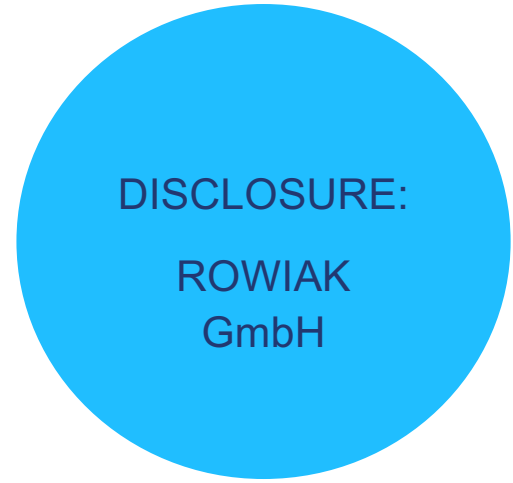




ARTEMIS

Augenklinik am Neumarkt
Köln



DISCLOSURE:

ROWIAK
GmbH

SEO 2022

PONENCIA **SEO 2022**

OUTLOOK:
CHALLENGES IN IOL TECHNOLOGY AND PERI-OPERATIVE PATIENT EVALUATION IN
CATARACT SURGERY

Omid Kermani, MD

Progress In Cataract Surgery

Transition of Cataract Surgery ($\pm 2D$ SEQ) to Refractive Cataract Surgery ($\pm 0.5D$ SEQ)

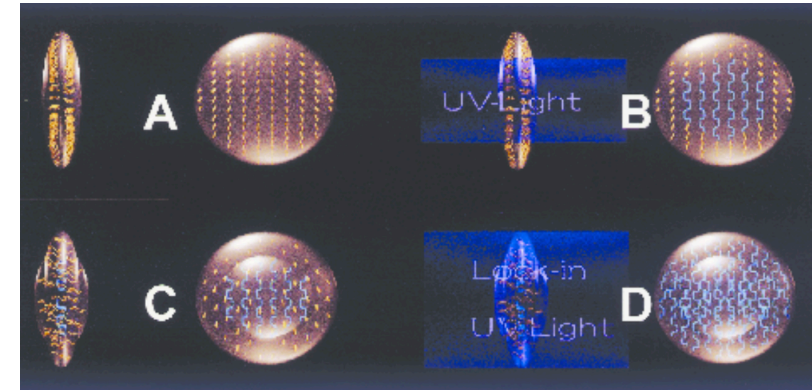
Jack T. Holladay:

IOL Power Calculations for the next 10 years will be limited by the tolerances on axial length, keratometry and prediction of effective lens position (ELP).

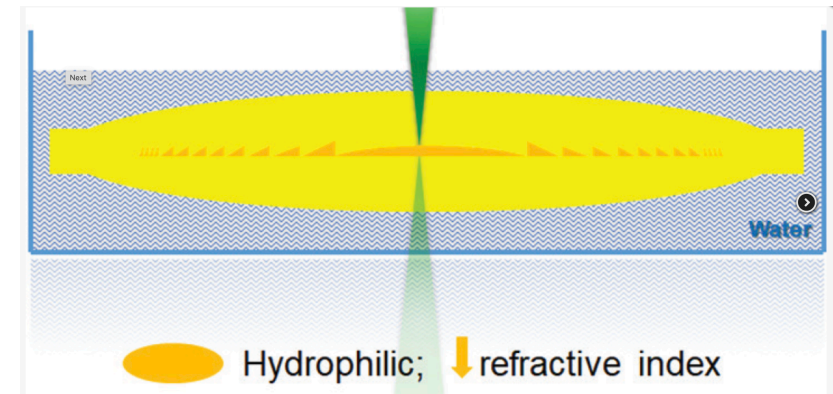
Using artificial intelligence, Snell's Law, actual radii of the IOL, and ring keratometry of the front and back surface of the cornea approximately 55% will be within ± 0.25 D and 85% within ± 0.50 D.

With front and back corneal tomography and pupil size, will increase 2 to 3%. With the Adjustable Lenses this may be improved 99% within ± 0.25 D

Adjustability is the future in IOL technology !



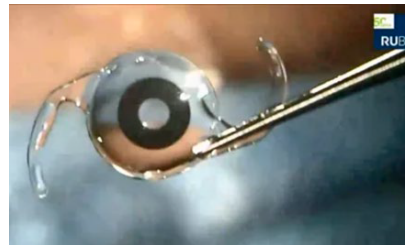
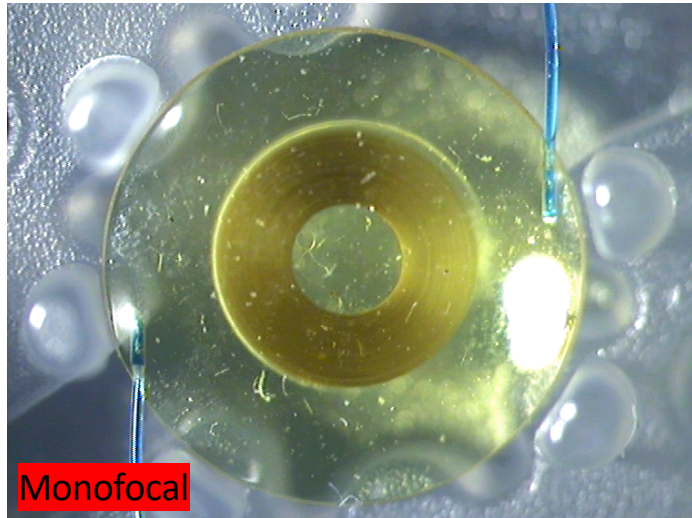
Principle of Light Adjustable Lens; Ch. Sandstedt



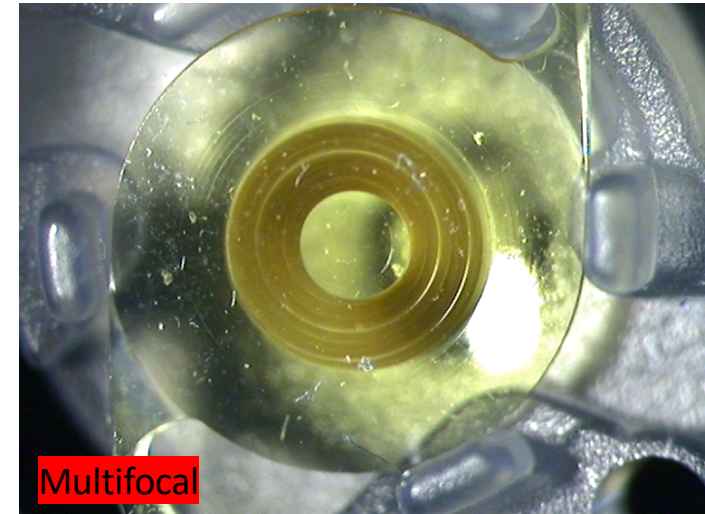
Refractive Index Shaping; ; L. Werner

FEMTO-MASKING

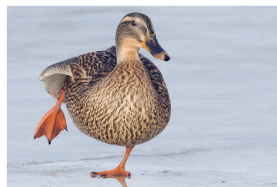
Upgrade Standard IOL



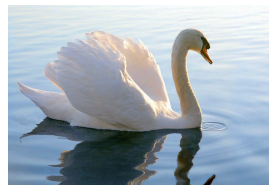
Defuse Troublemaking IOL



- Transform a standard IOL into a presbyopia correcting premium IOL
- Lunchtime procedure (2 minutes)
- In-situ centration on visual axis
- Customized aperture
- Dysphotopsia common in diffractive multifocal IOL (1:10)
- Masking reduces disturbing optical symptoms
- Masking preserves presbyopia comfort by increasing depth of focus



Stockente auf Eisfläche - Foto: Frank Derer



Challenges Of IOL Development

Statements From Experts (Survey within RSA Refractive Surgical Alliance)

- Bogdan Spiru, Bern Switzerland :
 - „**Universal IOL platform for upgradable segments for life-long refractive enhancements, drug delivery and remote monitoring of biomarkers**“
- Mark Weville, Cape Town South Africa:
 - „**Develop a truly accommodative, small incision lens and manage the capsular response**“



<https://www.refractivealliance.com>

The interaction between the patient and the surgeon is the culmination of all medical knowledge, technical possibilities and individual characteristics of the actors.

This is the actual core product from which everything else grows.

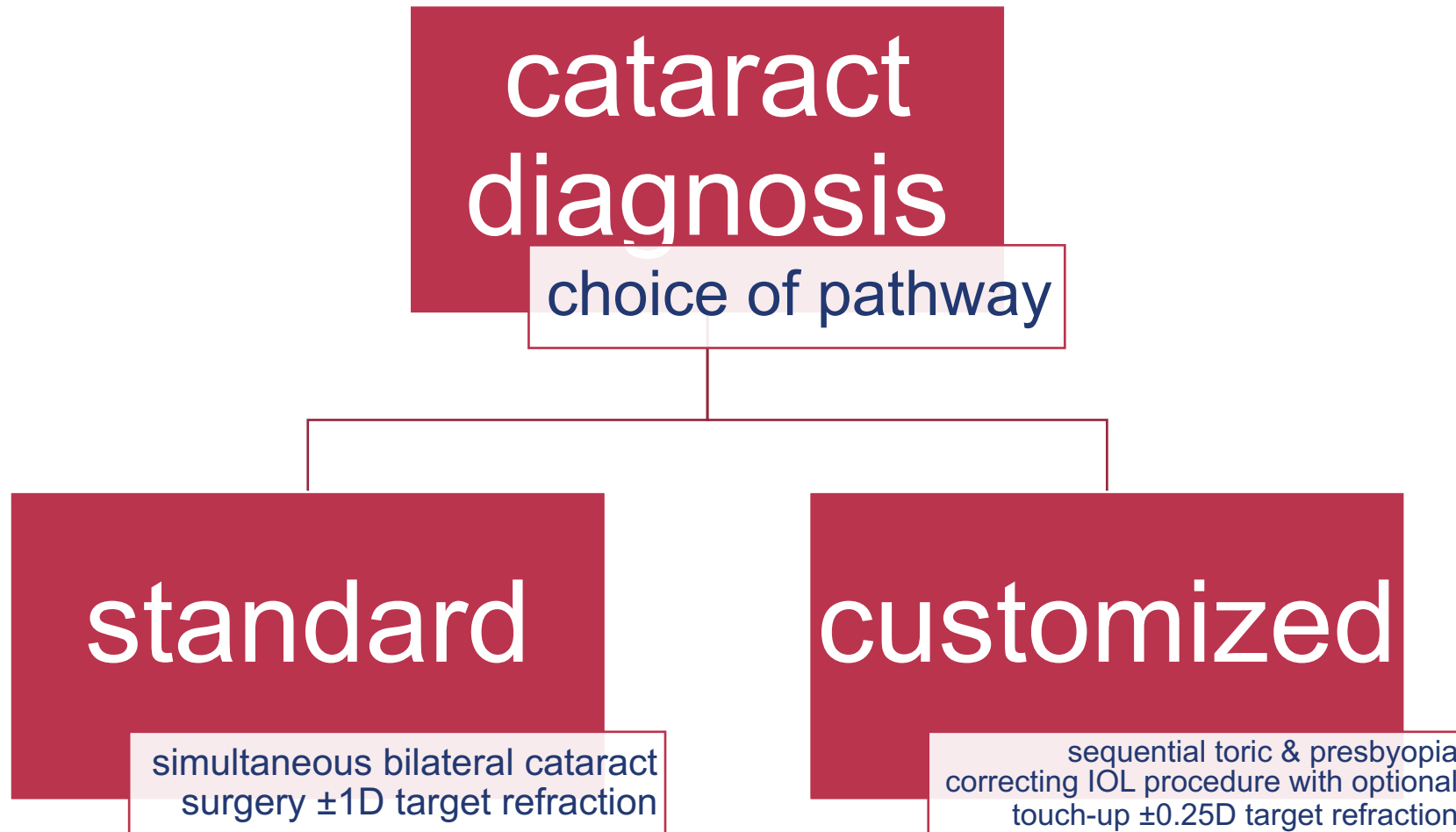
Any optimization of productivity serves to promote this interaction in terms of information and time.

O. Kermani



Customized Patient Pathways

Ranging from medical necessity to perfect refractive performance





We're Hiring!

Autonomous Telemedicine

Ufonia is replacing routine patient healthcare interactions with next generation automated phone calls



Our product



Accessible

Anybody can talk to our system without new technology or skills, they just have a conversation over the phone.



Today's calls:
155 discharged
3 need review

Scalable

We are building a platform that can simultaneously support care pathways across the world.



Valuable

Freed from repetitive tasks, staff can deliver higher value care where it is most needed.

Automated Telephone Services

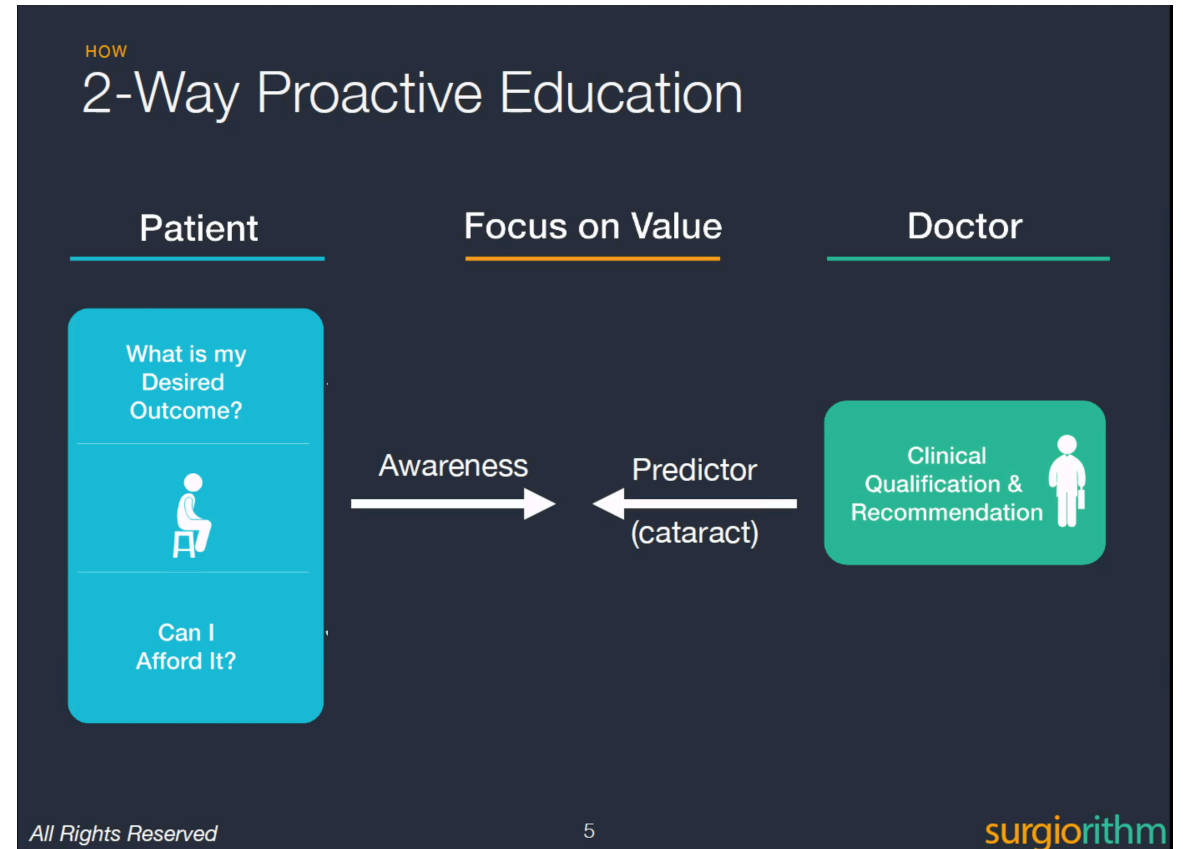
Optimizing Patient Communication



Systemic Challenges

Cataract Surgery Perspectives

- Kevin J. Everett, Detroit USA
 - „The numbers of patients are rising and the expectations regarding the refractive outcome are rising, but not the willingness or ability to cover the cost“



Online IOL Consultation

Pre-Op Patient Consultation

Increase your patient self-pay revenue with Surgiorithm

- ✓ Educate and empower patients to decide more confidently
- ✓ Increase premium procedure revenue for cataract surgery and dry eye disease
- ✓ Shorten visit time and see more patients



*Surgiorithm is a proactive at-home patient education program
Surgiorithm's productivity suite helps practices increase premium self-pay procedure revenue
Using Surgiorithm, practices quickly recognize the value of referring OD relationships*

Surgiorithm Customer Results



45% - 2021 average premium rate for online completers, all doctors



1 of 4 Surgiorithm doctors average a 50%+ premium rate

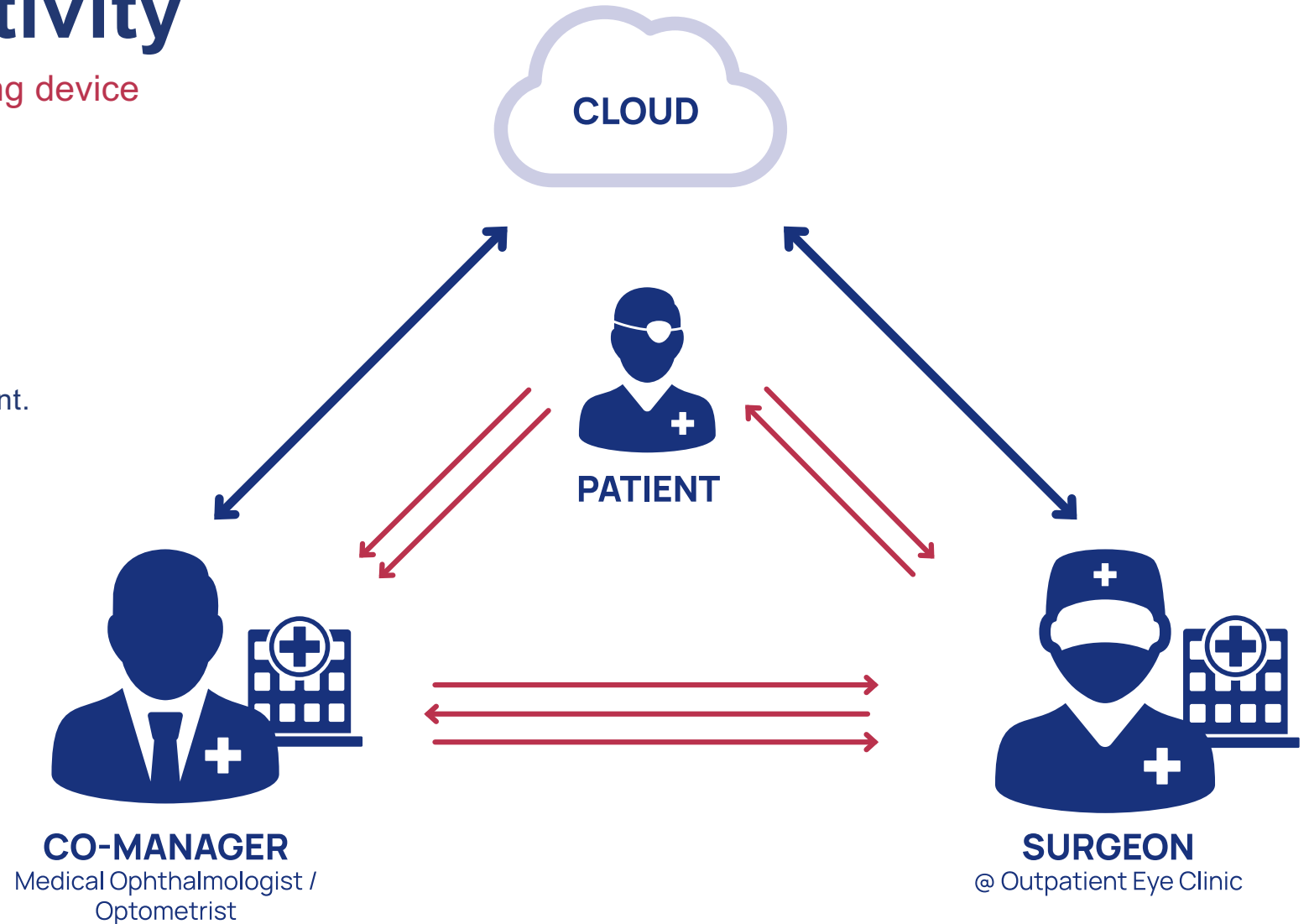


98% of patients electing premium have been pre-identified by Surgiorithm

Optimize Productivity

Cloud based or digital healthcare recording device

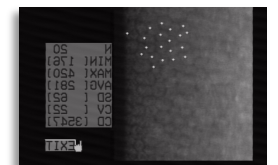
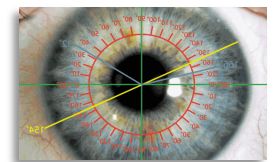
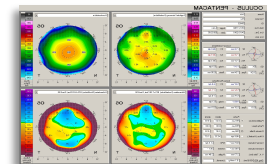
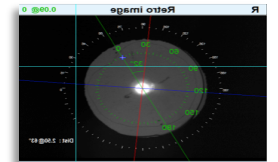
1. Patient has decreased visual acuity.
2. Co-Manager: Diagnosis of cataract.
3. Online schedule for exam at surgeon.
4. Surgeon sends procedural information to patient.
Provide patient hotline for individual counseling.
5. Informed patient comes to see surgeon.
Standard or customized pathway. Full exam and same day surgery possible.
6. Information to co-manager about procedure
7. Post-op control patient visit at co-manager
8. Co-manager sends post-op control data to surgeon



Work-Up: Refractive Cataract Surgery

Beyond routine standard Phako & IOL

- **Tearfilm analysis:** quantity/quality
- **Eyelids:** exclude en-/ektropium early stage (snap test)
- **Binocular Vision:** Dominance/Stereopsis/Fusion/Amblyopia/Microstrabism
- **Pupil:** Diameter (photopic/mesopic) und excentricity
- **Optical Biometry:** Premium-formula, optical axes (angle Kappa)
- **Cornea:** Endothelium quality/quantity
- Placido-Topography (irregular-/asymmetric astigmatism)
- Spacial resolution pachymetrie (Pentacam/OCT)
 - Front- and backside corneal radii
- **Aberrometry:** Cave ! > 600 μ m rms HOA
- **Vitreous:** Attachment, opacities
- **Retina:** Attachment, macula (membranes !) and optic nerve/fiberlayer thickness (OCT)





glasspop

Automated Refraction

Ask for a demo



With glasspop, only one person is present during subjective refraction:
Your patient

Automated Refraction

Saves

Time & Human Resources

O. Kermani



The new IOLMaster 700
Next generation biometry from ZEISS



Ossilor
WAVEFRONT ABERROMETER
MEDICA 700
• tonometer
• pachymeter
• corneal topographer



NIDEK
CORNEAL TOPOGRAPHER
OPD-SCAN III
• wavefront aberrometer
• pupillograph
• automatic keratometer



PACHYMETER
LENSTAR 900
• automatic keratometer
• optical biometer
• video pupillometer



ZEISS
CORNEAL TOPOGRAPHER
I-PROFILR PLUS
• wavefront aberrometer
• automatic refractometer
• automatic keratometer

Eliminate segregation of diagnostics

Multifunctional Diagnostics

5/31/23

O. Kermani

Multifunctional Diagnostics

Lean evaluation: minimize workup time from 3-4 hours to max. 90 minutes



Ariane Ophthalmology Suite

“Streamlining subjective & objective data processing with smartbot, robotics and A.I. to support advanced digital medicine in the daily practice...” Michael Assouline, MD, PhD, Paris

Ariane Insight™ Virtual Agent



Collects
Risk factors, Symptoms
& Visual Tests **OnLine**



Subjective Data

Ariane EyeLib™ Robotic Station



Acquires over **100** parameters
5'30" - Full auto process

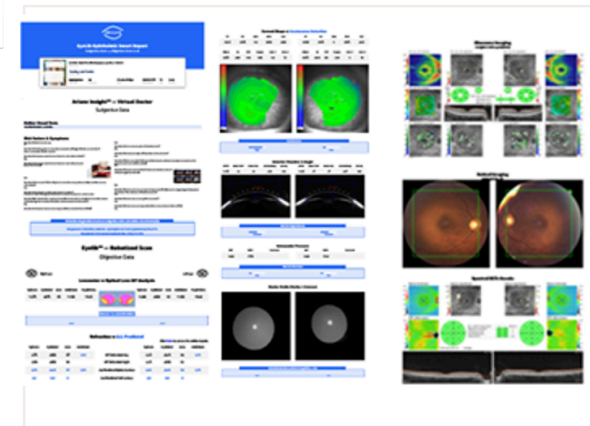


Objective Data



Ariane SmartVision Report™ A.I. Powered Analytics

Optical Rx, Diagnostics
Surgical Planning & Referral



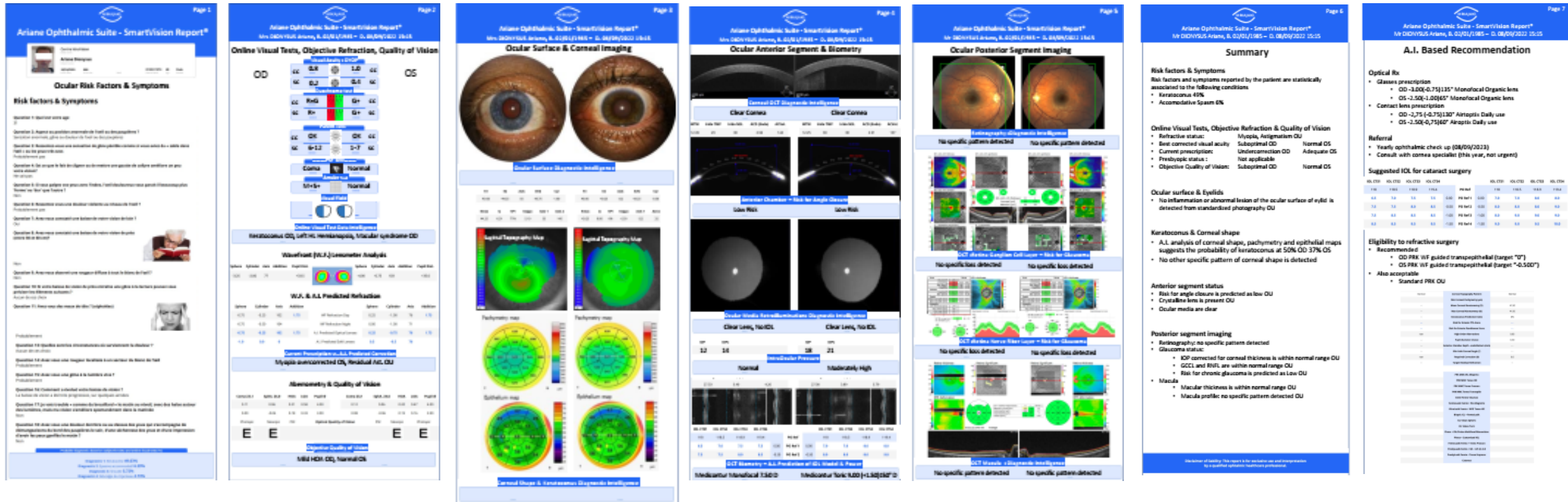
= Medical Intelligence

EyeLib



Clinical Case pre-post Cataract

A.I. enhanced comprehensive eye health report



Subjective

Acuity & Refraction


Ocular & Corneal

Ant. Segment & Biometry

Post. Segment

Summary & prescription

AI Based Recommendation



Sustainable CO2 Neutral Cataract Surgery

Requirement for hygiene vs. sustainability ?



**The Biggest Challenge In Future
Cataract Surgery**

Mastering Preventable Blindness

Visit us in Cologne !

Thank You



EUROPEAN PERSPECTIVES IN OPHTHALMOLOGY

SAMSTAG, 03. DEZEMBER 2022

Maternushaus Köln | Kardinal-Frings-Straße 1 | 50668 Köln | 09:00 - 17:00 Uhr

Englischsprachige Hybridveranstaltung (Präsenz und Online)

CME-Punkte werden beantragt