



APOLLO 1.0

 **NORWOOD**

Corneal Topographer | Dry Eye Assessment

A dedicated platform for dry eye diagnosis that provides complete dry eye tests according to the recommendation of Tear Film & Ocular Surface Society (TFOS) DEWS II report

Description

Package Contents

- APOLLO 1.0
- Base Plate and Chin rest
- Calibration sphere
- ICP Software
- Power supply

Joystick One-click acquisition

Images and movies can be captured instantly and conveniently by pressing the joystick button.



Left/Right automatic detection

APOLLO 1.0 automatically recognizes the right and left eye, allowing an even faster diagnosis of the ocular surface



Topography

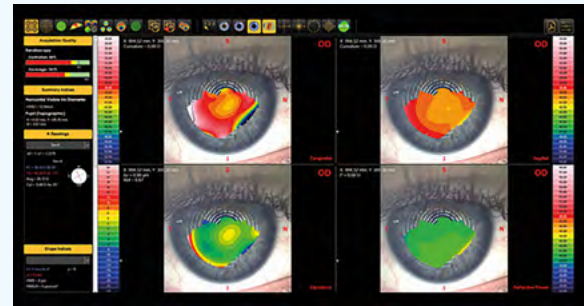
ESSENTIAL

PREMIUM

ULTRA

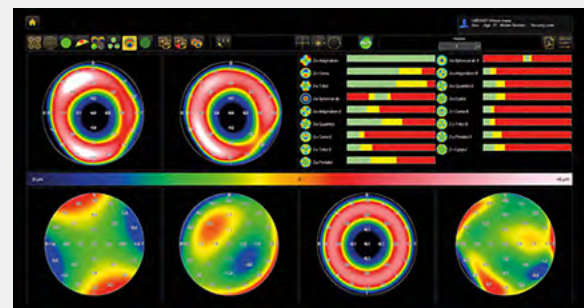
Topography

- Axial/ Tangential/ Elevation / Refractive power/Gaussian curvature map
- 3D images
- K Readings
- Shape indexes



Aberrometry Analysis (Zernike)

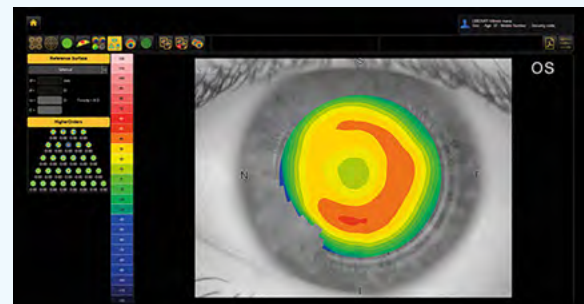
Zernike analysis of the topographic data provides the Optical Path Difference (OPD) and information on astigmatism, spherical aberrations, higher order aberrations and Coma for pupil sizes of 2.5 mm to 7.0mm



Advanced Altimetry

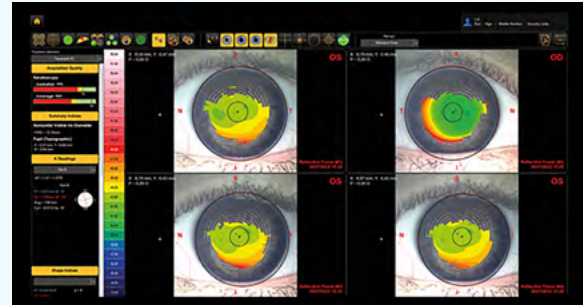
Zernike polynomials are adapted to the elevation data of the cornea, which is crucial for locating the apex.

The apex position is labeled with a cross. This display shows you if a rear surface toric lens is applicable to the particular case. Zernike polynomials and the aberration coefficient give you important indications of the imaging quality of the corneal surface. Abnormal values are marked in color.



Comparing Exams/ Differential map

- The comparing three examinations- display shows changes over a certain period of time, e.g. the progressive course of disease of keratoconus.
- Choose between sagittal and tangential curvature and between elevation data and refractive power.
- Use the “comparing two examinations- display for a right/left or before/after comparison.
- The easy-to-understand displays help you describe even complex concepts to your patient.



CL Fitting Simulation

The auto fit module combine the topographic data and RGP lens data to find and fit the best solution for the patient’s eye simulating the fitting with fluoresceine.

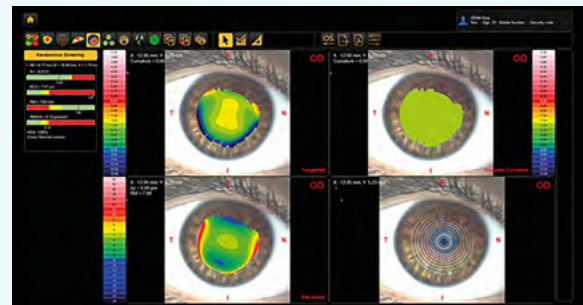
With APOLLO 1.0 is possible to acquire in vivo fluoresceine image of the lens to compare with the simulation.



Keratoconus Screening

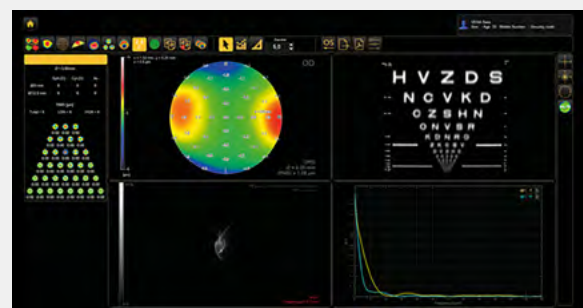
Combining the topography data and a statistic calculation is possible to perform a keratoconus screening getting the probability of keratoconus arising and ectasia.

Using APOLLO 1.0 is possible to show anomalous values and perform follow up of the patients.



Visual Acuity

Simulation of patient’s visual acuity based on Zernike wavefront aberration, showing effect of cataract and refractive surgery.



Interferometry

Thanks to the anterior illumination module, APOLLO 1.0 can acquire the lipid layer secretion on the cornea.

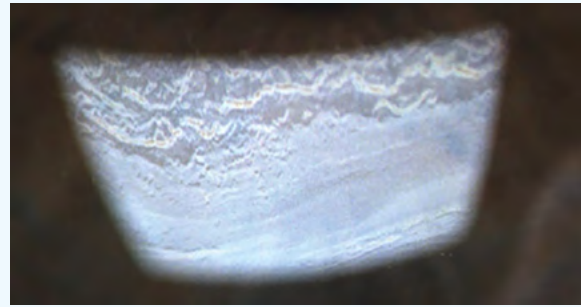
The device highlights the lipid layer and the software evaluates the quantity and quality of the lipid component on the tear film.

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Subjective

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Automatic



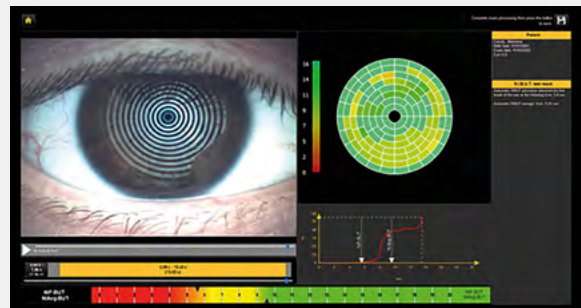
Automatic NIBUT

The stability of the mucin layer and the whole tear film is assessed through the study of non-invasive break up time (NIBUT), by using the Placido cone projected onto the cornea. Tear film stability automatically evaluated without fluoresce in:

- First NIBUT
- NIBUT Map
- Average NIBUT
- TF dynamic graph

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Automatic Tear Meniscus Height

The thickness of the tear meniscus that is observed on the eyelid margins provides useful information on the tear volume. The tear meniscus can be examined considering its height, regularity and shape.

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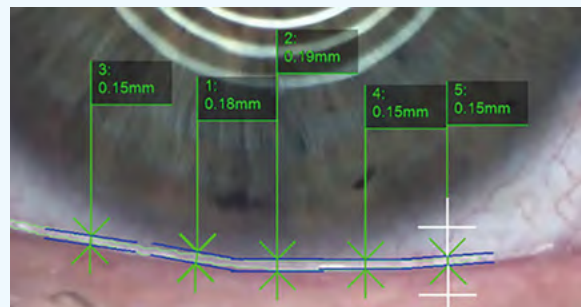
Subjective

An artificial intelligence determinates automatically:

- Position of tear meniscus
- Highest value in TM

ULTRA

Automatic



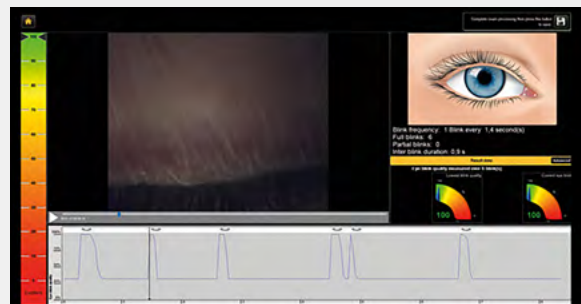
Automatic Eye Blink Quality

It has been established that efficient blinking plays an important role in ocular surface health including during contact lens wear and that it improves contact lens performance and comfort.

Eye blink analysis can be performed on a dedicated video or on interferometry video to know automatically:

- Blink frequency
- Partial blink (Fundamental for MG understanding)

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Automatic Meibography

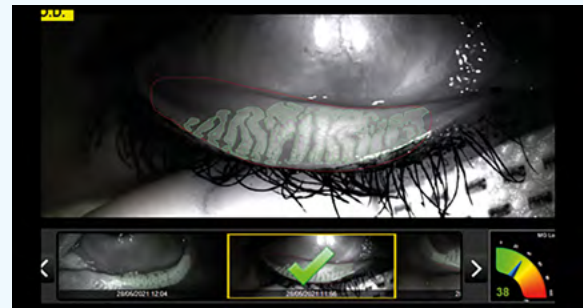
Meibography is the visualization of the glands through illumination of the eyelid with infrared light. It images the morphology of the glands in order to diagnose any meibomian gland drop out which would lead to tear dysfunction.

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Using IR illumination OS1000 can automatically detect:

- Lid area
- Meibomian glands
- Drop out

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3D Meibography

This new imaging system provides strong evidence to support the choice of a specific therapy (for example IPL treatment) and helps the patient to understand why a certain therapy is being recommended.

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Automatic Dry Eye Treatment Suggestion

The unique integrate algorithm, developed by MD. Luca Vigo, can provide a dedicated treatment approach based on the results of the analysis.

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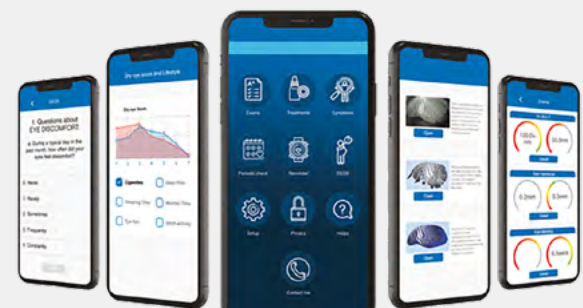
Dry Eye Follow Up

Is the only application on the market that allows the doctor to transfer the data of the tests carried out for the evaluation of the dry eye to the smartphone of his patient.

Healthcare apps have transformed the field of medicine into the digital mode with more and more health care services that are rapidly changing to boost information and treatment using varied digital technologies.

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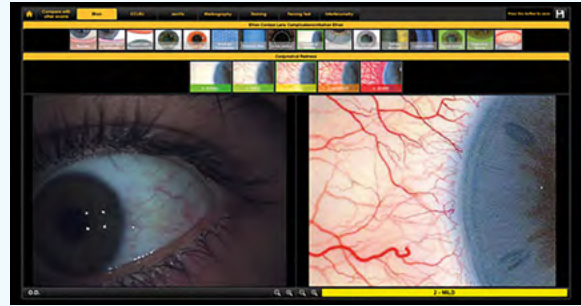
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A complete analysis of your Ocular Surface

Efron/ CCLRU / Jenvis

Comparative tables



Bulbar Redness

Acquiring an image of the conjunctiva, it will be possible to compare the patient's condition with different international grading scales.

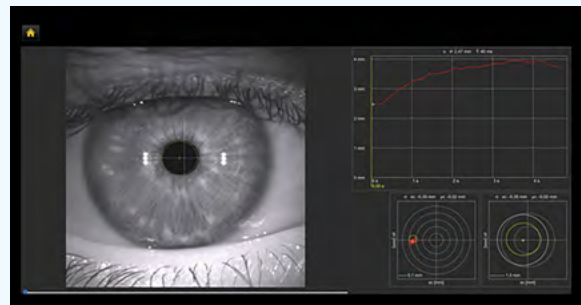
Once the image of the conjunctiva with its blood vessels is captured, it is possible to compare it with the classification sheets of bulbar and limbal redness degrees.

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Dynamic Pupillometry and WTW

Evaluation of corneal diameter from limb us to limbus (white-to-white distance, WTW).



Overview of APOLLO 1.0



Corneal Topography including keratoconus screening and pupillometry



Progression reports for analyzing treatment efficacy



Comprehensive suite of Dry Eye assessment tools



Patient-friendly with fast acquisition

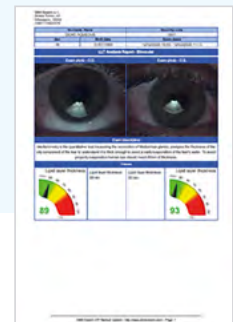
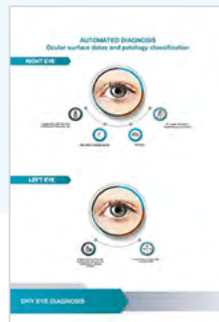
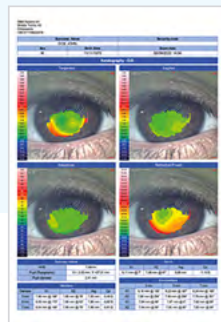


Compact and easy to operate

Reports

Multiple Reports Available

The software is a dedicated platform for dry eye and allows, in addition to helping in the diagnosis and classification of diseases to print and save various medical reports, offering the most professional and clinical solutions to patients. For customer satisfaction, it is often advisable to provide technical documentation relating to the exams taken. Thanks to the various print reports of the device, you will have the possibility to visually explain and simply demonstrate the pathology situation. Furthermore, it's possible to explain how the pathology has changed over time.



APOLLO 1.0 Versions

	ESSENTIAL	PREMIUM	ULTRA
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Axial Map	●	●	●
Tangential Map	●	●	●
Refraction Map	●	●	●
Gaussian Map	●	●	●
Elevation Map	●	●	●
Differential Map	●	●	●
Comparison Map	●	●	●
Keratoconus Screening	●	●	●
Contact Lens Fitting Simulation		●	●
Pupillometry	●	●	●
White to White Measurement	●	●	●
Interferometry		● Manual	● Auto
NIBUT		●	●
Meibography		●	●
Tear Meniscus		● Manual	● Auto
Blink Quality			●
Blepharitis			●
Ocular Redness Classification			●
Wizard Procedure		●	●
Treatment Protocol Section		●	●
Smartphone App "Dry Eye Follow-Up"		●	●

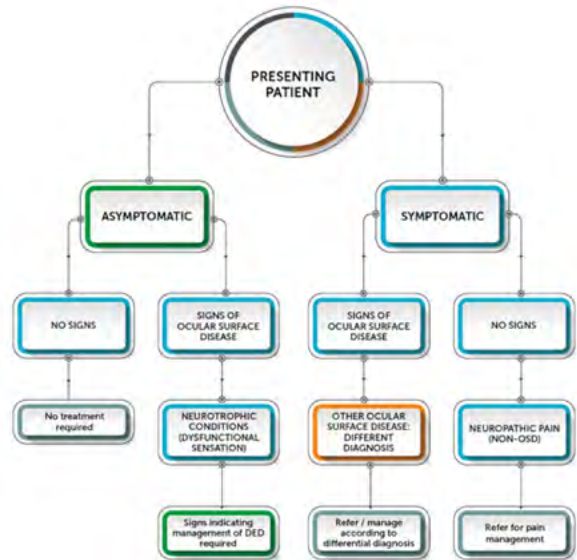
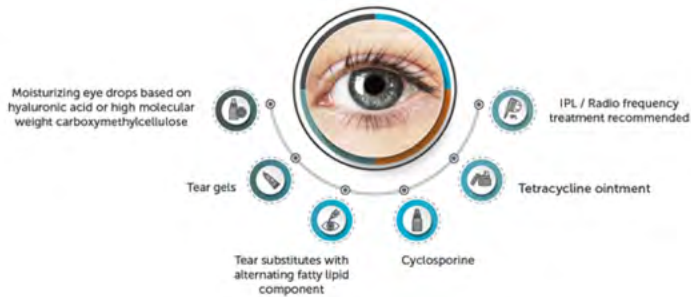
Protocol

Diagnosis Suggestion

Ocular Surface Data and Pathology Classification

APOLLO 1.0 includes a suggested algorithm which is a possible treatment approach for each patient.

All suggestions can be useful for diagnosis and treatment.



Specification

Rings	24
Measured Points	8760
Camera Resolution	5 Megapixel
Photo Resolution	2592x1944 JPEG format
Upscaled Analyzed Image Resolution	23 Megapixel
Acquisition Mode	Single Shot, Multishot, Video
Focus	Manual Focus
ISO Management	Variable
Image Color	Colors - Infrared (IR)
Lighting Source	Infrared LED - White LED - Blue LED
Working Distance	60 mm - 90 mm from the center of the placid
Output 1	USB 3.0
Electromagnetic Compatibility (EMC)	IEC 60601-1-2 (2015)
Supply Voltage	24 V
Device Operating Voltage	24 V - 5V
Dimensions	16" (L) x 24" (H) x 18" (D)
Weight	26 Lbs.



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