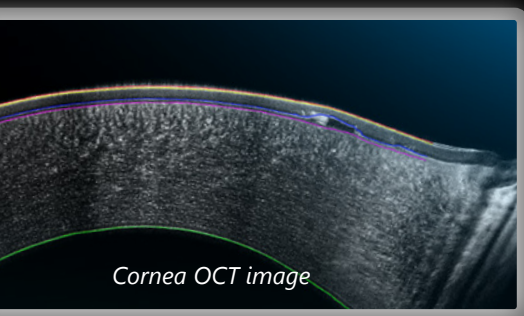


OCULUS Pentacam® Pentacam® Family



Many Questions. One Answer: Pentacam®



Cornea OCT image

Scheimpflug image

The Pentacam® Gold Standard

More than

16.400

Pentacams on the Market

Pentacam® is used worldwide and supported by the global OCULUS network in over 80 countries.



2002



Decades of Evolution

The Pentacam® Family has been manufactured in Germany since 2002, continuing OCULUS' tradition of ophthalmic quality since 1895.

Cataract Surgery

Screening

Contact Lens Fitting

Refractive Surgery

Myopia Management

Covers many Areas of Application

The modular concept with selectable software packages is designed to precisely meet your specific application needs.



2,683

Publications on PubMed

Pentacam® is referenced in more than 2,600 PubMed-indexed publications, reflecting its broad scientific visibility.* Most relevant and proven studies are accessible directly within the software.

*Source: PubMed search for "Pentacam" conducted July 17, 2026; no filters applied.



Developed with Branch Experts and Doctors

By working closely with industry experts and doctors, we continuously refine and enhance our product line to ensure that every application remains practical, relevant and up to date.

Why Eye Care Professionals rely on Pentacam®

Highly repeatable corneal densitometry measurements and **comparative displays** help detect changes **early** and document them **objectively**. This makes Scheimpflug technology the core of the Pentacam® family.

Refractive surgery: Is this patient suitable for the planned procedure – and what about borderline cases?

Pentacam® combines anterior and posterior corneal elevation with pachymetric progression for ectasia risk assessment. The Belin/Ambrósio Display helps reveal suspicious patterns and structure borderline-case evaluation.

Cataracts & Premium IOLs: Is this cornea suitable for the planned IOL?

Pentacam® brings corneal regularity, total corneal refractive power, astigmatism, and higher-order aberrations into the preoperative assessment. The Cataract Pre- OP Display helps identify findings that may limit suitability for toric, multifocal, or EDOF IOLs – supporting a more informed IOL choice and clearer patient expectation management.

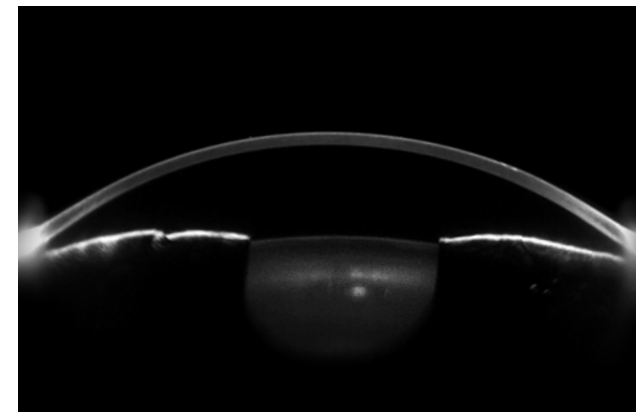
Keratoconus & CXL: Is the keratoconus stable – or progressing?

Pentacam® turns serial tomography into a structured view of keratoconus stage and change over time. The Belin ABCD Staging and Progression Displays help assess anterior and posterior corneal changes and thinnest-point pachymetry – supporting confident decisions on follow-up, CXL timing, and post-CXL evaluation.

Contact Lenses & Irregular Corneas: Why doesn't standard care work?

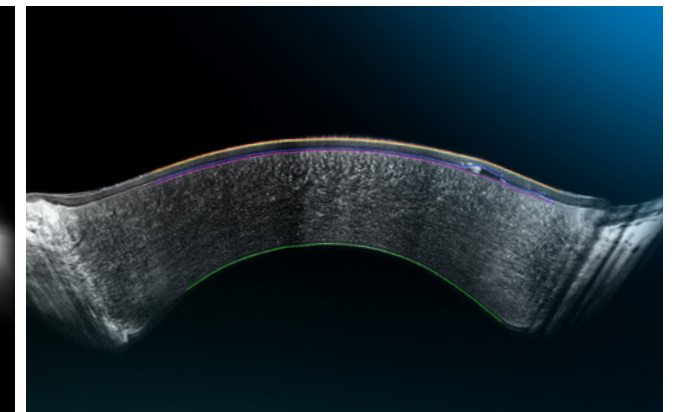
Pentacam® reveals the corneal shape – and, with CSP, also the scleral – beyond standard anterior-surface measurements. Dedicated fitting tools and precise measurement data provide a strong basis for the fitting of corneal lenses, ortho-k and scleral lenses. Integrated screening and monitoring options also support contact lens practitioners in managing pathological or particularly sensitive cases, including pediatric patients.

The Pentacam® Technologies



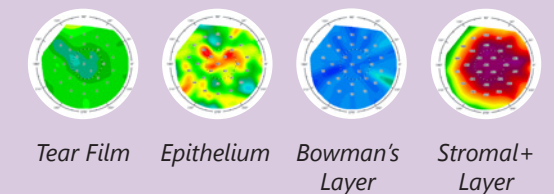
Scheimpflug Technology

All parameters of the anterior segment are measured at once with very high accuracy. Even very small structural changes become visible.



Cornea OCT Technology

High-resolution OCT technology enables detailed visualization of corneal structures – from the anterior surface to deeper layers:



Scheimpflug & OCT

Both measurements are taken simultaneously at exactly the same locations, allowing for immediate and detailed visualization of all anomalies.

For more information, please visit:
www.pentacam-cornea-oct.com

- ✓ **Superior image quality:**
Scheimpflug visualizes scatter; OCT provides detailed structure
- ✓ **Increased accuracy:**
Precise measurements at identical corneal locations
- ✓ **Advanced diagnostics:**
Combining established tomographic analysis with epithelial mapping

The Pentacam® Models

Pentacam® AXL Wave



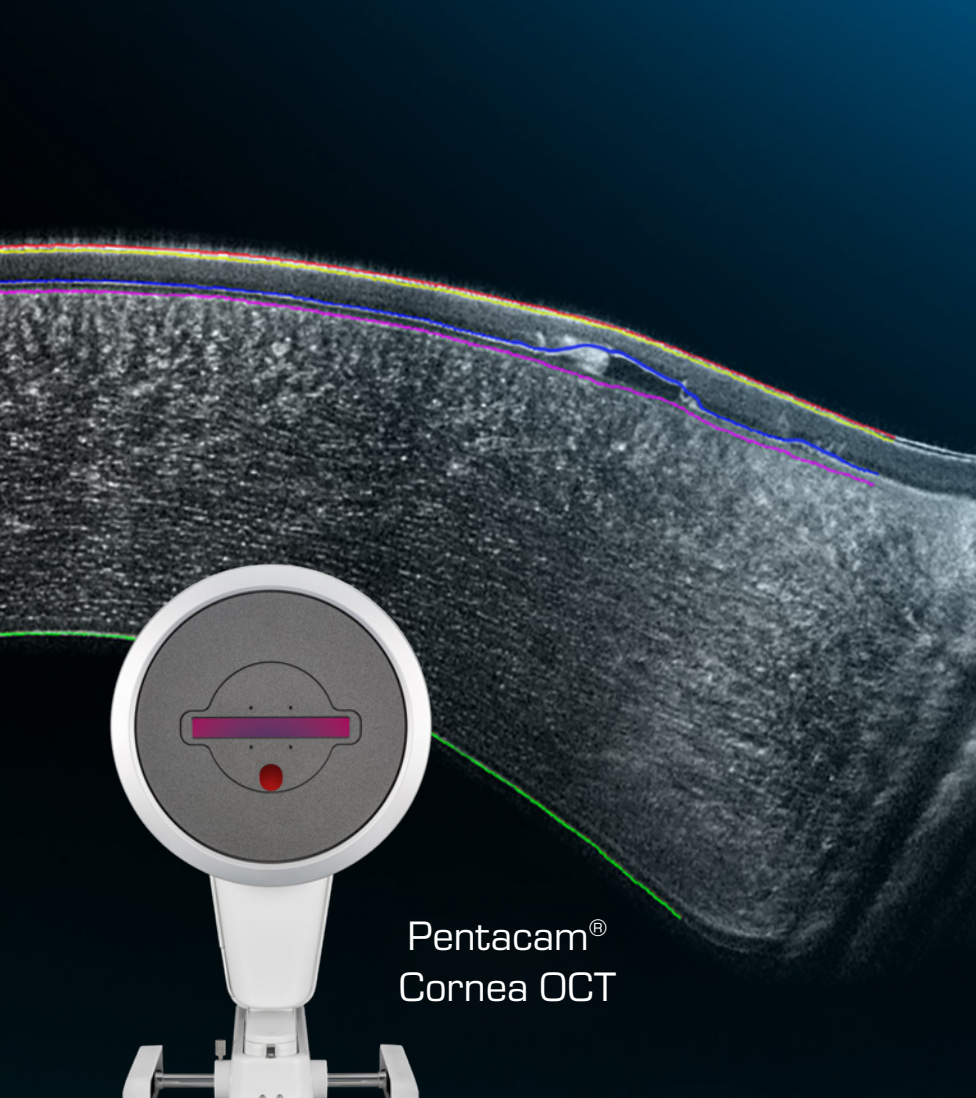
Pentacam® AXL



Pentacam® HR



Pentacam®



Pentacam® Cornea OCT

1.9 µm ultra-high resolution OCT over the entire cornea including layer segmentation

Wavefront

Retroillumination

Objective refraction

Optical biometry

High-resolution images

Tomography of the entire anterior eye segment

Optical biometry

High-resolution images

Tomography of the entire anterior eye segment

High-resolution images

Tomography of the entire anterior eye segment

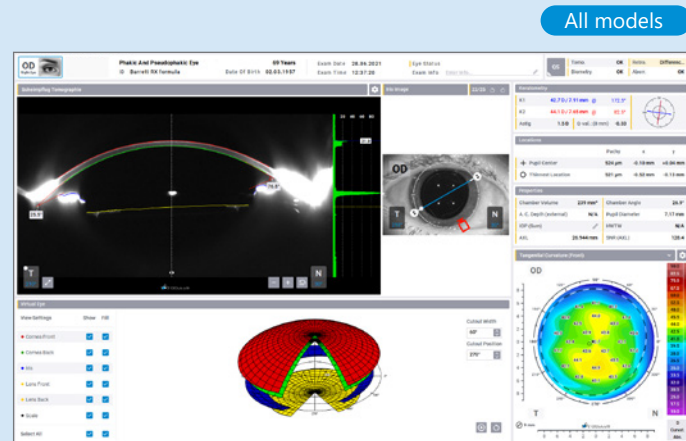
Tomography of the entire anterior eye segment

High-resolution images

Tomography of the entire anterior eye segment

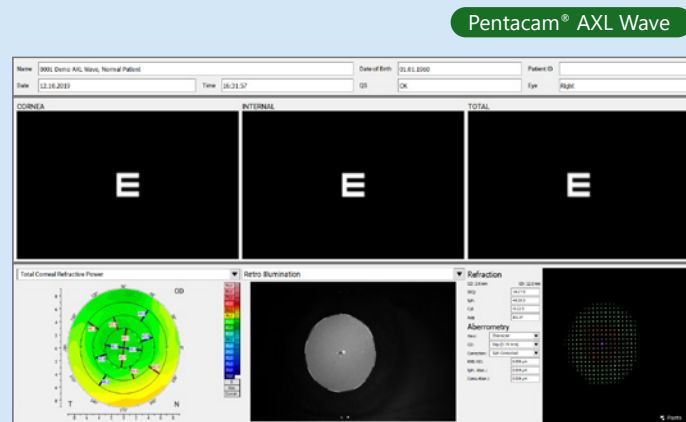
The Pentacam®[®]

An Overview



Scheimpflug Tomography of the Entire Anterior Eye Segment

It measures, displays and analyzes the anterior eye segment, and is non-contact and tear-film-independent.

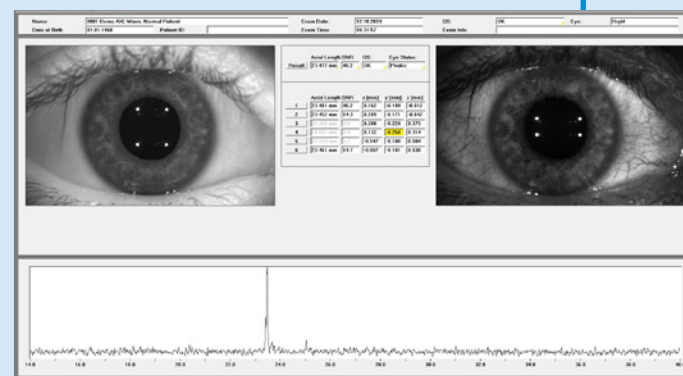
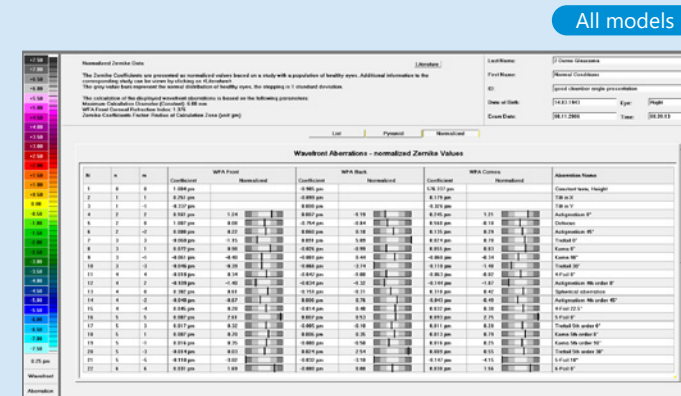


Wavefront Analysis of the Whole Eye and Objective Refraction

In combination with objective refraction data, whole-eye aberrometry is well-suited for explaining and documenting a patient's visual performance in a way they can readily understand. The perfect tool for pre- and postoperative management.

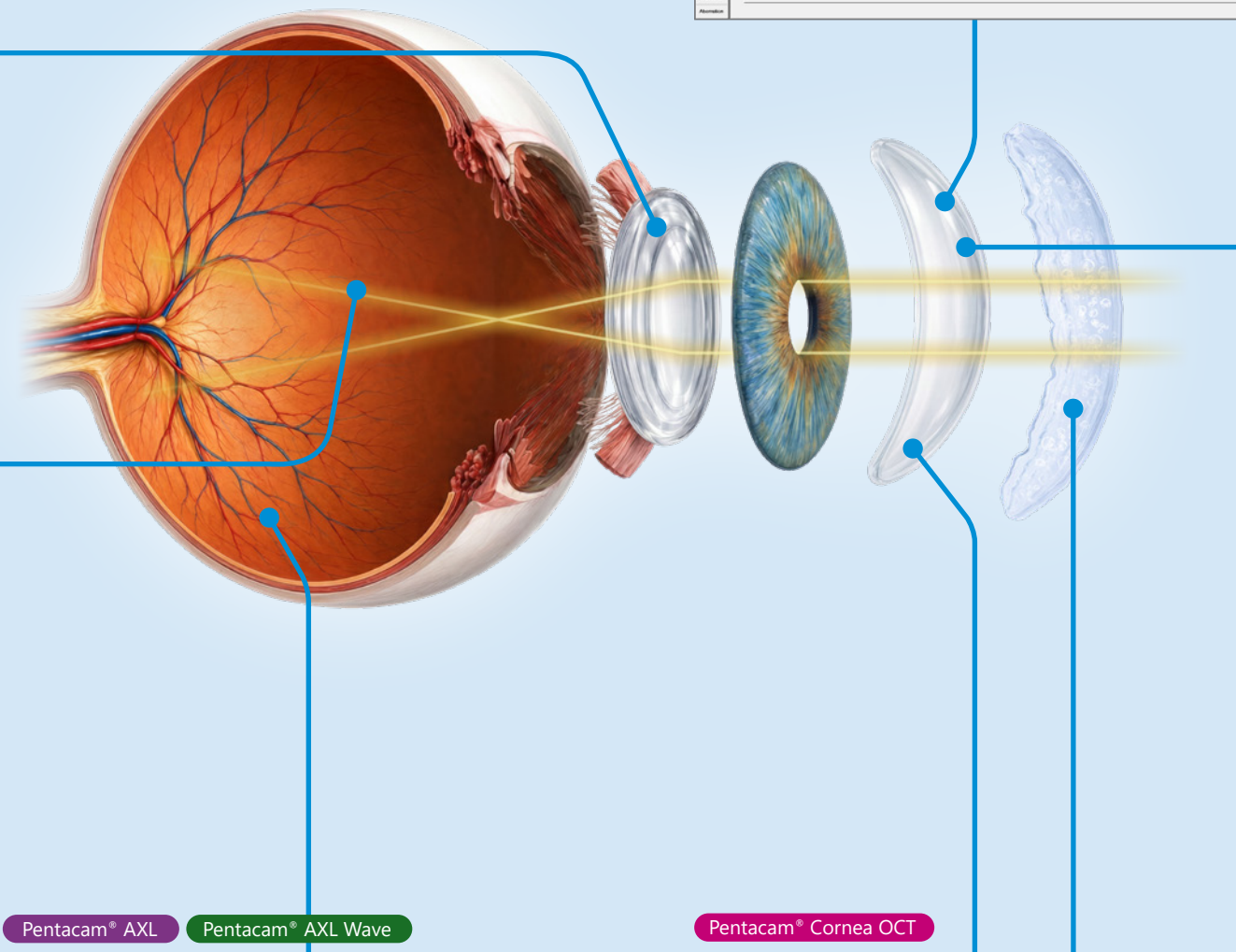
Optical Biometry

Contact-free measurement of axial length with proven precision – an indispensable technology for myopia management and IOL power calculation.

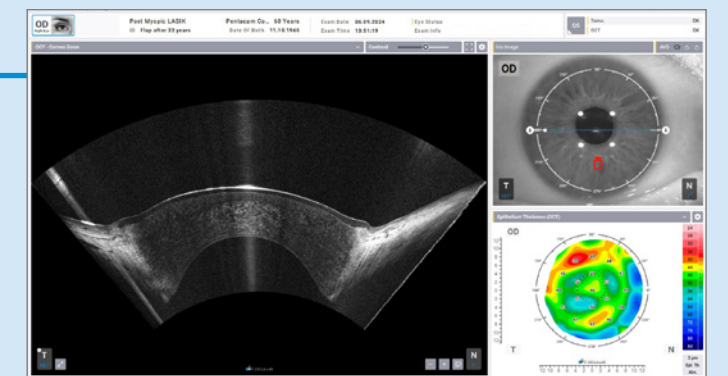


Aberrometry of the Entire Cornea

Zernike Analysis and determination of lower and higher order aberrations including normative data.

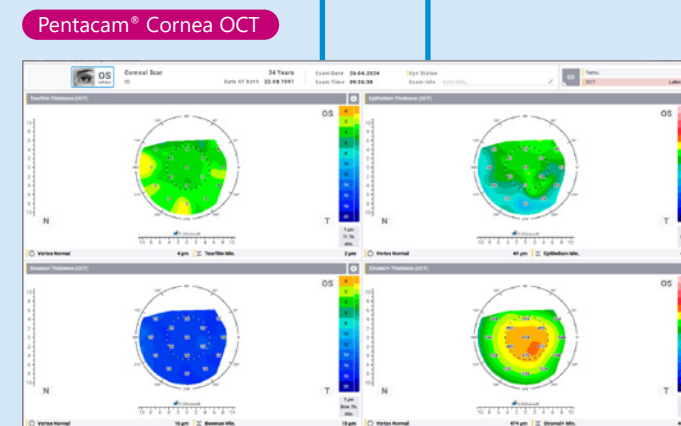


Pentacam® Cornea OCT



OCT Cornea Zoom Image

Display of Scheimpflug and OCT images, including epithelium thickness map for precise analysis of the corneal structure.



Cornea Layer Segmentation

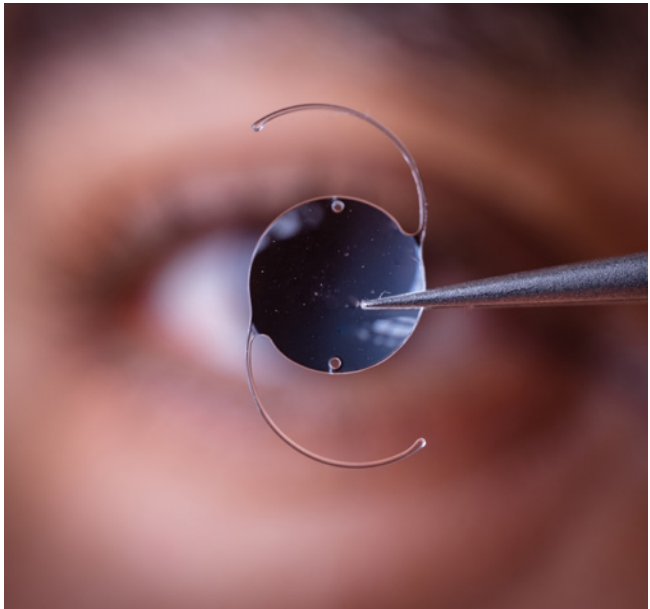
Depiction of the individual layers of the cornea, including the tear film, epithelium, Bowman's membrane, and stroma+.

The Pentacam®

Application and Selection

Extremely Versatile and Valuable in Every Application Area

The Pentacam® can be used in cataract surgery, refractive surgery, glaucoma diagnostics, evaluating the corneal shape, contact lens fitting, incl. scleral lenses and offers comprehensive myopia management.



Cataract Surgery

The Pentacam® helps to select the right IOL for cataract surgery.

- Screening pre-op
- Total Corneal Refractive Power
- IOL selection and calculation
- Post-op tool Barrett Rx
- Selection of premium IOLs
- Astigmatismus

Customer Favorite:
Pentacam® HR

Advanced Choice:
Pentacam® AXL Wave



Screening

The Pentacam® measures and analyses the entire anterior eye segment and cornea.

- Ectasia risk assessment and monitoring
- Corneal pathologies
- Anterior chamber
- Corneal management

Customer Favorite:
Pentacam®

Advanced Choice:
Pentacam® Cornea OCT



Contact Lens Fitting

Whether rigid contact lenses or scleral lenses, the Pentacam® offers comprehensive software for contact lens fitting.

- Integration external software
- Rigid contact lenses
- Ortho-k lenses
- Scleral lenses
- For complex cases

Customer Favorite:
Pentacam®

Advanced:
Pentacam® AXL Wave / Cornea OCT



Refractive Surgery

The Pentacam® provides important information prior to refractive surgery such as laser vision correction or lens implantation.

- Corneal refractive surgery
- Refractive lens exchange
- Phakic IOL
- ICL

Customer Favorite:
Pentacam® HR



Myopia Management

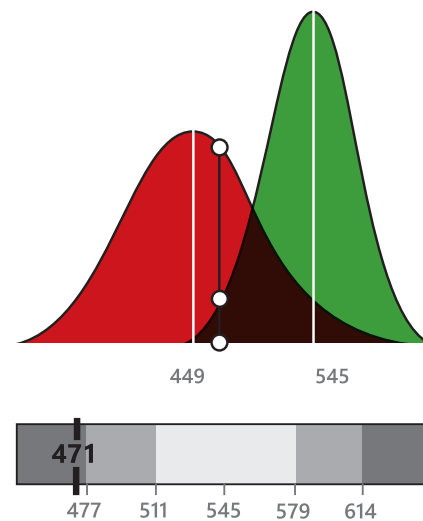
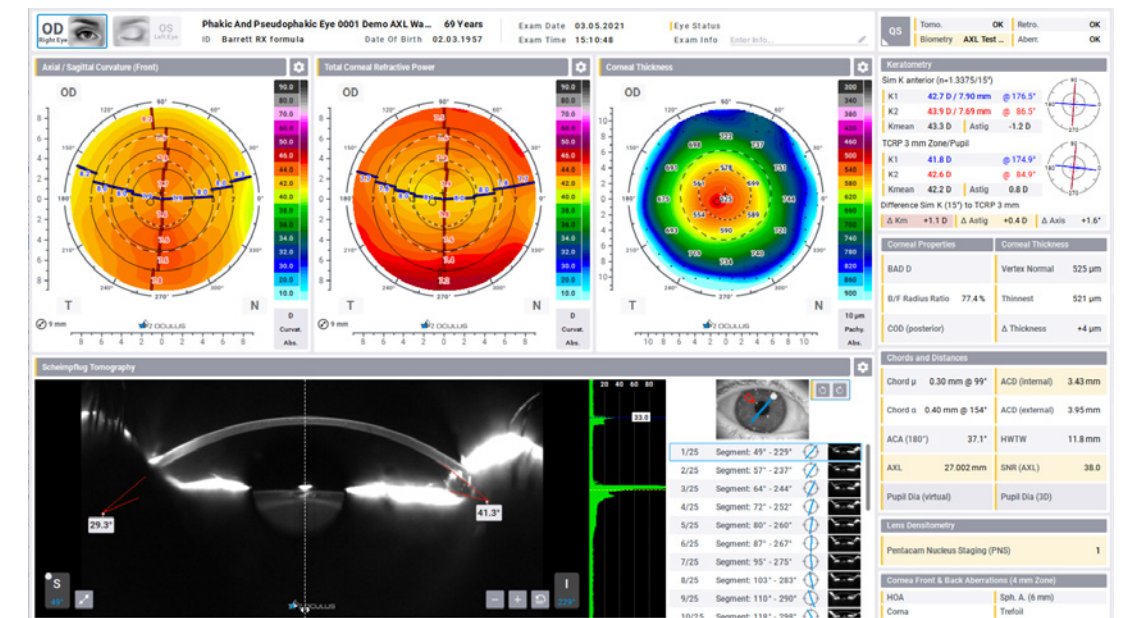
Myopia management makes an important contribution to controlling and preventing short-sightedness.

- Risk assessment
- Growth analysis
- Myopia report
- Patient and parent education

Customer Favorite:
Pentacam® AXL Wave

The Pentacam® Patient Workflow

Managing a large number of patients? No problem: Measurement, assessment and documentation is possible in only 5 minutes.



1

Measurement

First, perform the measurement – which takes **less than two minutes** – to acquire **relevant and reproducible data**, including corneal tomography, pachymetry, anterior chamber parameters, optical biometry, aberrometry and retroillumination images.* After a quick quality check, the data is ready for assessment.

* Features available depending on the model/software package.

2

Assessment

Understand the patient's eye through **intuitive reports, normative data and comparative measurements**. Comprehensive, though summarized concisely: More than 40 displays are available to assess the data for different needs. Gain clinical confidence through the individually provided risk parameters.

3

Patient Education

Complex clinical data is transformed into **clear, visual insights** – with scores, intuitive colour schemes, and before-and-after comparisons that help patients better understand their condition.

4

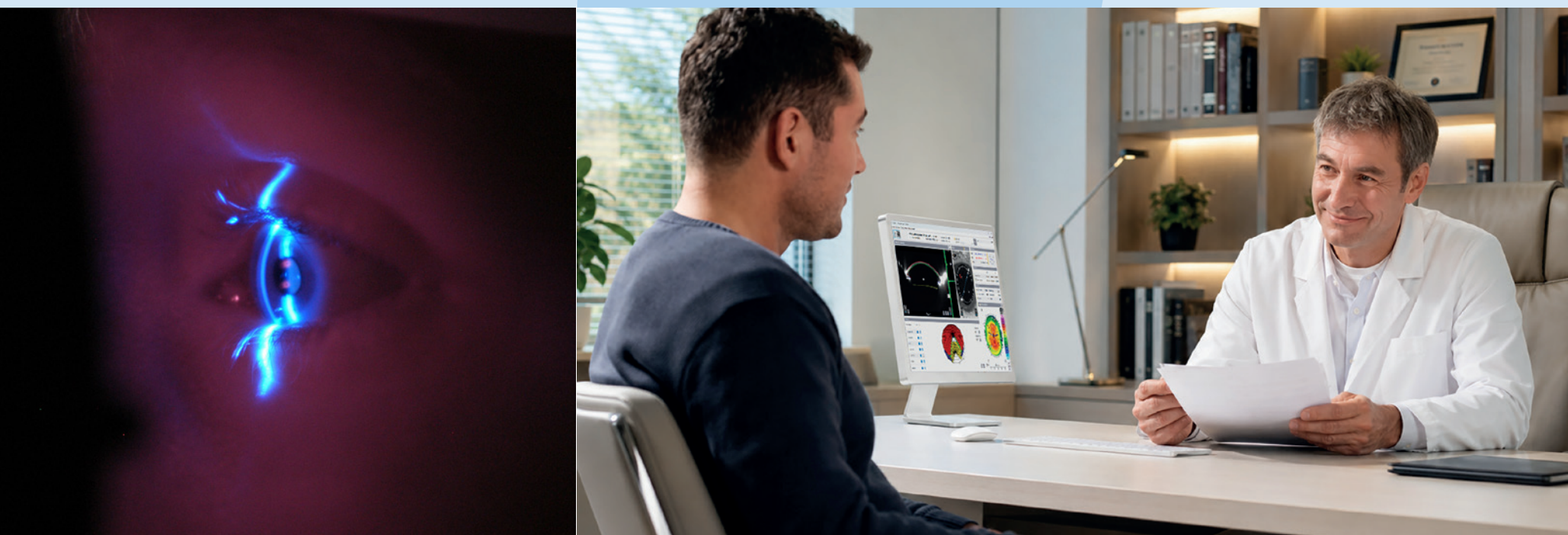
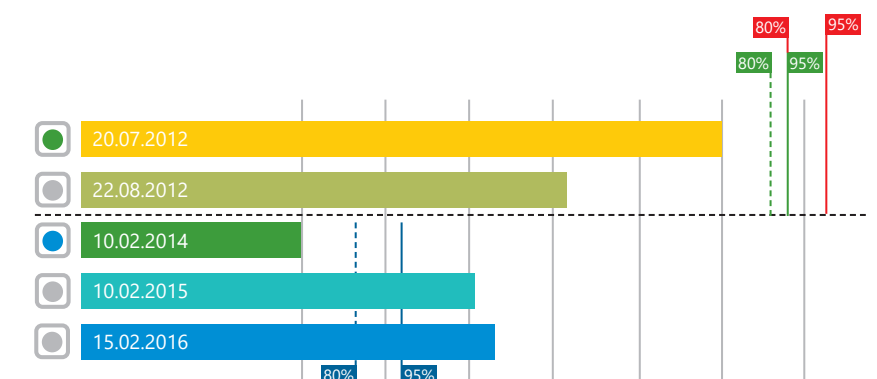
Decide and Plan

Which treatment path is right for your patient? From cataract or phakic IOLs to LASIK and lenticular extraction; from scleral lens to myopia management: Pentacam® supports **confident decision-making** based on reliable anterior segment data. Pentacam® software tools* **support detailed treatment planning**, e.g. in IOL calculations and contact lens fitting.

5

Documentation and Follow-up

Capture and document clinical findings objectively with reports and print outs – enabling reliable follow-up, treatment success, disease course and postoperative outcomes.



Provides Safety – Before and After.

The Pentacam® stands for **safety** in **diagnostics** and **surgical planning** like no other device. It provides **law-compliant documentation**, ensuring you are always on the safe side.



Your Safety Advisor

Safe Diagnostics

The Pentacam® is able to screen for pathologies such as keratoconus, corneal oedema or anterior chamber anomalies at a very early stage. This can be decisive in enabling timely treatment and improving prognosis.

Safe Surgical Planning

The Scheimpflug technology allows extremely precise measurements of corneal topography and thickness as well as other parameters. This precision is essential for the safe planning and execution of refractive surgeries.

Safe Documentation

The Pentacam® provides a safe and effective solution for the documentation and long-term management of patient data. This improves your quality of patient care and creates a reliable basis for clinical decision-making.

EXPERT OPINION

” I can no longer imagine safely planning surgery without a Pentacam®. “

Prof. Michael W. Belin
Tucson, USA | University of Arizona



Find out in this interview with Prof. Belin why the Pentacam® has become indispensable to him.



Delivers Results. Clearly and Detailed.

With the Pentacam® you can **fast-screen** for a first overview *and* make **well-informed diagnoses** all in one go, based on a measurement of **less than 10 seconds** duration. Experience speed and depth of detail in a single device.



Expert and Advisor

Well-Founded and Powerful

The Pentacam® software includes algorithms and indices which were especially developed for the diagnosis of specific anomalies such as keratoconus and can thus assist in the early detection and management of such conditions.

Fast and Detailed

The Pentacam® generates detailed data of the anterior segment within a matter of seconds, making it an extremely efficient diagnostic tool.

Clear and Easy to Understand

The Pentacam® software presents data and images in a well-structured, intuitive way, with colour-coded maps showing all diagnostically relevant parameters at a glance.

EXPERT OPINION

” **Fast screening with maximum depth of detail is to me an unbeatable combination.** “

Prof. Renato Ambrósio Jr.
Rio de Janeiro, Brazil | Instituto de Olhos Renato Ambrósio



Find out in this video interview with Prof. Ambrósio why the Pentacam® thrills him anew every day.



Pays off. Enables You to Deliver Premium Services at a Profit.

Make the Pentacam® your ally. Combine your expertise with the latest Pentacam® technology to generate profit.



Your Sales Driver

Gold Standard

The Pentacam® is an indispensable instrument in refractive surgery, especially when it comes to corneal analysis, and has come to be acknowledged as the gold standard.

Premium IOL

The Pentacam® assists in selecting the optimal IOL for each patient on the basis of accurate data. Its precise corneal measurements allow virtually any corneal shape to be considered in IOL power calculations.

Special Contact Lenses

The Contact Lens Module supplies detailed data on the cornea scleral profile, assisting in the process of fitting rigid or scleral lenses. This makes it possible to find custom solutions for patients of a wide variety of corneal conditions.

EXPERT OPINION

” We make 80% of our sales on premium services. “

Prof. Rohit Shetty
Bengaluru, India | Narayana Nethralaya



Find out in this interview with Prof. Shetty why the Pentacam® has become indispensable to him.



Engages with Your Patients and Wins Them Over.

In the **premium services** segment, **educating and communicating with your patients** is of the essence. Use the intuitive, readily **understandable displays** of the Pentacam® for your patient consultations.



Communication Expert

Comprehensible Evaluations

Having comprehensible evaluations to work from is key to being able to make diagnosis, develop treatment schedules and counsel patients appropriately.

Transparent Communication

Measurement data are compared with normative data, and possible anomalies are highlighted. The displays make consistent use of the traffic light colour scale, making them easy to understand and creating common ground for communicating with your patients.

Straightforward Progress Monitoring

The Pentacam® makes progress monitoring easy and efficient across a wide range of conditions and ocular diseases.

EXPERT OPINION

” I can only make decisions together with my patients, and the Pentacam® plays a key role in the process. “

María del Mar Seguí Crespo
Alicante, Spain | Universidad de Alicante



Find out in this video interview with Ms Seguí Crespo why the Pentacam® thrills her anew every day.



Shows Details You Have Never Seen before.

More data means **more clarity**.
Let your clinical decision be
characterized by **trust**.
For the patient's benefit.



Cornea Expert

Constantly Evolving Features

Since its introduction in 2002, the Pentacam® has been continuously improved and enhanced. New software and hardware features are regularly developed and implemented.

Ectasia Screening

The Pentacam® offers a complete package for Ectasia screening and diagnoses, staging, monitoring and objective progression analysis, even after corneal cross linking.

Cornea Layer Segmentation

Sub-layer segmentation of the cornea provides deeper insights, illuminates previously hidden structures and enables more precise diagnostics and clinical assessment. It includes: tear film, epithelium, Bowman's layer and stroma+ layer.

EXPERT OPINION

” Due to the high OCT resolution, we are now able to explore the detailed arrangement of the corneal layers. “

Prof. Damien Gatinel
Paris, France | Rothschild Foundation Hospital



Find out in this interview with Damien Gatinel how Scheimpflug and OCT complement each other in a single product.



The Pentacam®-Family

Software Options

Measurement Functions	Pentacam®	Pentacam® HR	Pentacam® AXL	Pentacam® AXL Wave	Pentacam® Cornea OCT
Scheimpflug-based Tomography	✓	✓	✓	✓	✓
High-resolution Scheimpflug Tomography	–	✓	✓	✓	✓
Optical Biometry	–	–	✓	✓	–
Aberrometry of the Entire Eye	–	–	–	✓	–
Objective Refraction	–	–	–	✓	–
Retroillumination	–	–	–	✓	–
High-resolution OCT	–	–	–	–	✓
Basic Software	Pentacam®	Pentacam® HR	Pentacam® AXL	Pentacam® AXL Wave	Pentacam® Cornea OCT
Fast Screening Report, 1 Large Color Map, Virtual Eye, Tomography, 4 Maps Refractive, General Overview, Anterior Segment Tomography, Topometric / KC Staging (Belin ABCD Keratoconus Staging), Belin ABCD Progression Display, Iris Camera and Automatic HWTW Measurement, 3D Anterior Chamber Analysis, Compare 2 Exams, Compare 2 Exams Scheimpflug Images, Scheimpflug Image Overview	✓	✓	✓	✓	✓
Full Sequence Measurement	✓*	✓	–	✓	✓
Full Sequence Overview	–	–	–	✓	–
Optional Software	Pentacam®	Pentacam® HR	Pentacam® AXL	Pentacam® AXL Wave	Pentacam® Cornea OCT
Screening Package	○	○	○	○	○
Cataract Package	○	○	○	○	○
Refractive Package	○	○	○	○	○
Contact Lens Fitting Package	○*	○	–	○	○
Myopia Package incl. GRAS Modul	–	–	–	○	–
IOL Calculator	–	○	○	○	○



✓ included ○ optional – not available

* depending on manufacturing date

Find the **local OCULUS representative** in your area.



Scan here for **further information** on functions, whitepapers, studies and videos



Act today and ask for a **non-binding offer** for your new Pentacam®.



WWW.OCULUS.DE



The OCULUS QM system is certified in accordance with ISO 13485 (MDSAP) and (EU) 2017/745 (MDR)

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