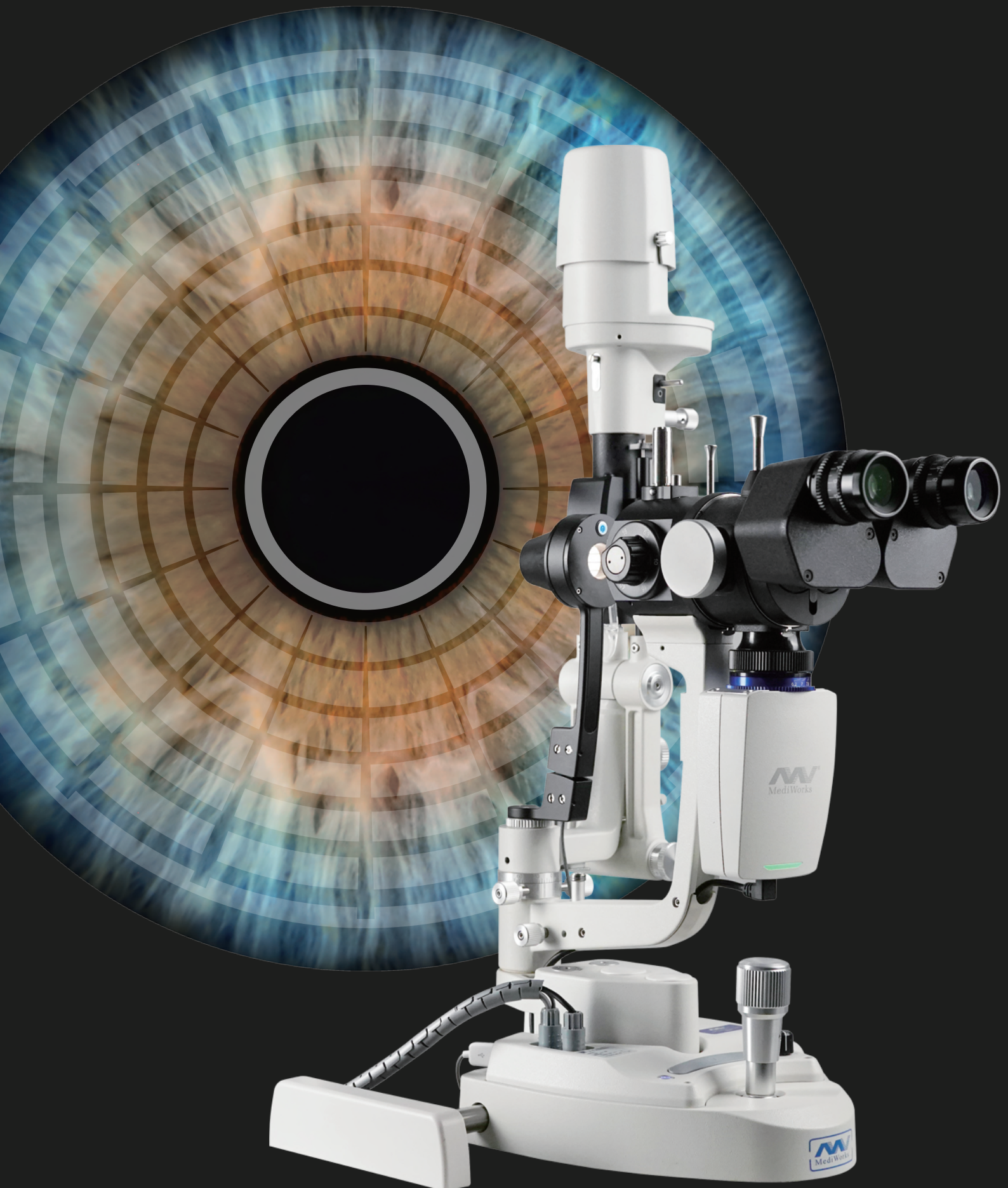




Complete examination, Comprehensive evaluation, Precise Diagnosis

Dry eye diagnostic system





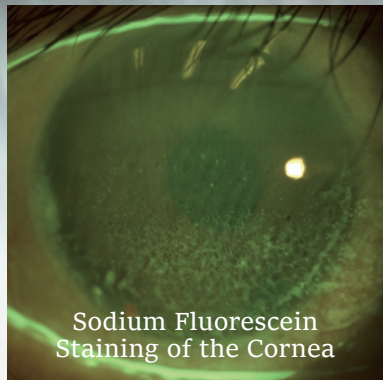
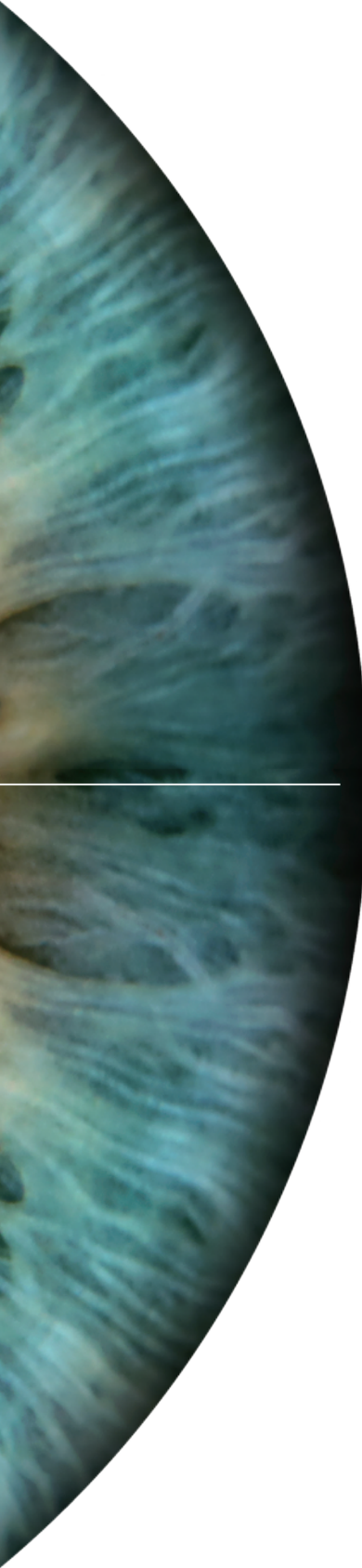
Platform for Comprehensive Ocular Surface Examination

Dry eye diagnosis/Anterior Segment Photography/Lens fitting/
Patient management/Telemedicine

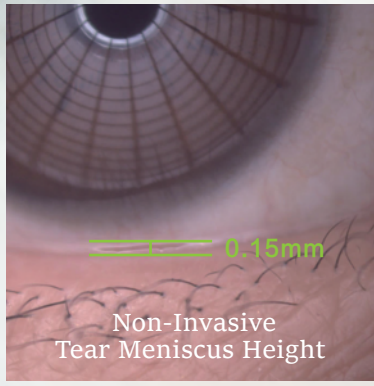
Guided examination:providing a comprehensive report covering 7 dry eye diagnosis.
Non-invasive examination,Quantitative data.

Full-automatic Firefly digital module ,easy operation without parameter settings.
High quality optics and built-in yellow filter efficiently increase the accuracy of lens fitting.

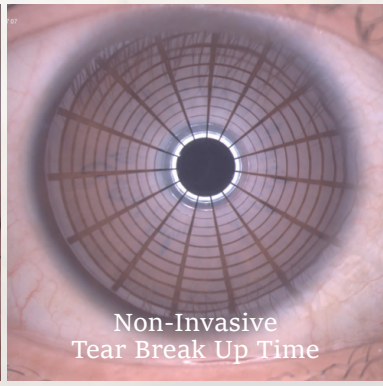
Professional 1/1.8-inch sensor and 2.4 μ m pixel,real-time playing and storage.
Smart patient management system,DICOM supported.



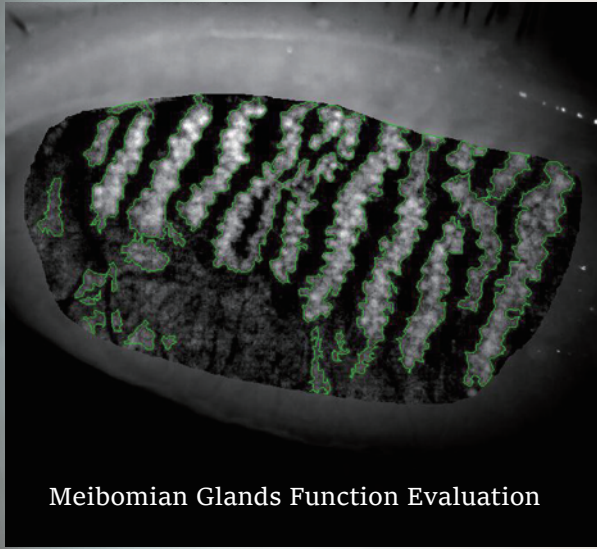
Sodium Fluorescein Staining of the Cornea



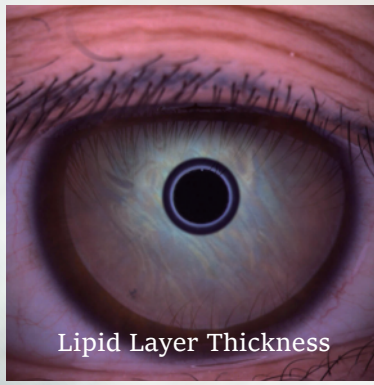
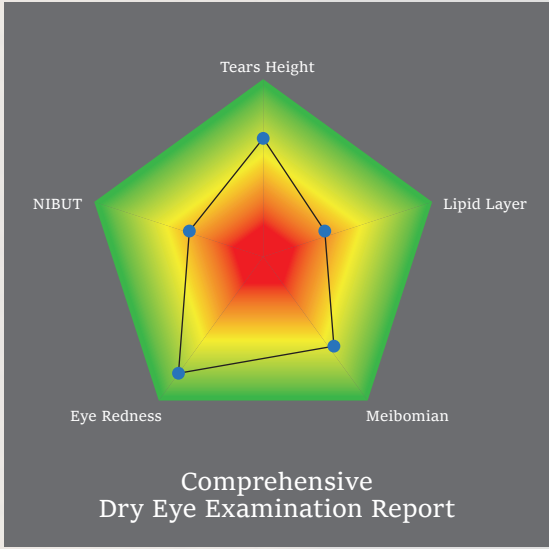
Non-Invasive Tear Meniscus Height



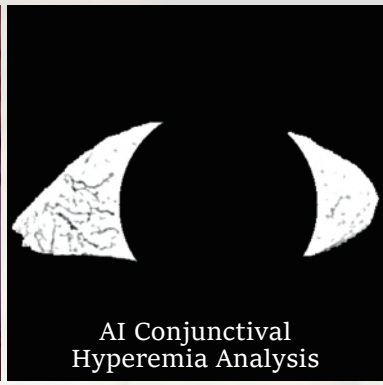
Non-Invasive Tear Break Up Time



Meibomian Glands Function Evaluation



Lipid Layer Thickness



AI Conjunctival Hyperemia Analysis



Eyelid Margin

Easy Pathogenic Diagnosis, Providing guidance for customized treatment.

Dry eye diagnostic system

Automatic Classification of Meibomian Glands

With unique Built-in infrared lighting system providing a larger scope capture of the meibomian glands, Adjustable depth of field and aperture enabling more vivid images. Precise diagnosis of Dry Eye caused by MGD is guaranteed with the help of automatic meibomian glands loss classification.

Increase positive rate of early corneal epithelial staining

Built-in yellow filter along with cobalt-blue lighting increases the contrast of Sodium Fluorescein Staining image.

HD Optical System

Resolution up to 200 lp/mm, providing trimmed detail of the pathologies.

Full Cornea Dry Eye Analysis

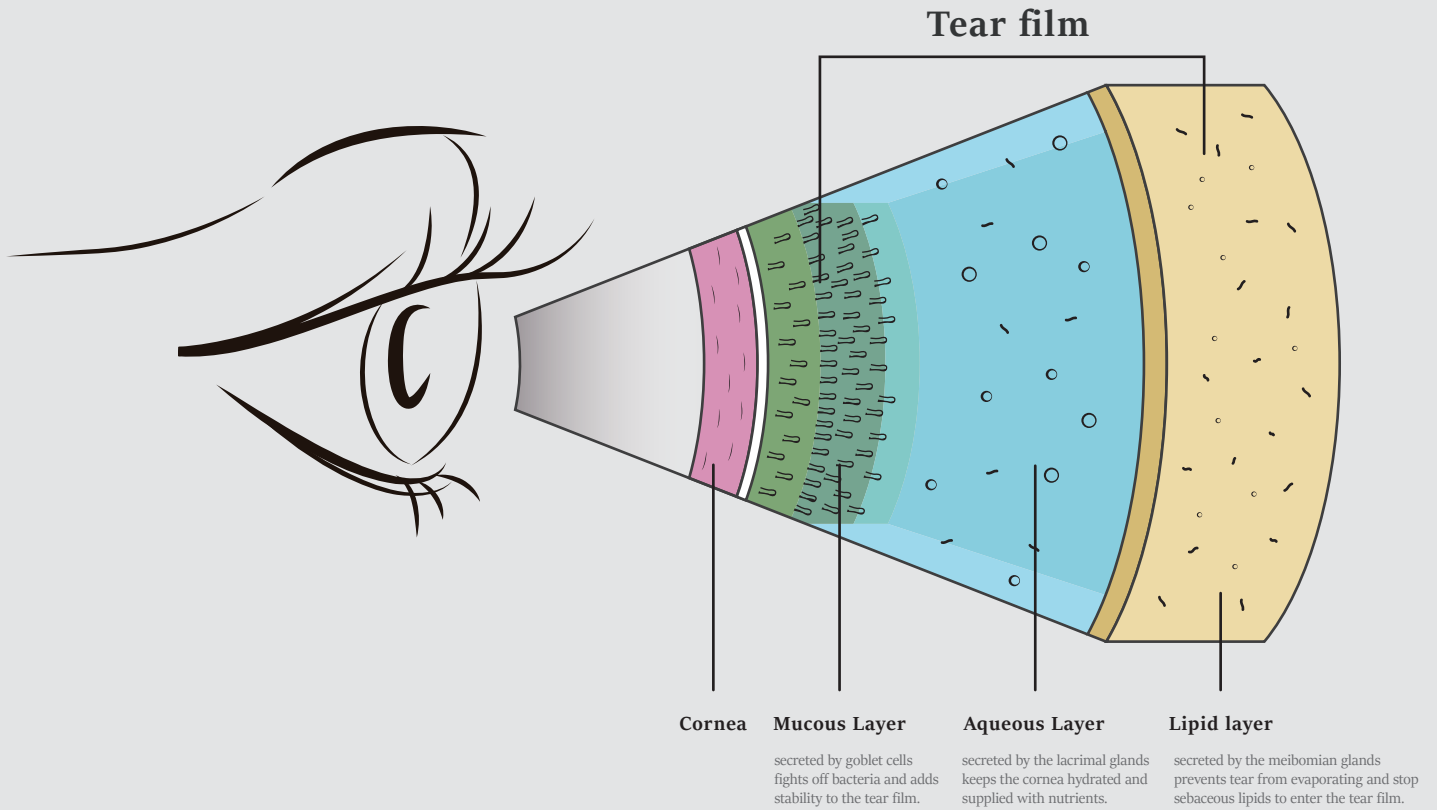
By Placido ring projection system with visible light, the examination scope is up to 10mm cornea diameter. Diagnosis of the tear film which out of pupil center has the same significance for the diagnosis of Dry Eye.

Fully automatic Firefly digital module

Firefly Digital module is specially designed for anterior segment examination, no parameter settings required (automatic exposure, auto white balance, auto focus), with adjustable depth of field and wide dynamic range, 5 Mega Pixels video output, high examination efficiency is allowed.



Due to various causes of Dry Eye Disease, traditional examination is difficult to find out the cause and quantify for the treatment. MediWorks Dry Eye Diagnostic System can provide standardized examination and quantified causes evaluation for Dry Eye Disease.



Aqueous Deficient

Caused by : insufficient or abnormal tear secretion

Related examinations : NIBUT / Non-Invasive Tear Meniscus Height

Evaporative

Caused by : Abnormity of the lipid layer quality

Related examinations : NIBUT / Meibomian Glands Analysis / Eyelid margin Examination / Lipid Layer Thickness Examination

Mucin-lacking

Caused by : Inflammation or damage of the corneal epithelial cells

Related examinations : NIBUT / AI Conjunctival Hyperemia Analysis / Sodium Fluorescein Staining of the Cornea

Abnormal Tear Dynamics

Caused by : Abnormity of tear dynamics

Related examinations : NIBUT / Non-Invasive Tear Meniscus Height / Full Eye Image

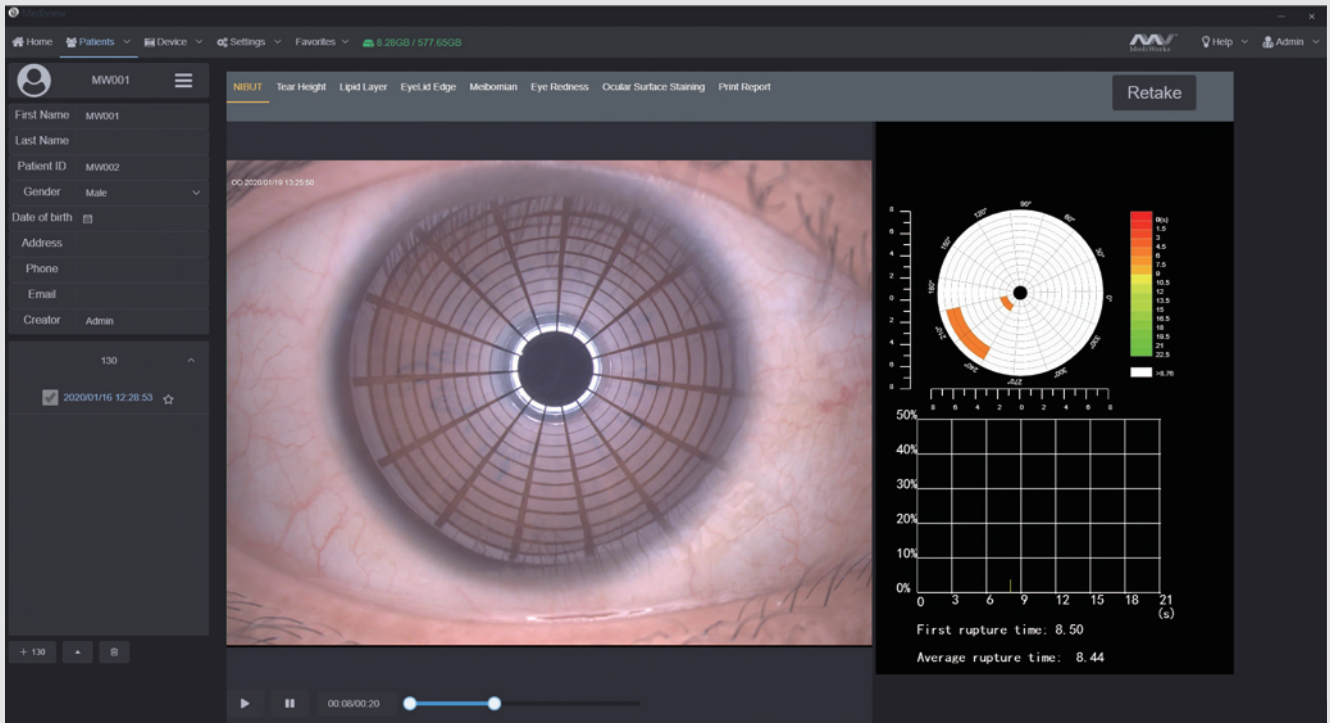
Mixed

Caused by : two or more factors binding together

Related examinations : Comprehensive Examination

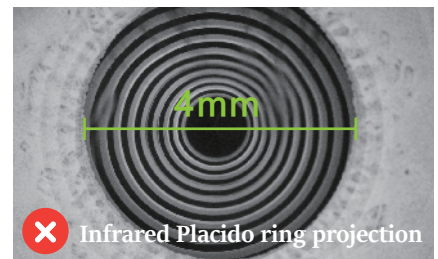
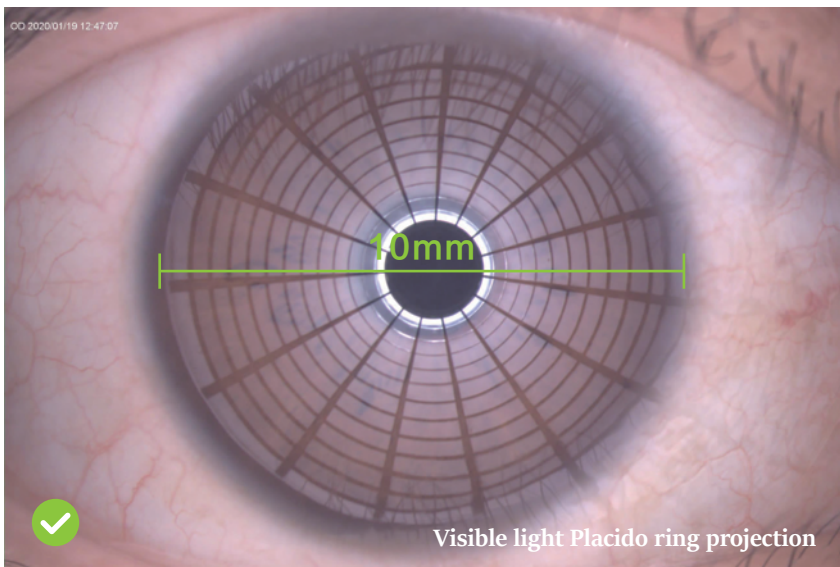
Classification of Dry Eye Syndrome

Non-Invasive Break Up Time



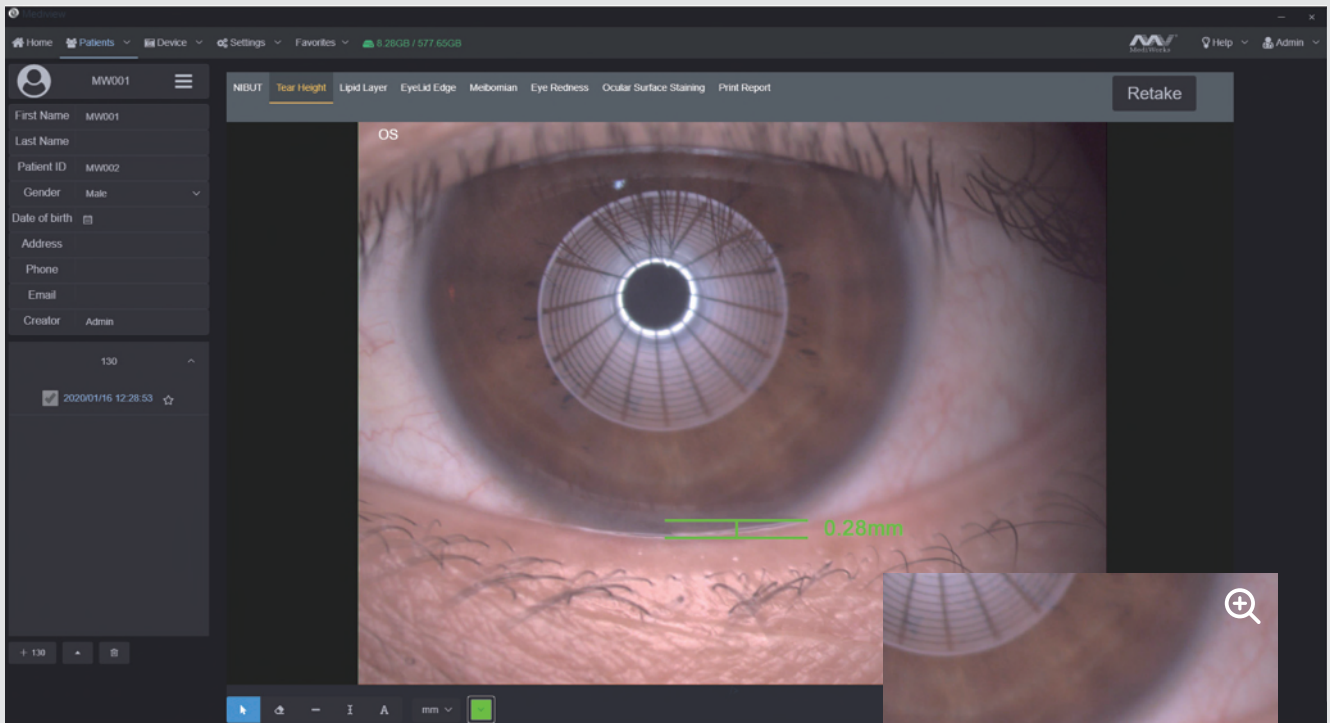
Grade 0 Normal, First Rupture Time: 10 s Average Rupture Time: 14 s
 Grade 1 Warning, First Rupture Time: 6-9 s Average Rupture Time: 7-13 s
 Grade 2 Dry eye, First Rupture Time: 5 s Average Rupture Time: 7 s

Fully Automatic analysis system provides efficient quantified evaluation for the overall stability of the tear film. It automatically acquires the first break up time, average break up time, break up distribution, break up area percentage curve and time distribution.



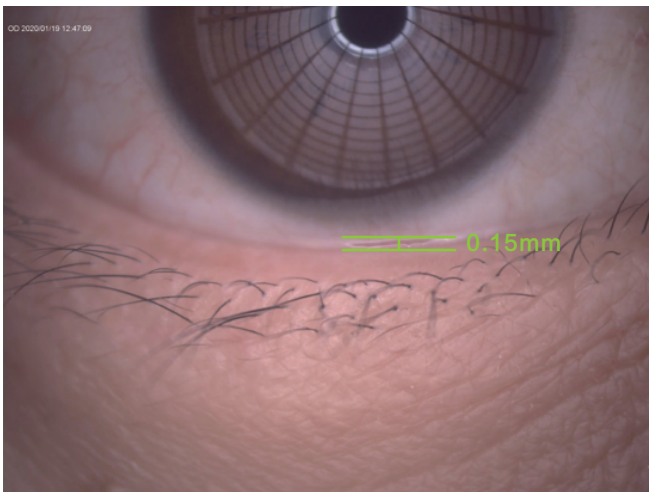
MediWorks adopts Placido ring projection system with visible light to do the examination, the examination scope is up to 10mm cornea diameter which brings much more comprehensive diagnosis outcome. The non-invasive examination avoids the stimulation brought by the traditional Sodium Fluorescein Staining of the Cornea.

Non-Invasive Tear Meniscus Height

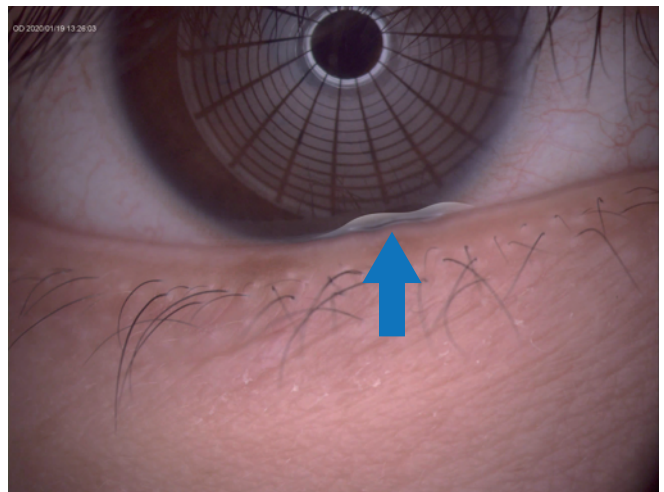


Normal: $\geq 0.2\text{mm}$

Measures the Tear Meniscus Height and evaluates tear secretion amount and continuity, more efficient and less irritating compared with the traditional Schirmer's test.

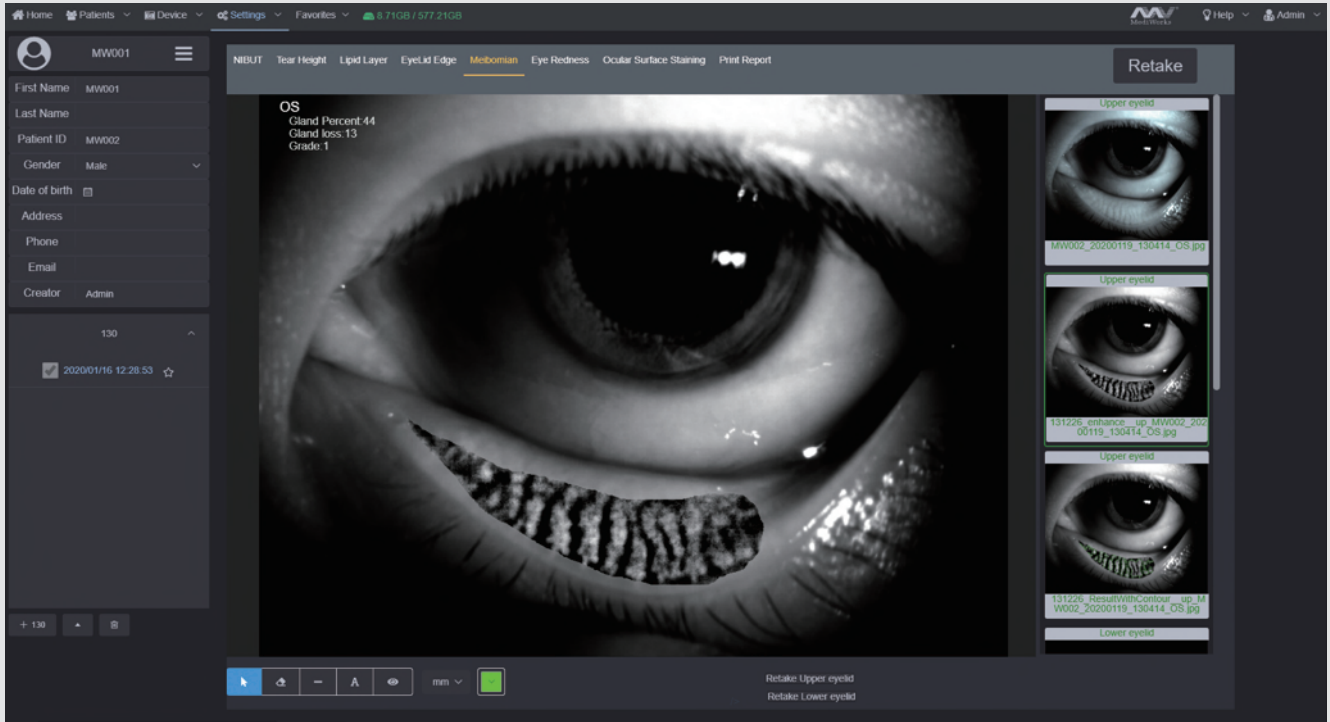


Insufficient tear secretion



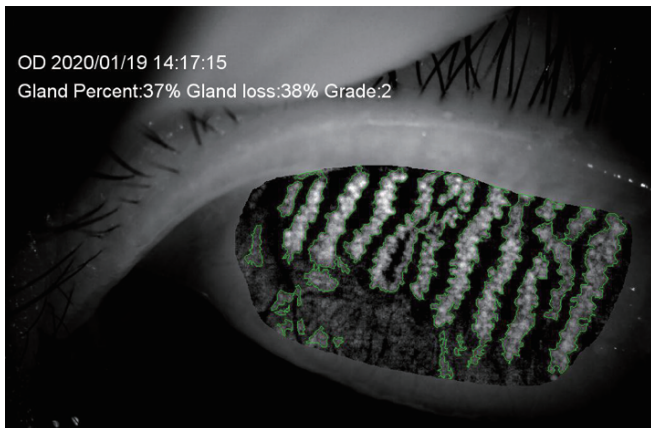
Abnormal dynamics and conjunctival chalasis

Evaluation of Meibomian Glands Function



An automatic classification system based on meibomian glands dropout rate, providing precise and quantified diagnosis of DES caused by meibomian glands dysfunction. Built-in infrared lighting system expands the image scope of the meibomian glands, with adjustable depth of field, making the glands more prominent and distinguishable against the background.

- Grade 0: No Meibomian Glands Loss
- Grade 1: Meibomian Glands Loss $\leq 1/3$
- Grade 2: Meibomian Glands Loss $1/3-2/3$
- Grade 3: Meibomian Glands Loss $>2/3$



Meibomian glands dropout

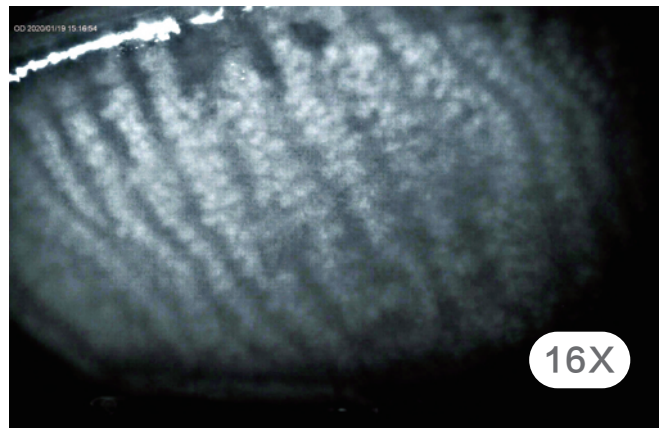
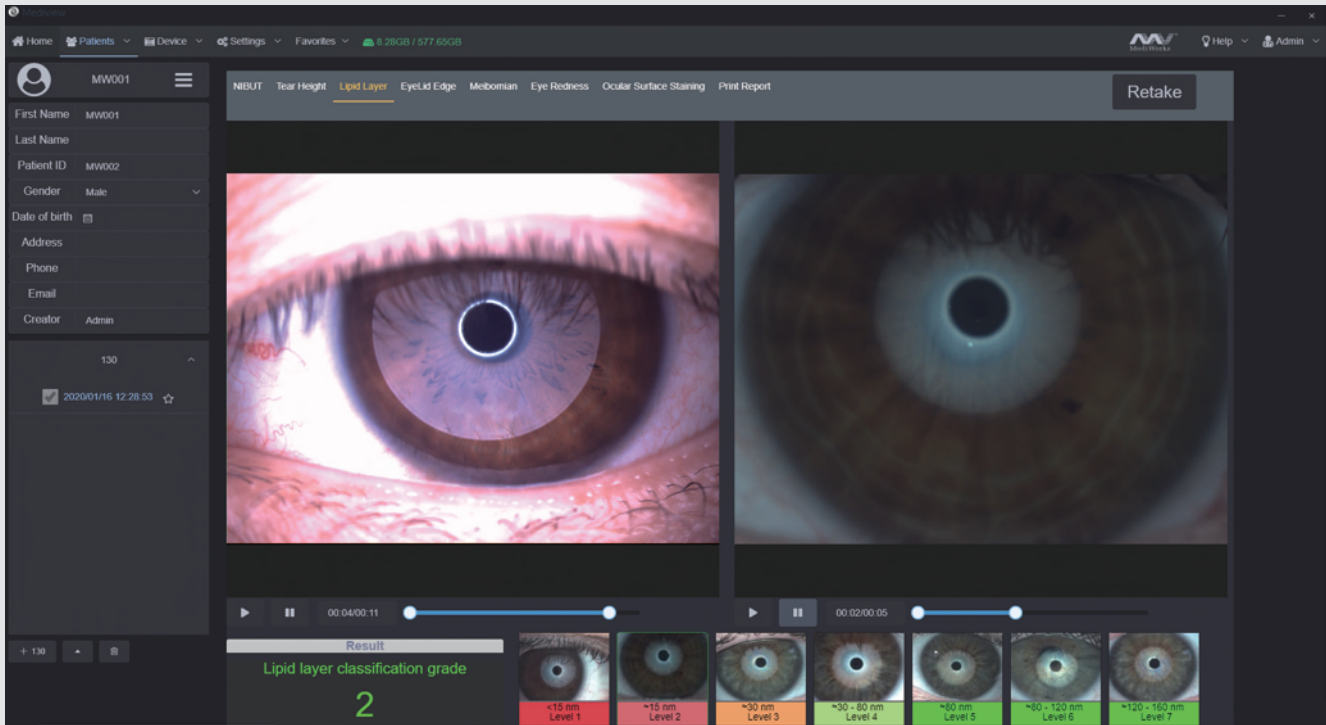


Image of Meibomian glands under high-magnification

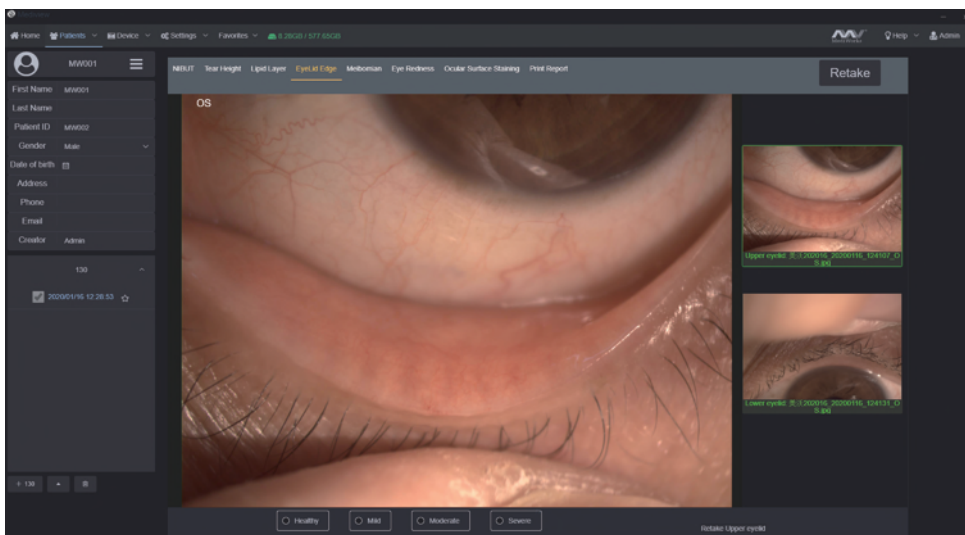
Lipid Layer Thickness



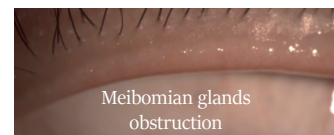
White ring projection system ensures a larger examination area compared to Placido ring. By comparing with the standard grading template and recording the lipid layer thickness assessment report, it is helpful for judging MGD.

- Grade 1: <15 (Unit:nm)
- Grade 2: ≈ 15
- Grade 3: ≈ 30
- Grade 4: ≈ 30-80
- Grade 5: ≈ 80
- Grade 6: ≈ 80-120
- Grade 7: ≈120-160

Eyelid Margin

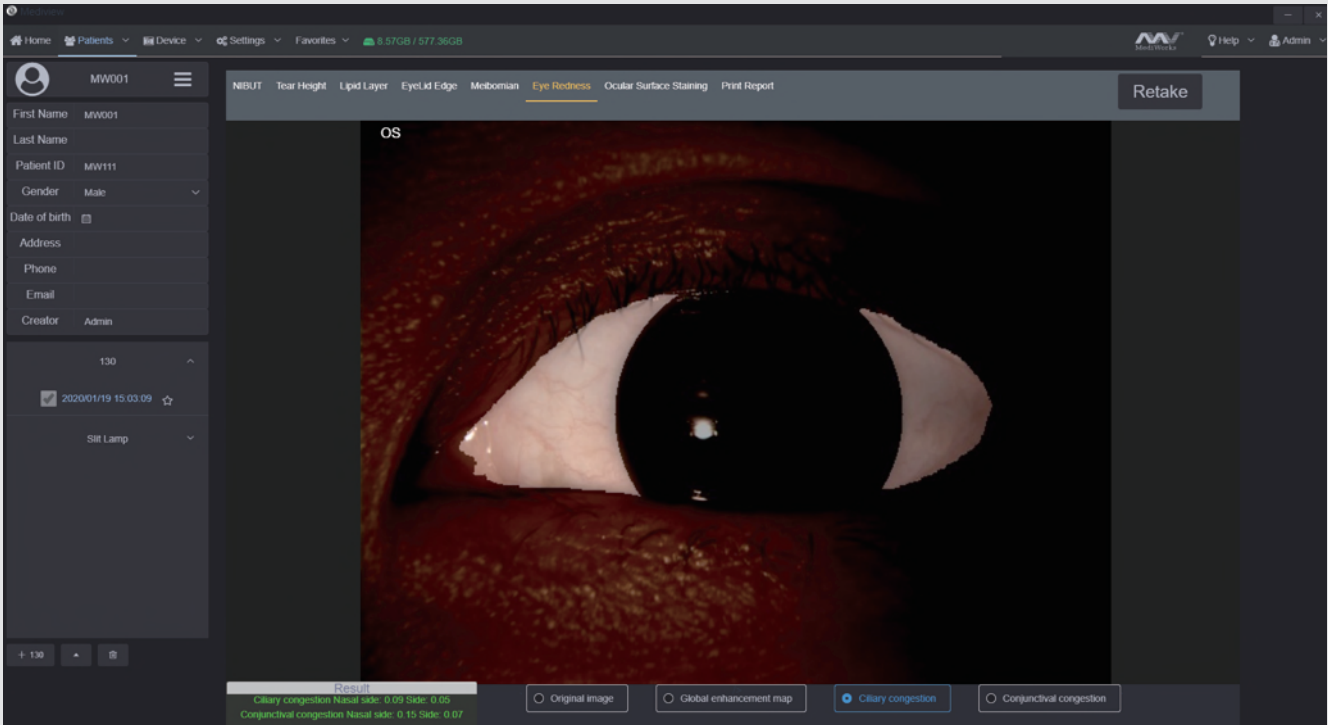


1. Normal including (Ophthalmic embolism bright, transparent)
2. Mild including (gland cap crown - glandular prominent)
3. Moderate including (glandular fat plug - disappearance of the marginal mucosa, hyperkeratosis)
4. Severe including (uneven margins, disappearance of the meibomian glands - posterior margin Blunt round, thickening, new blood)



MediWorks professional design of optical system is capable of providing HD digital image that remains clear and sharp Even zoom, meets the examination requirements of the overall shape of eyelid margin and its slight change. Such examination is important for diagnosing meibomian gland dysfunction.

AI Analysis of Conjunctival Hyperemia



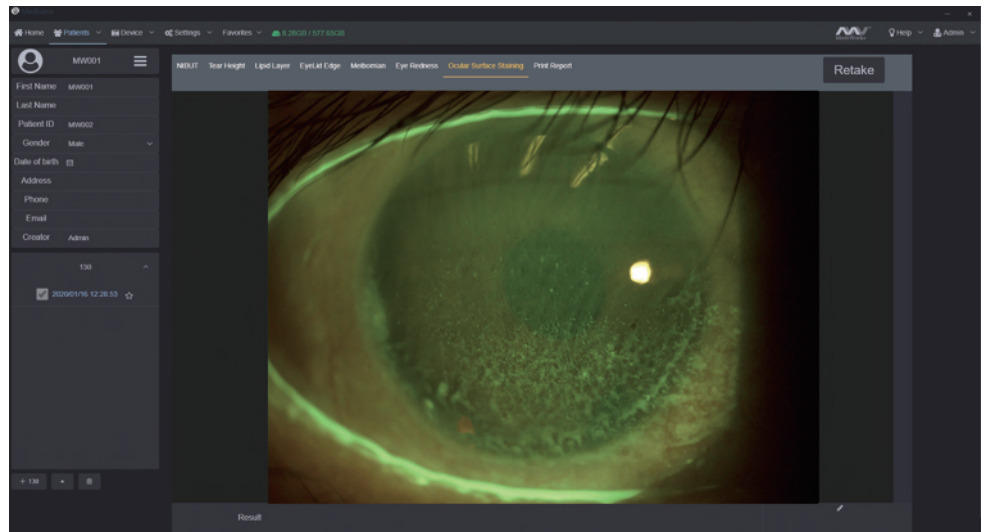
Normal: ≤ 2 Exception: > 2

The unique AI identification system can identify and calculate percentages of conjunctival congestion and ciliary congestions and evaluate severity of eye congestion.



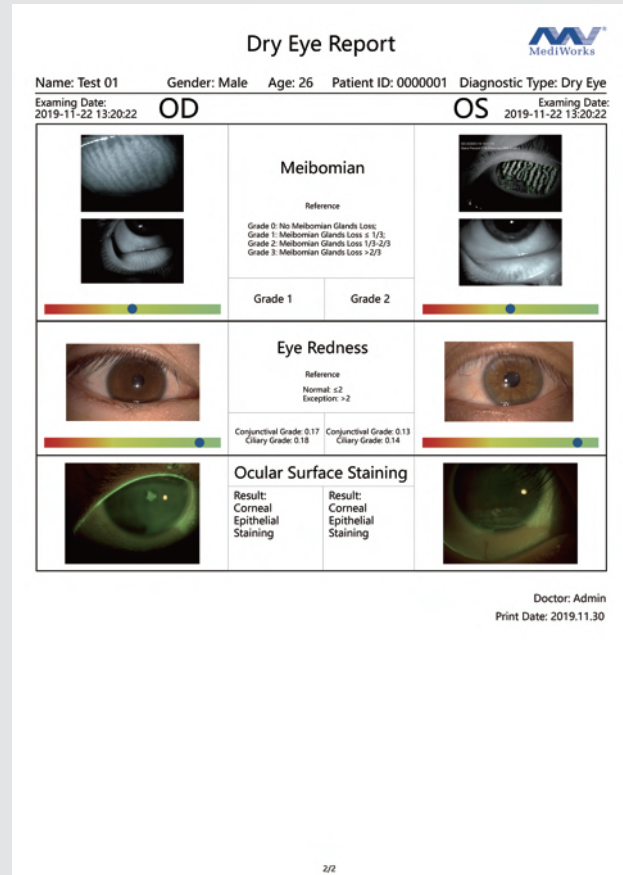
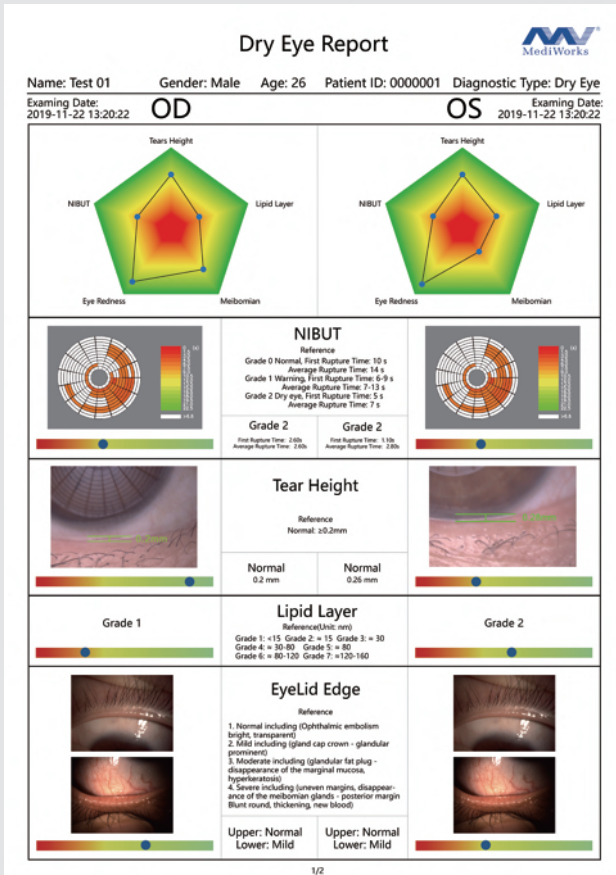
AI image

Cornea Sodium Fluorescein Staining

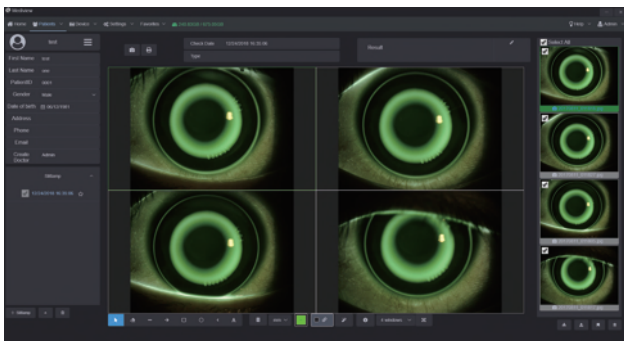


Effectively increases positive rate of early corneal epithelial staining.
Built-in yellow filter along with cobalt-blue lighting makes the cornea sodium fluorescein images more clearly.

Dry Eye Comprehensive Evaluation Report

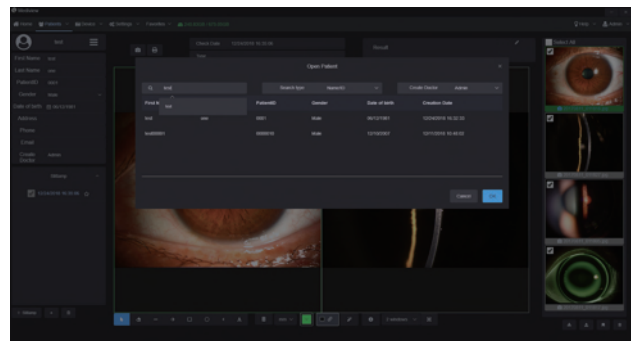


Smart Patient Management system



Comparison of Patient records

Supports repeated comparison among medical records to evaluate treatment and guide customized medical plan.



Patient Management system allows doctors to build and edit medical records. Quickly search the patient case by key words. Doctors can note patients' situation via the software. This DICOM-supported system enables Mediview to connect with medical systems in hospitals.

We looking forward to your professional advice for our products and if you are interested in academic or business cooperation with us. Please contact

Email: International@mediworks.biz Marketing@mediworks.biz

Specifications

Microscope

Microscope Type	Galilean Type
Magnification Change	Revolving Drum 5 steps
Total Magnification	6.3X, 10X, 16X, 25X, 40X
Eyepieces	12.5X
Angle between Eyepieces	10°
Pupillary Adjustment	52mm-80mm
Diopter Adjustment	-8D~+8D
Field of View	∅36.2mm, ∅22.3mm, ∅14mm, ∅8.9mm, ∅5.7mm

Slit Illumination

Slit Width	0~14mm continuous (slit becomes a circle at 14mm)
Slit Length	1~14mm continuous
Aperture Diameters	∅14mm, ∅10mm, ∅5mm, ∅3mm, ∅2mm, ∅1mm, ∅0.2mm
Slit Angle	0° ~180°
Slit Inclination	5°, 10°, 15°, 20°
Filters	Heat-absorbing filter, ND filter, Red-free filter, Cobalt blue filter, Yellow filter built-in
Lamp	3V LED Module
Luminance	≥150KLX

Power Supply

Input Voltage	110V~220V	Packaging	
Input Frequency	50Hz/60Hz	Dimension	770mm x 470mm x 570mm(L/W/H)
Power Consumption	90VA	Gross weight	23kg
Output Voltage	3V LED, Fixation 5V	Net weight	17kg

System Specifications

Digital Module	Automatic exposure/ Automatic white balance / Adjustable depth of field and aperture
Image Sensor	1/1.8-inch sensor / 2.4 μm pixel / 5.0M Pixels
Photo Resolution	2592 x 1944
Format	JPEG
Video Resolution	2592 x 1944
Frame of Video	25fps
Video Formats	MP4 H.264
Exposure Mode	Automatic exposure
Transmission Interface	USB 3.0 TYPE-C

Dry eye module

Non-Invasive Tear Meniscus Height	Visible light Placido ring projection(23 ring) / Examination scope 10mm diameter / Automatic first break up time / Automatic average break up time
Non-Invasive Tear Break Up Time	Visible light Placido ring projection / Optical magnification / Electronic amplification / Non-Invasive Tear Break Up Time data
Lipid Layer Thickness	Template comparison evaluation
Meibomian Glands Function Evaluation	Automatic Meibomian glands dropout rate classification
AI Conjunctival Hyperemia Analysis	AI identification system / Automatic conjunctival congestion percentages / Automatic ciliary congestions percentages
Eyelid Margin	Optical magnification/Electronic amplification/Image evaluation
Sodium Fluorescein Staining	Eye surface damage report/Built-in yellow filter/Built-in blue filter
Dry Eye Examination Report	Automatic analysis report

System Specifications

PC configuration	i5-8500T 8G 1T+128G 2Gdiscrete graphics
Display	1920 x 1080 23.8inch
PC system	Windows 10



   FDA Approval

Shanghai MediWorks Precision Instruments Co.,Ltd.

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*Subject to change in design or specification without advance notification

Details Make the Difference