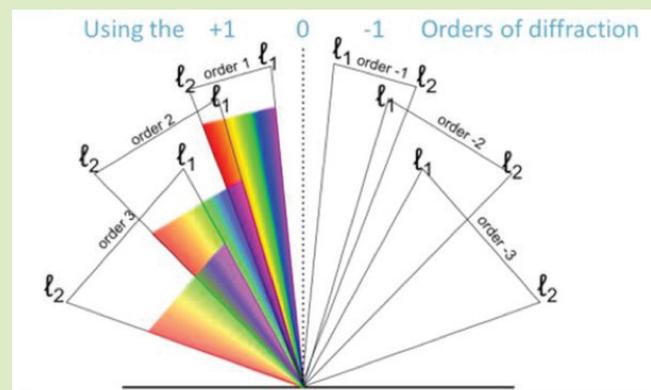
Both AT Lisa Tri and Finevision have more diffractive steps (29 and 26 respectively) all the way to the periphery of the optic:

Finevision IOL has 26 apodized steps, which get smaller towards the periphery.

AT Lisa Tri IOL has 29 steps that stay a constant height with just the Intermediate profile dropped towards the periphery.

So which lens is designed to do the most to reduce light loss and bothersome halos with large pupils? (and which the least?)

* This is achieved with our patented diffractive profile, the only profile to incorporate a binary/ symmetrical element to allow use of the -1 order of diffraction.





Professor Thomas Kohnen, Chair of the Department of Ophthalmology Goethe University, Frankfurt, Germany implanted the **World's first RayOne® Hydrophobic surgery post CE mark in May 2018.**

He started the presentations with his first experiences of the RayOne® Hydrophobic system and stated *"we have been using product from Rayner for many years in Frankfurt, we were intrigued by the design of the lens, we also use the add on lens very often because it is a very good product"*. On the 24th May 2018, Professor Kohnen implanted RayOne® Hydrophobic into the first patient post CE mark using standard phacoemulsification technique, he commented on the surgery *"nice to see in the first implantation there was very smooth delivery of the IOL into the capsular bag"* and with regards to the cornerstone technology he states this *"gives better stability to the IOL. From my perspective, a very nice implantation, very easy to do and very much in the standards of the current monofocals"*.

"...in the first implantation there was very smooth delivery of the IOL into the capsular bag."

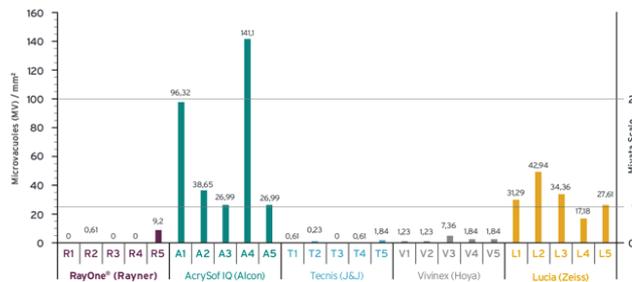
He also described the injector system itself as *"simple and intuitive with minimal learning curve"*. He used the injector system the first time in surgery with no pre-lab experience. When addressing the complete power range of -10.0 D to +32.0 D, Professor Kohnen states *"this is a very smart move, because if you go into the myopic range, then you can really cover the whole range, many companies unfortunately stop at +10.0 D or +6.0 D but with this range, it is very easy for the surgeon"*. Professor Kohnen also went onto discussing the independent study results from the Research centre in University of Heidelberg comparing the measure of microvacuoles on the clinical Miyata scale in 5 different hydrophobic materials; RayOne® Hydrophobic, Vivinex (Hoya), Acrysof IQ (Alcon), CT Lucia (Zeiss) and Tecnis (J&J Vision) of which he states *"RayOne® Hydrophobic is absolutely equivalent if not superior therefore will not produce any significant or visible glistenings on a slit lamp examination."* Prof Kohnen added *"Rayner can be proud with the outcome of this study"*

In conclusion on the RayOne® Hydrophobic, Prof Kohnen states it is a *"new IOL which has a lot of promise of becoming a good intraocular lens for the monofocal market (sic)"*



Professor Kohnen implanting the first RayOne® Hydrophobic and RayOne® Hydrophobic centred in the capsular bag

Independent study results research institution Uni Heidelberg, Germany



A score below one on the clinical Miyata scale will not produce any significant visible glistenings on a slit lamp examination and is therefore considered 'glistening free'*

*Independent in-vitro study, IOL material purity report: University Hospital Heidelberg, Germany – data to be published.

In comparison with its competitor models the RayOne® Hydrophobic lens is **absolutely equivalent or even superior***

36th Congress of the European Society of Cataract and Refractive Surgeons/ 22-26.08.2018/ T. Kohnen





Dr Cedric Schweitzer, Consultant Ophthalmologist at University Hospital centre in Bordeaux, France, was one of the first surgeons to implant the RayOne® Hydrophobic in France, he continued the Hydrophobic presentations with his **post-operative clinical results with 1 month follow up**.

His team carried out a prospective pilot study in 11 cataract patients with 3 days and 1 month follow up, they measured surgical time, IOL unfolding time, visual acuity and absolute refractive error, glistening and PCO rates, IOL rotational stability using slit lamp photography and IOL tilt, decentration using swept source anterior OCT. His patients presented with a wide range of refractive errors (0 D to 8.5 D). Dr Schweitzer states *"that on average the total surgical time was between 7-8 minutes and the total unfolding time of IOL was approximately 25 seconds, there were no complications with IOL folding in the injector nor within the surgery."* He measured the rotational stability between day 3 and 1 month and observed very low rotation of below 3 degrees so states it is a very stable IOL in the capsular bag. The total mean absolute refractive error was 0.2 D. To conclude Dr Schweitzer states *"RayOne® Hydrophobic fulfils all current IOL requirements for cataract surgery. The IOL unfolding and delivery time within the capsular bag is very short, there are excellent visual, refractive and aberrometry measurements outcomes and excellent rotational stability and centration within the bag"*

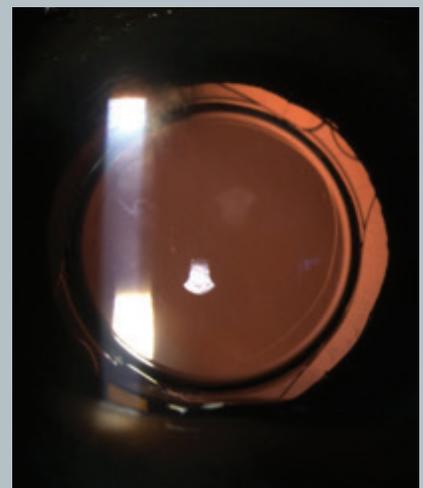
"...excellent rotational stability and centration within the bag"

Visual and refractive outcomes at Month 1 visit	RayOne population (n=11)
Mean postoperative UCVA (LogMAR)	0,04+/-0,07
Mean postoperative BCVA (LogMAR)	0,05+/-0,08
Mean Absolute error of manifest refraction spherical equivalent - Diopter (SD) (Min-Max)	0,22+/-0,25 (0-0,75)

Table of outcomes

MATERIALS & METHODS

- **Surgical procedure recorded**
- **Visits:** Day 0, Day 3, Month 1
- **Outcomes:**
 - **Day 0 visit:**
 - Total Surgical time and Unfolding time
 - Intraoperative complications
 - **Month 1 visit:**
 - VA and absolute refractive error
 - Glistening, PCO
 - IOL rotational stability using slit lamp photography (D3-M1)
 - IOL Tilt and centration using Swept-source anterior segment
 - OCT (Casia, Tomey) Optical aberrations using Ray tracing (Itrace, USA)



The evening discussions and presentations then moved focus onto the refractive technologies that Rayner has to offer including RayOne® Trifocal and Sulcoflex® Trifocal.



Dr Allon Barsam, British pioneer in eye surgery with a self-established refractive private practice in London, UK, opened the trifocal discussions with his **introduction to the RayOne® Trifocal platform and Results in patients 1 year later** since the launch of RayOne® Trifocal in Lisbon last year. Dr Barsam was one of the first adopters of RayOne® Trifocal and started using the Trifocal IOL in August 2017. His presentation focused on the retrospective follow up of 36 eyes of 18 patients, implanted with RayOne® Trifocal. He measured post op manifest refraction and visual acuities for Distance, Intermediate and Near. *"The manifest refractive results were tight, with 100% patients within 0.75 D and 90% of patients within 0.5 D. 100% patients were spectacle independent."* Dr Barsam stated *"all patients report night time halos, but no one was complaining of it, so for none was it disabling. I would have discharged half of the patients at 2 weeks follow up as they had no complaints and happy with their vision"*.

"...those halos are distinct and crisp, complaints of glare are almost not there at all"

Dr Barsam went onto to talk about the features and benefit of the Trifocal and IOL platform, commenting further *"I like the fact its aberration neutral, I think inducing aberration with a lens is something that I am concerned about, not all corneas are the same, the fact it is aberration neutral, I find really comforting."* Speaking more openly about dysphotopic phenoma and sharing his pearls of experience, Dr Barsam comments *"I have done at least 50 eyes now, I am presenting 36 but I continue to use (RayOne®) Trifocal, patients do tell you they see halos, but those halos are distinct and crisp, but complaints of glare are almost not there at all, I find glare to be a much more disabling, worrying, troubling and bothersome symptom than halos. If they can see crisp and distinct halos around light sources they will be less disturbed by quality of vision issues than glare which distorts the overall quality of image that they are trying to look at especially at night"*

RESULTS & SUMMARY

Distance visual acuity

Snellen	LogMAR	No. of patients	Cumulative %
6/4	-0.18	6	43%
6/5	-0.08	8	78%
6/6	0.00	1	83%
6/7.5	0.10	1	89%
6/9	0.18	2	100%

Near visual acuity

Roman chart	LogMAR	No. of patients	Cumulative %
N4	0.10	5	33%
N5	0.20	9	93%
N6	0.30	1	100%

Post-op refraction

- 90 % of eyes within +/-0.5 D
- 100 % of eyes within +/-0.75 D (spherical equivalent)

Issues

- All patients reported night-time halos but none complained of this phenomenon (i.e. non disabling, mild)

SUMMARY

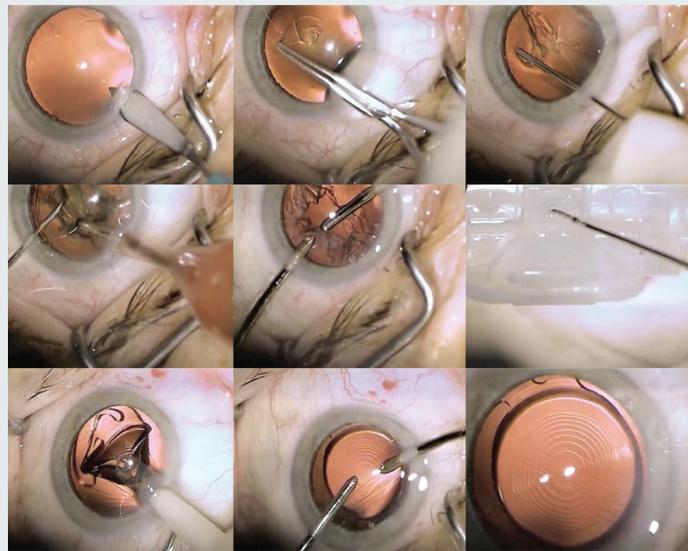
High percentage of patient achieving 6/6 distance vision and N5 reading vision unaided and 100% achieved spectacle independence.





“Patients choosing an EDOF IOL should be willing to accept the possibility of wearing glasses for sustained near vision tasks”

Professor Ewa Mrukwa-Kominek, Head of Ophthalmology at the University Centre of Ophthalmology and Oncology in Katowice, Poland, was the first surgeon to implant RayOne® Trifocal in Poland, she presented **clinical results from her implantations but also discussed evolution of MIOLs and comparison to Trifocal and EDOF Technology**. Professor Mrukwa-Kominek started using Refractive Bifocal technology many years ago and M-flex was her lens of choice, she states in her experience *“for our patients the Rayner IOL platform was very good”*. When discussing the evolution of MIOLs, she states *“the quality of far and near vision has improved significantly through innovations such as apodization, diffraction and smoothing of spherical aberration correction.”* Together with the introduction of intermediate vision. When comparing EDOF IOLs to MIOLs, Prof Mrukwa-Kominek states, *“EDOF lenses are associated with good far and intermediate vision but near vision can be weaker than with MIOLs, patients choosing an EDOF IOL should be willing to accept the possibility of wearing glasses for sustained near vision tasks”*



She carried out the first RayOne® Trifocal implant in Poland in May 2018 and carried out a 3 month follow up. She describes *“the advantage of RayOne® Trifocal for me is the superb centration of lens, maximum offset of only 1mm, 3 months after surgery. I can agree this is true as the lens is really stable.”*





"...RayOne® Trifocal is my [his] first trifocal of choice"

Dr Gonzalo Bernabeu, The Head of Ophthalmology at HM Valles Hospital in Madrid, Spain, went on to present the **Importance of selection criteria for Premium patients with the RayOne® Trifocal**. Dr Bernabeu offered his pearls of wisdom as patient selection is key when considering implanting Trifocal IOLs to ensure surgeons achieve the desired patient satisfaction and happy patients. Dr Bernabeu has implanted more than 1000 trifocals to date over 6 years, he has now used 42 RayOne® Trifocals and *"has high patient satisfaction and today RayOne® Trifocal is his first trifocal of choice... patients do not complain about halos"*

When discussing importance of patient selection, he advises *"when a well operated patient with a multifocal IOL and emmetropic result is unhappy, this is usually because of a mistake in patient selection"* He offered great advice on both medical and psychological factors which should be considered during patient selection. When describing what type of patient personalities may not tolerate trifocal technology, he used a great analogy of TV technology *"there are patients with 4k resolution brains, they would be difficult to be happy"* and to also avoid overpromising perfection to patients *"avoid using the word perfect"*. In addition to this, Dr Bernabeu discusses the importance in using good and correct technology to carry out pre-operative measurements. He advises that *"if you are going to promise your patients that they are to be spectacle independent after surgery, then ensure you have LASIK"* to fulfil this promise. He encourages *"a 4-step approach for pre-operative screening: 1) evaluation of corneal irregularities, 2) evaluation of corneal shape, 3) evaluation of corneal spherical aberrations, 4) corneal astigmatism evaluation."*



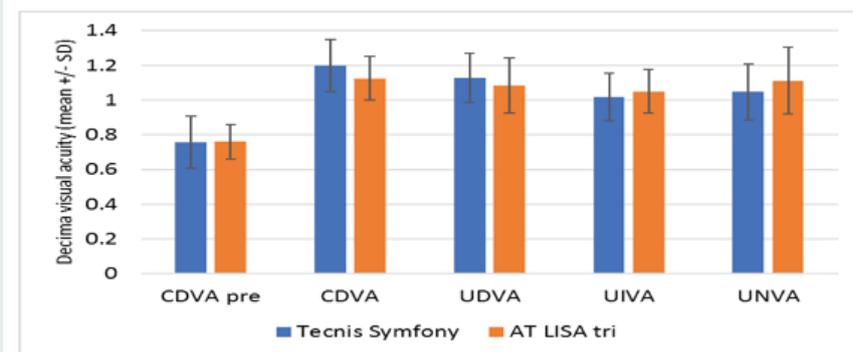
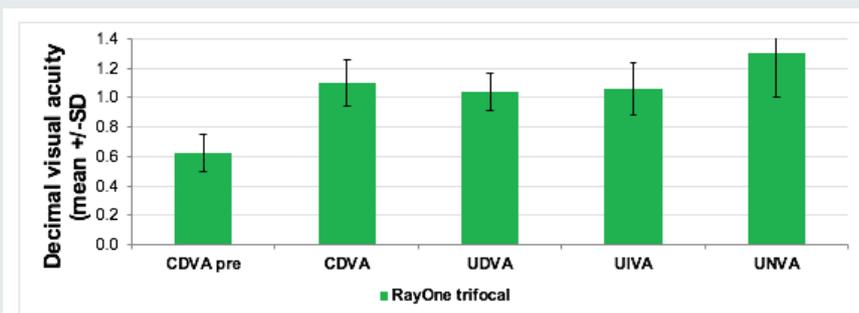
Finally, we completed the evening presentations with the inventor of Sulcoflex platform, Prof Amon in collaboration with our R&D department, who presented an introduction to the Sulcoflex® Trifocal platform.



Professor Michael Amon, Medical Director of Academic Teaching Hospital of St. John, and Sigmund Freud Private University in Vienna, Austria completed the **first Global implant of Sulcoflex® Trifocal on July 30th, 2018 and presented his Early Implantation results of Duet and Pseudophakic patients.** He first discussed the history of the Sulcoflex platform available since 2007, stating the hydrophilic material of Sulcoflex with its high uveal biocompatibility is important for its position within the Sulcus. Drawing upon clinical data over the last 10 years in which the safety and efficacy of Sulcoflex platform has been proven, he commented *“data from optical bench studies is important, the 4 surfaces within one eye can create more glare and optical problems in principle, however Dr Schrecker found and published in JCRS that there are almost the same amount of reflections and no more light loss so optical quality is the same as if you had two lenses in eye”*. Prof Amon also discussed another clinical study in 2017 in which the centration of both capsular bag lens and sulcus lens were compared. Prof Amon states *“we found slight significant difference, the centration was better in the sulcus and more importantly it was stable because the sulcus usually is not changing, there are capsular bag contractual forces and usually changes within the first year”*. After the 10-year overview, Prof Amon. Stated *“supplementary IOLs are effective for secondary enhancement and for primary duet implantation, they present reversible and exchangeable technology for the future”*

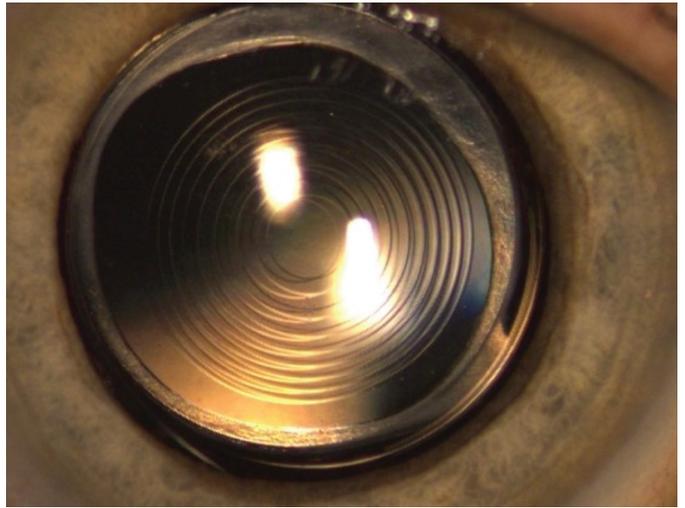
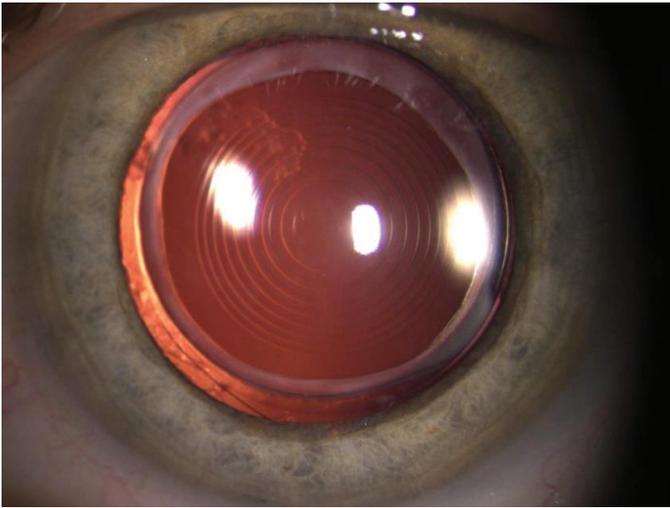
“...supplementary IOLs are effective for secondary enhancement and for primary duet implantation, they present reversible and exchangeable technology for the future”

Professor Amon went on to introduce the Sulcoflex® Trifocal; he explained that the Trifocal optic on the supplementary IOL is the same technology as the Trifocal optic on the Primary RayOne® Trifocal IOL. He performed a prospective comparative study on the RayOne® Trifocal against Symfony (J&J Vision) and AT Lisa Tri (Zeiss) of which he states *“we didn't find any significant differences between the Zeiss Lens and RayOne® Trifocal”*.

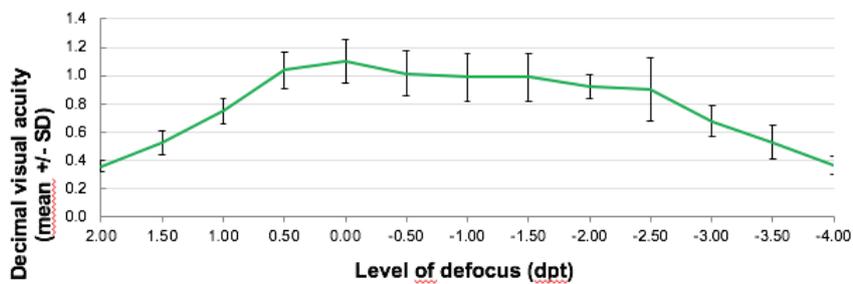


Graph of outcomes

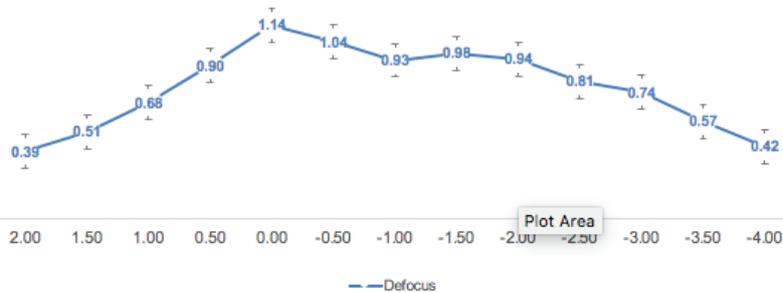
"Sulcoflex® Trifocal is suitable with any primary IOL lens" he further commented on the delivery of the IOL explaining the IOL is injected "using a nice shooter, a very new Medical injector which works nicely, the lens unfolds gently and controlled". Prof Amon offers pearls of advice with the loading of the IOL into the injector stating, "bring the lens to the front so there is no risk of trapping the trailing haptic". To date Prof Amon has completed 20 eyes of 10 patients in bilateral duet procedures, he also presented on his pseudophakic enhancement procedure stating that the "female was very happy afterwards".



Pseudophakic eye - Sulcoflex® Trifocal Implantation



DEFOCUS- SULCOFLEX TRI



Defocus curve RayOne® Trifocal vs Sulcoflex® Trifocal showing comparative results

CRSTE recorded the educational presentations which can now be viewed here <https://eyetube.net/collections/rayner-surgery/>

Sunday 23rd September - Rayner: Leading the Way to Offer More Patients a Trifocal Solution. Surgeon Panel Discussion on RayOne® Trifocal and the New Sulcoflex® Trifocal

On Sunday 23rd September at the Messe Congress Centre, Rayner hosted an ESCRS Eurotimes Satellite Education Program, a prestigious panel of 6 surgeons participated in **Leading the Way to Offer More Patients a Trifocal Solution. Surgeon Panel Discussion on RayOne® Trifocal and the New Sulcoflex® Trifocal**. An afternoon of Clinical evidence and surgeon discussions, we were delighted to open the doors to 400 ESCRS delegates from around the world.



Professor Oliver Findl, Chair of the Department of Ophthalmology, Hanusch Hospital in Vienna, Austria co-chaired the symposium along with **Professor Michael Amon**, Medical Director of Academic Teaching Hospital of St. John, and Sigmund Freud Private University, Vienna, Austria. Prof Findl carried out the **First global implant of RayOne® Trifocal in 2017**, he discussed the study design of the Prospective comparative study of bilateral implanted RayOne® Trifocal Vs AT LISA Tri in 88 eyes which is due to complete at the end of this year and publish in 2019. He also introduced the audience to the RayOne® Trifocal platform and technologies. Professor Amon presented on his **First Global implantation of Sulcoflex® Trifocal 2018** presenting Early Implantation results of Duet and Pseudophakic patients.





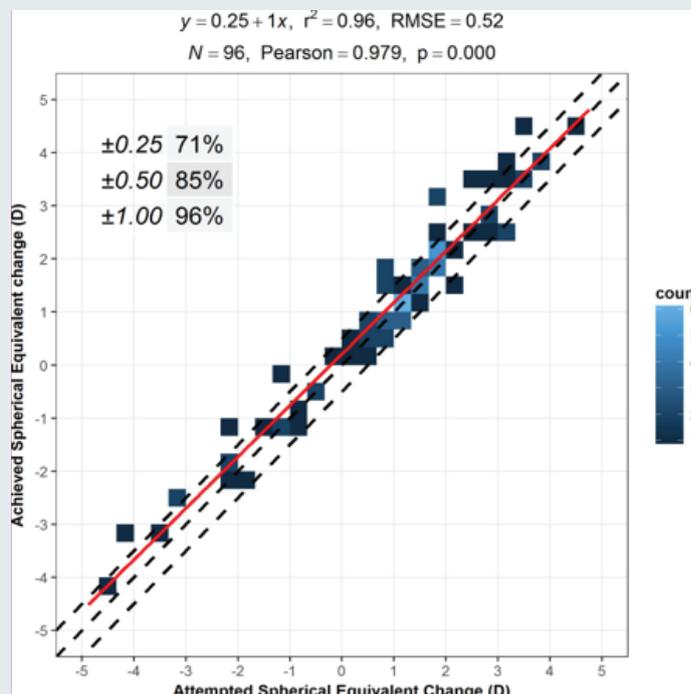
Dr Fernando Llovet-Osuna, the Medical Director of Clinica Baviera Group, specializing in refractive surgery, Clinica Baviera group has nearly 300 ophthalmologists and 76 eye clinics in Europe. It is the largest Ophthalmology clinic in Europe, performing over 12,000 refractive procedures a year.

Dr Llovet-Osuna presented on **Criteria of selection and indication, results and satisfaction in presbyopia surgery with RayOne® Trifocal premium lens** in 136 eyes with 3 months follow up. His presentation had a strong focus on the patient selection criteria, he states the *"anamnesis is very important, the first contact helps to establish the patient and doctor relationship and obtain important data for patient selection"*. *"The pre-operative evaluation of the patient's ocular health should be exhaustive, and it is essential to study the ocular surface"*

"100% of patients would opt for the same RayOne® Trifocal again"

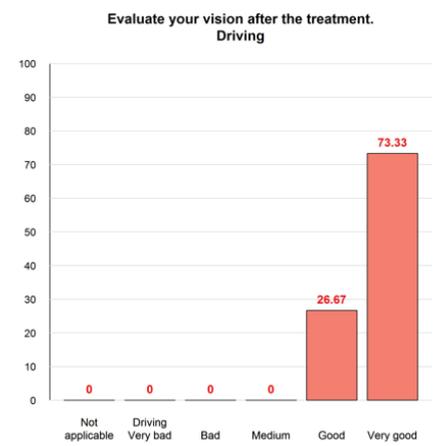
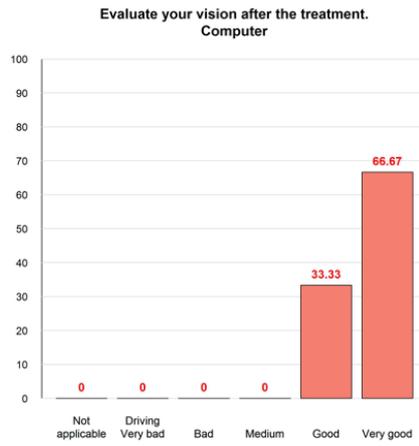
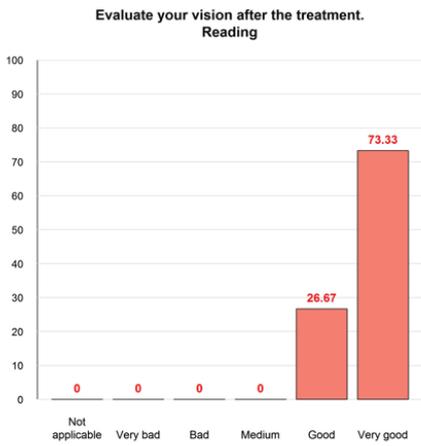
Clinica Baviera are currently undergoing a prospective multicentre clinical study evaluating RayOne® Trifocal in 150 patients. Follow-up assessment takes place within 24 hours of surgery, 1 week, 1 month, and 3 months postoperatively. The measurables are uncorrected and corrected Visual acuities at near, intermediate and distance, IOL centration and tilt, contrast sensitivity, defocus, aberrometry and finally patient satisfaction.

Dr Llovet-Osuna presented follow up data on 136 eyes at the ESCRS Satellite symposium of which 71 % patients achieved a manifest refraction of within 0.25 D, and 85% achieved within 0.5 D.



Graph of outcomes

The binocular mean for UNVA is 0.07 LogMAR, UIVA is 0.21 LogMAR and UDVA is 0.01 LogMAR and CDVA is 0.00 LogMAR, proving that RayOne® Trifocal performs spectacularly at all 3 distances. Dr Llovet-Osuna commented the *"Excellent results in monocular and binocular visual acuity in the three distances, 100% patients were spectacle independent for reading, driving and computer work. 100% of patients would opt for the same RayOne® Trifocal again"*



Patient satisfaction data





Dr Tiago Ferreira, Director of Clinical Investigation at Hospital Da Luz, Portugal, also presented **clinical outcomes from a Prospective comparative study of bilaterally implanted RayOne® Trifocal Vs FineVision PODF in 60 eyes**. Patients with less than 0.75 D of astigmatism were considered for cataract surgery and Trifocal technology, 30 eyes of 15 patients implanted with RayOne® Trifocal and 30 eyes of 15 patients implanted with FineVision PODF with a 3 month follow up. Dr Ferreira states that the primary measurable outcomes were Monocular and Binocular Visual acuities for Distance, Near and Intermediate, manifest refraction, defocus curves, contrast sensitivity and patient satisfaction using the McAlinden questionnaire. He concluded in his presentation that *"Both IOLs offer excellent visual and refractive results, there is similar contrast sensitivity across both groups however there is less photic phenomena with the RayOne® Trifocal group"* This data will be available in publication very soon.

"...there is less photic phenomena with the RayOne® Trifocal group"

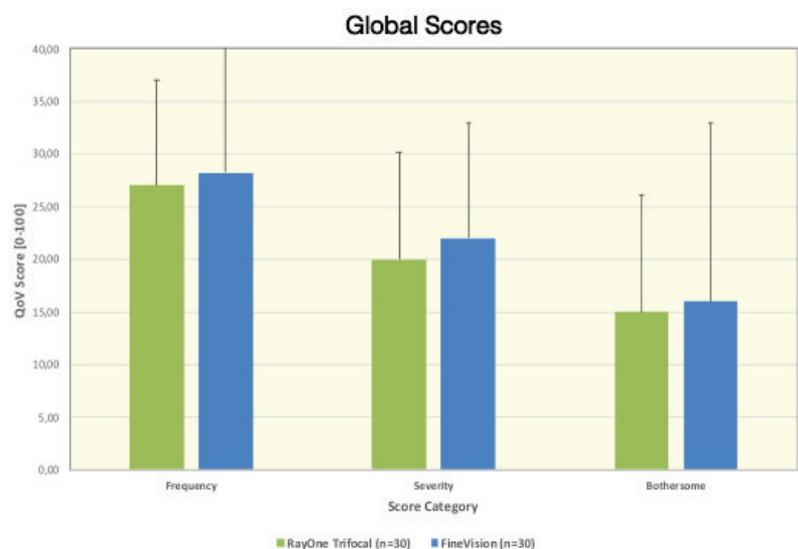
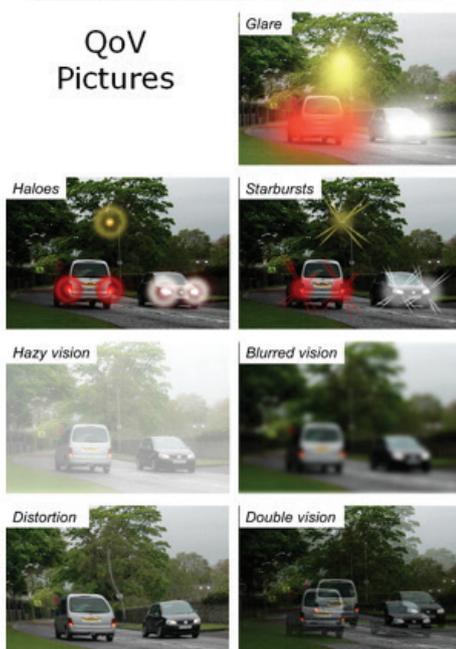
Modular visual acuities. ETDRS charts: Distance at 4 m, Near at 40 cm, intermediate at 70 cm

	RayOne® Trifocal Visual acuity (LogMAR) Mean ± SD (range)	Finevision Visual acuity (LogMAR) Mean ± SD (range)
UDVA	0.03 ± 0.11 (0.30 to 0.18)	0.04 ± 0.08 (0.30 to 0.12)
CDVA	-0.01 ± 0.08 (0.10 to -0.18)	-0.01 ± 0.08 (0.10 to -0.16)
UIVA	0.00 ± 0.10 (0.20 to -0.20)	0.04 ± 0.07 (0.20 to -0.08)
DCIVA	0.04 ± 0.13 (0.30 to -0.20)	0.04 ± 0.10 (0.30 to -0.10)
UNVA	0.04 ± 0.13 (0.20 to 0.18)	0.05 ± 0.12 (0.30 to 0.20)
DCNVA	0.02 ± 0.13 (0.30 to -0.18)	0.03 ± 0.11 (0.20 to -0.20)

RayOne® Trifocal vs Finevision - Monocular visual acuities

Photic phenomena – subjective evaluation

McAlinden QoV Questionnaire



Statistically significant difference between the 2 groups in Depth Perception (p=0.042)

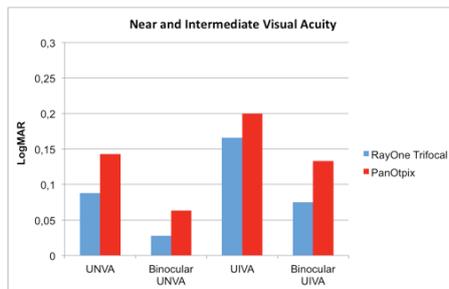


“Increased patient satisfaction for glare and symptoms category was found in RayOne® group than the PanOptix group”

Dr Alessandro Mularoni, Director of Laservision Centre in Bologna, Italy also presented on comparative data, his presentation focused on the **visual performance, patient satisfaction and IOL stability of RayOne® Trifocals vs PanOptix with a follow up 10 months in 12 patients**, Dr Mularoni performed all surgeries through a 2.4mm clear corneal incision and observed no intra or post-operative complications when using the RayOne® Trifocal system. Upon following up with patients, he states with monocular uncorrected visual acuity *“All patients in Group 1 (RayOne® Trifocal) and Group 2 (PanOptix) achieved monocular UCVA of 0.1 LogMAR or better.”* Upon examining monocular uncorrected near Visual acuity he states, *“8 patients (66%) in Group 1 (RayOne® Trifocal) and 6 patients (50%) in Group 2 (PanOptix) achieved monocular UNVA of 0.1 LogMAR or better (Mnread charts)”* and with regards to Uncorrected intermediate visual acuity *“11 patients (91%) in Group 1 (RayOne® Trifocal) and 10 patients (83%) in Group 2 (PanOptix) achieved monocular UIVA of 0.2 LogMAR or better”*. When measuring contrast sensitivity he states *“PanOptix group showed lower contrast sensitivity than the other group under photopic and mesopic conditions”* finally with regards to patient satisfaction, Dr Mularoni comments *“Increased Patient satisfaction for glare and symptoms category was found greater in RayOne group than the PanOptix group (not statistically significant)”*

RESULTS – UNVA AND UIVA

- 8 patients (66%) in Group 1 (RayOne Trifocal) and 6 patients (50%) in Group 2 (PanOptix) achieved monocular UNVA of 0.1 LogMAR or better (Mnread charts)
- 11 patients (91%) in Group 1 (RayOne Trifocal) and 10 patients (83%) in Group 2 (PanOptix) achieved monocular UIVA of 0.2 LogMAR or better
- No statistical differences were noted between 2 groups



Uncorrected Near Visual Acuity (LogMAR) – 10 months follow-up

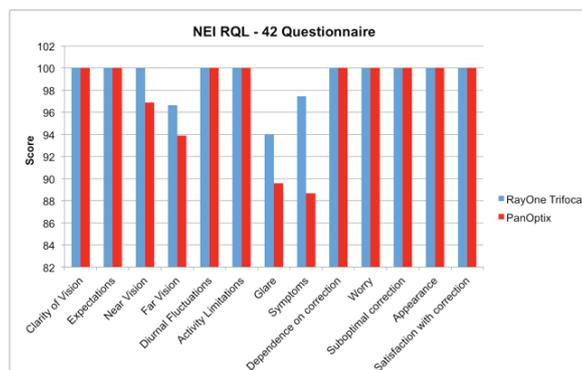
	Mean	St. Dev.	T values	P values
RayOne	0,088	0,08	1,9573	0,0631
PanOptix	0,143	0,04		

Uncorrected Intermediate Visual Acuity (LogMAR) – 10 months follow-up

	Mean	St. Dev.	T values	P values
RayOne	0,16	0,05	1,4406	0,1638
PanOptix	0,2	0,05		

RESULTS – PATIENT SATISFACTION

- High patient satisfaction was found for both the RayOne Trifocal and PanOptix group
- Increased Patient satisfaction for glare and symptoms category was found greater in RayOne group than the PanOptix group (not statistically significant)

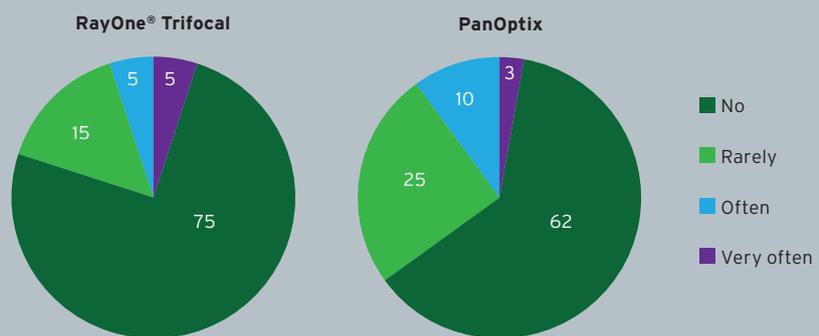




Dr Martin Kacerovsky, Head Surgeon at Somich Eye Clinic, Czech Republic, presented the final clinical results of the Satellite symposium focusing on **Visual outcomes from a comparative evaluation of RayOne® Trifocal vs PanOptix in 40 eyes**, he carried out all the surgeries in January-February 2018 and performed a 6 month follow up, assessing mean Uncorrected visual acuities at Distance, Intermediate and Near visions, halos and glare assessment, PCO and patient questionnaire. *"The results were comparative between the two groups for UDVA and UNVA, both RayOne® Trifocal and PanOptix performed at 0.05D LogMAR and 0.18 LogMAR respectively"* However for UIVA, *"the RayOne® Trifocal group performed at 0.1 LogMAR compared to 0.18 LogMAR for PanOptix group."* 80% of patients never or rarely complained of Halo or glare in RayOne® Trifocal group compared to 65% in PanOptix group, 78% of patients were very satisfied with RayOne® Trifocal compared to 65% very satisfied with PanOptix Trifocal. Finally, 98% would chose RayOne® Trifocal again compared to 95% whom would choose PanOptix again. Therefore, Dr Kacerovsky concluded that *"The results were comparable between both IOLs, better UIVA in RayOne® Trifocal group, less side effects in RayOne® Trifocal group and better patient satisfaction in RayOne® Trifocal group"*

"80% of patients never or rarely complained of halo or glare in RayOne® Trifocal group compared to 65% in PanOptix group"

HALOS, GLARE ASSESSMENT





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