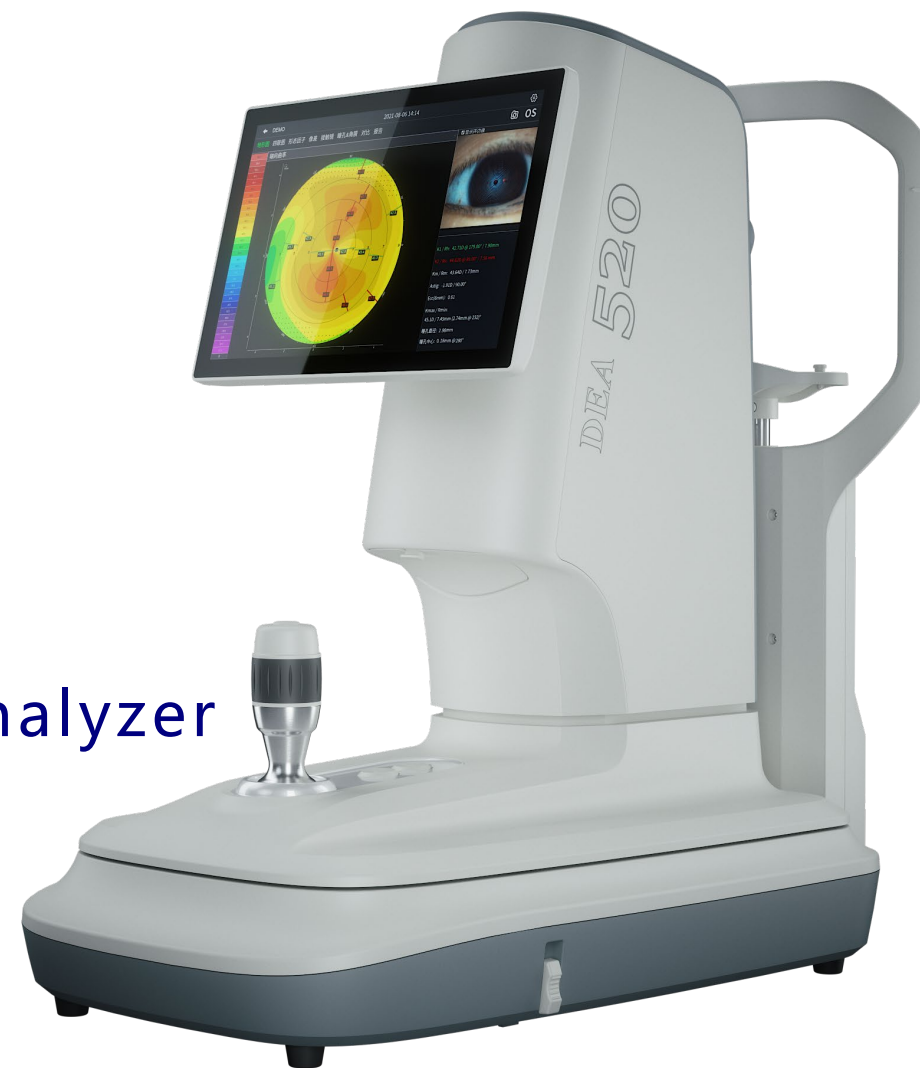


DEA520

2 in 1

Ocular Diagnostic Master

Dry Eye and Corneal Topography Analyzer



01

**Technical
Principles**

02

**Examination
Functions**

03

**Product
Advantages**

04

**Clinical
Applications**

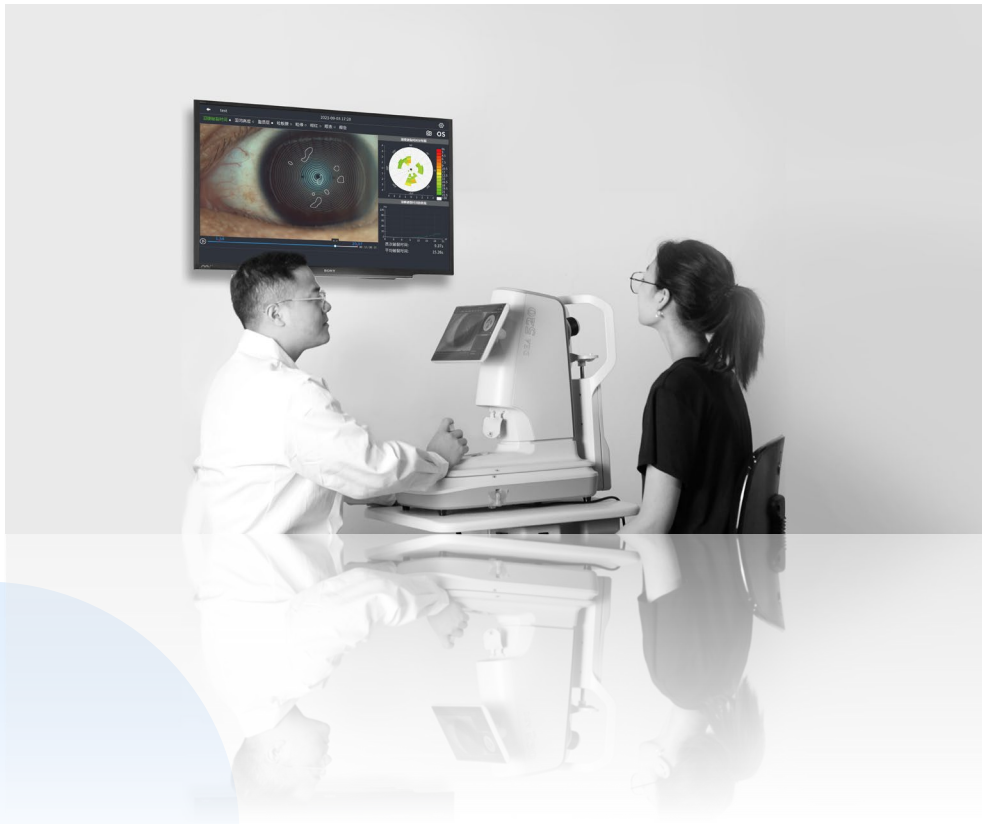
05

**Products
Comparisons**

06

Conclusion

Placido Ring 3 Illuminations



◆ Placido Ring

- 50 rings-18,000 detection points provide more accurate analysis
- Smaller cone design-11 mm corneal coverage enables bigger projection area

◆ 3 Illuminations

- White illumination
- Infrared illumination
- Cobalt blue illumination

2 in 1 Ocular Diagnostic Master

Dry Eye Examination

- Questionnaire
- NIBUT(Noninvasive breakup time)
- Noninvasive tear meniscus height
- Lipid layer thickness
- Meibomian glands function evaluation
- Eyelid margin
- Eye redness
- Ocular surface staining



Corneal Topography Analysis

- Corneal topography selectable
- Four maps
 - Sagittal curvature map
 - Tangential curvature map
 - Elevation map
 - Refractive power map
- Shape factor
- Aberration analysis
- Case comparison
- Pupil&Corneal diameter measurement
- Contact lens fitting

Product Advantages



Built-in Computer

- Integrated design enables maximum treatment room utilization
- Dry eye and corneal topography analysis integrated

User-friendly

- 50° adjustable HD touch display
- Auto OS/OD recognition, Auto focus, switch illumination and magnification intelligently
- Tiltable design to avoid upper eyelids measurement error

Doctor-patient Communication

- Generate visualized diagnosis report
- It can be connected to an external high-definition

Clinical Applications

- Dry eye examination
- Corneal morphology examination
- Zernike aberration analysis
- Orthokeratology lens fitting



7 Dry Eye Examinations

NIBUT

**AI Non-invasive
Tear Meniscus
Height**

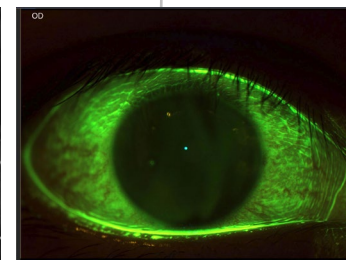
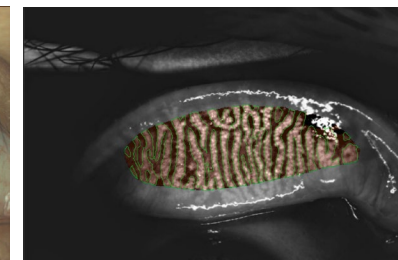
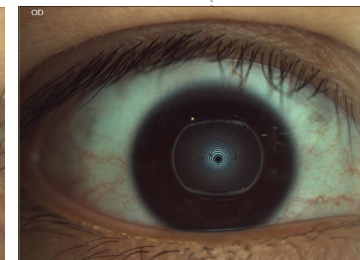
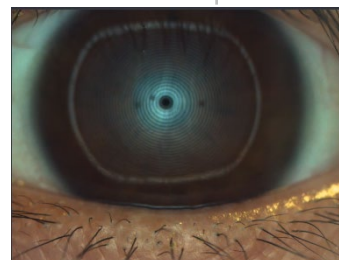
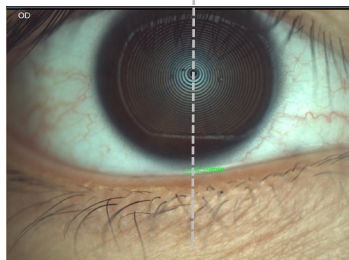
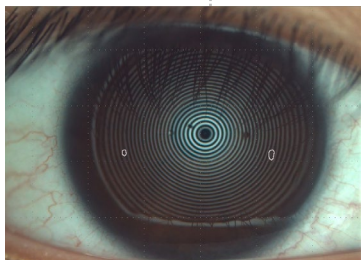
**Lipid Layer
Thickness**

**Eyelid
Margin**

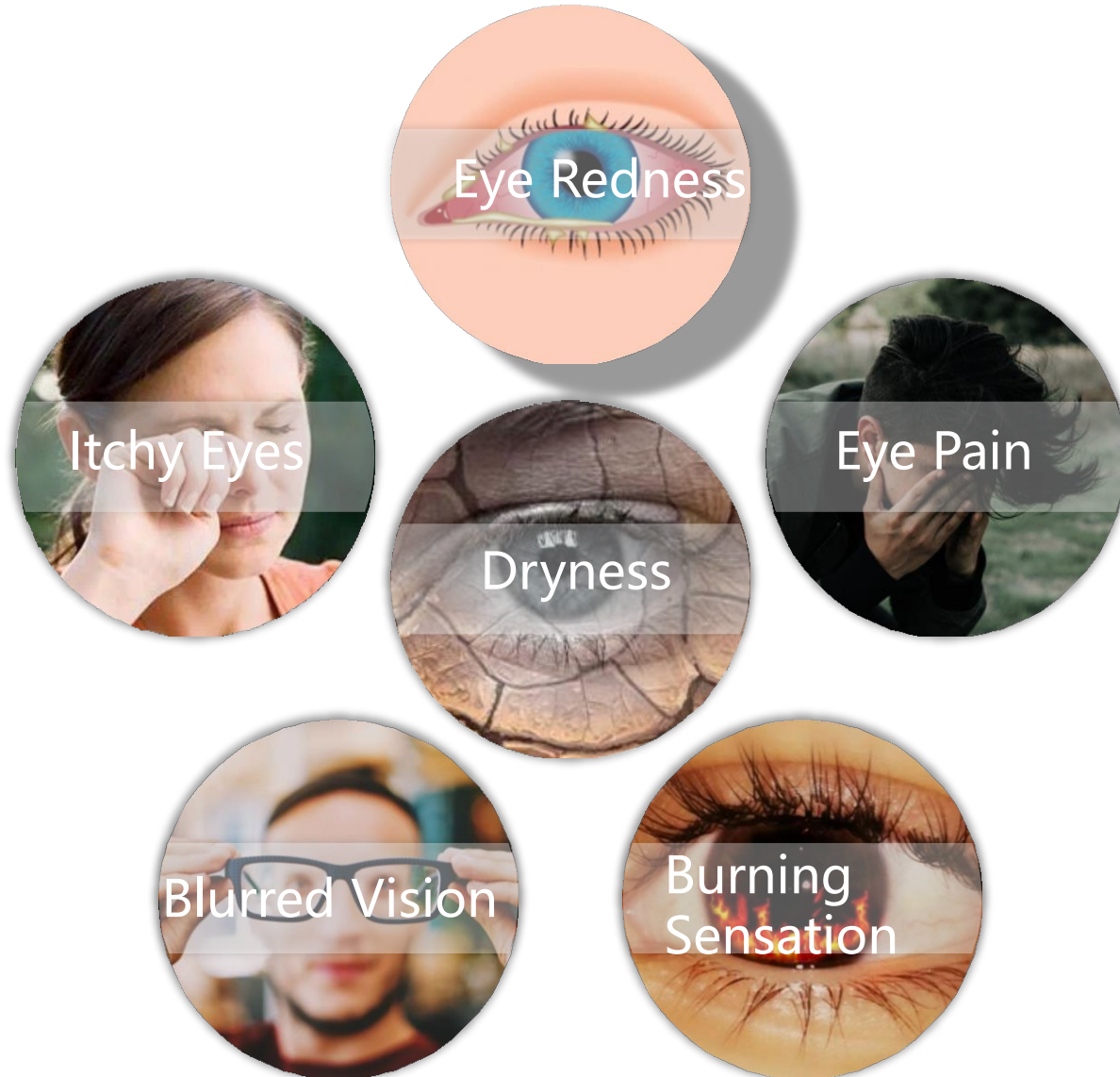
**AI Eye Redness
Analysis**

**Meibomian Glands
Function Evaluation**

**Ocular Surface
Staining**



| Dry Eye Questionnaire



Dry Eye Questionnaire



- Ocular Surface Disease Index (OSDI)
- McMonnies
- SPEED

← DEMO 2022-01-20 11:06

QNR • NIBUT • Tear Height • Lipid Layer • Meibomian Glands • Eyelid Margin • Eye Redness • Ocular Surface •

McMonnies Dry Eye Questionnaire

AGE Gender

Under 25 25 - 45 Over 45 Male Female

1. Have you ever had drops prescribed or other treatment for dry eyes?

Yes No Uncertain

2. Do you experience any of the following (if Yes, refer to question #3):

Soreness Scratchiness Dryness Grittiness Burning

3. How often do your eyes have these symptoms?

Never Sometimes Often Constantly

4. Do you regard your eyes as being especially sensitive to cigarette smoke, smog, air conditioning, or heating?

Yes No Sometimes

5. Do your eyes easily become red and irritated when swimming in chlorinated fresh water?

McMonnies Dry Eye Questionnaire To PDF Print Submit questionnaire Total score: Grade description:

Dry Eye Questionnaire

- Focus on Dry Eye common symptoms and frequency
- Assess dry eye severity grading

- Focus on dry eye common symptoms and severity
- Age, gender, drug history, health condition, working environment, living environment and other factors investigation

- Focus on symptoms and dry eye risky factors relevance
- Applicable to dry eye epidemiological investigation, dry eye assessment caused by MGD

请回答下面 12 个问题，在最合适的答案上画圈

在过去的几周您是否有过下述症状 问题 1-5 总分

	持续这样	大部分时间	约一半时间	偶尔出现	从未有过	
1. 眼睛畏光	4	3	2	1	0	不适用
2. 异物感	4	3	2	1	0	不适用
3. 眼痛不适	4	3	2	1	0	不适用
4. 视物模糊	4	3	2	1	0	不适用
5. 视力不良	4	3	2	1	0	不适用

在过去的几周，您的眼睛是否限制了您的生活？ 问题 6-9 总分

	持续影响	大部分时间	约一半时间	偶尔影响	从未影响	
6. 阅读	4	3	2	1	0	不适用
7. 开夜车	4	3	2	1	0	不适用
8. 用电脑工作	4	3	2	1	0	不适用
9. 看电视	4	3	2	1	0	不适用

在过去的几周，当处于以下环境中时您的眼睛会出现不适吗 问题 10-12 总分

	持续不适	大部分情况会出现不适	约一半情况会出现不适	偶尔出现不适	从未出现过不适	
10. 在遇到风沙时	4	3	2	1	0	不适用
11. 在干燥、低湿度的地区时	4	3	2	1	0	不适用
12. 在有空调的地方	4	3	2	1	0	不适用

OSDI
≥ 13

McMonnies 干眼病史问卷调查表

- 1、年龄_____ 性别_____
- 2、以前是否有过干眼并予以滴眼液或其他治疗：是(6) 否(0) 不确定(0)
- 3、眼部是否有以下症状(可多选)：眼痛 眼痒干涩 沙砾感烧灼感
上述症状出现的频率：从不(0) 有时(1) 经常(4) 持久(8)
- 3、你的眼睛是否对烟雾、空调、暖气特别敏感：是(4) 否(0) 有时候(2)
- 5、你的眼睛是否在用氯消毒的泳池里游泳时容易变红并感觉不适：是(2) 否(0) 有时候(1)
- 6、你的眼睛是否在饮酒后的第二天变的干燥及不适：是(4) 否(0) 有时候(2)
- 7、你是否经常服用以下药物(有的话在相应药物下划线)
抗胆碱药片() 利尿剂() 抗抑郁药() 镇静药()
口服避孕药() 口服避孕药() 或其他(请在空白处填写) (1)
高血压药(1)，或其他(请在空白处填写) (1)。
- 8、是否有有关节炎：是(2) 否(0) 不确定(0)
- 9、是否有口干、鼻干、喉咙干燥、胸部干燥或阴道干燥：
从不(0) 有时(1) 经常(2) 持久(4)
- 10、是否有甲状腺异常：是(2) 否(0) 不确定(0)
- 11、睡觉时眼睛是否部分睁开？是(2) 否(0) 不确定(0)
- 12、早晨醒来是否有眼部刺激感或不适感？是(2) 否(0) 不确定(0)

年龄与性别评分：
男 / 女小于 25 岁：0 分
男 25-45 岁：1 分
女 25—45 岁：3 分
男大于 45 岁：2 分
女大于 45 岁：6 分

McMonnies
> 14.5

SPEED™ QUESTIONNAIRE

Name: _____ Date: ___/___/___ Sex: M F (Circle) DOB: ___/___/___

For the Standardized Patient Evaluation of Eye Dryness (SPEED) Questionnaire, please answer the following questions by checking the box that best represents your answer. Select only one answer per question.

1. Report the type of SYMPTOMS you experience and when they occur:

Symptoms	At this visit		Within past 72 hours		Within past 3 months	
	Yes	No	Yes	No	Yes	No
Dryness, Grittiness or Scratchiness						
Stinging or Irritation						
Burning or Itching						
Eye Fatigue						

2. Report the FREQUENCY of your symptoms using the rating list below:

Symptoms	0	1	2	3
Dryness, Grittiness or Scratchiness				
Stinging or Irritation				
Burning or Itching				
Eye Fatigue				

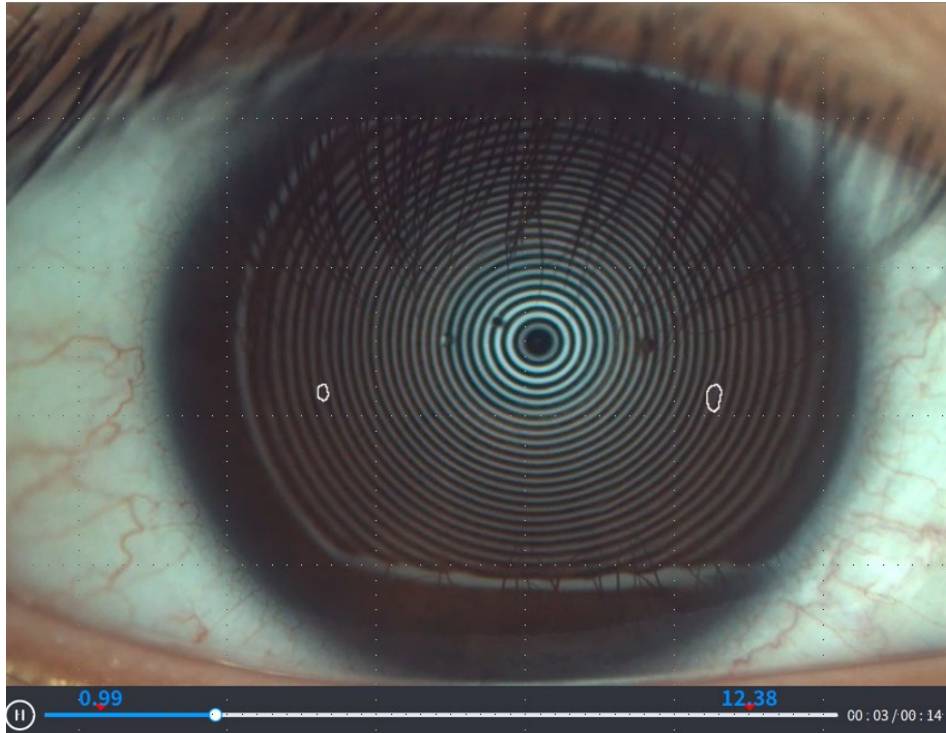
3. Report the SEVERITY of your symptoms using the rating list below:

Symptoms	0	1	2	3	4
Dryness, Grittiness or Scratchiness					
Stinging or Irritation					
Burning or Itching					
Eye Fatigue					

4. Do you use eye drops for lubrication? YES NO if yes, how often? _____

Legend:
0 = No Problems
1 = Tolerable - not perfect, but not uncomfortable
2 = Uncomfortable - irritating, but does not interfere with my day
3 = Bothersome - irritating and interferes with my day
4 = Intolerable - unable to perform my daily tasks

Total SPEED score (Frequency + Severity) = ____/28



Principle

- Placido ring projection system based on visible light illumination;
- Inspection area covered 8.8 mm corneal diameter;
- AI real-time identify and mark the rupture area, automatically timing and grading.

Effect

- Rapid quantitative assessment of tear film stability.

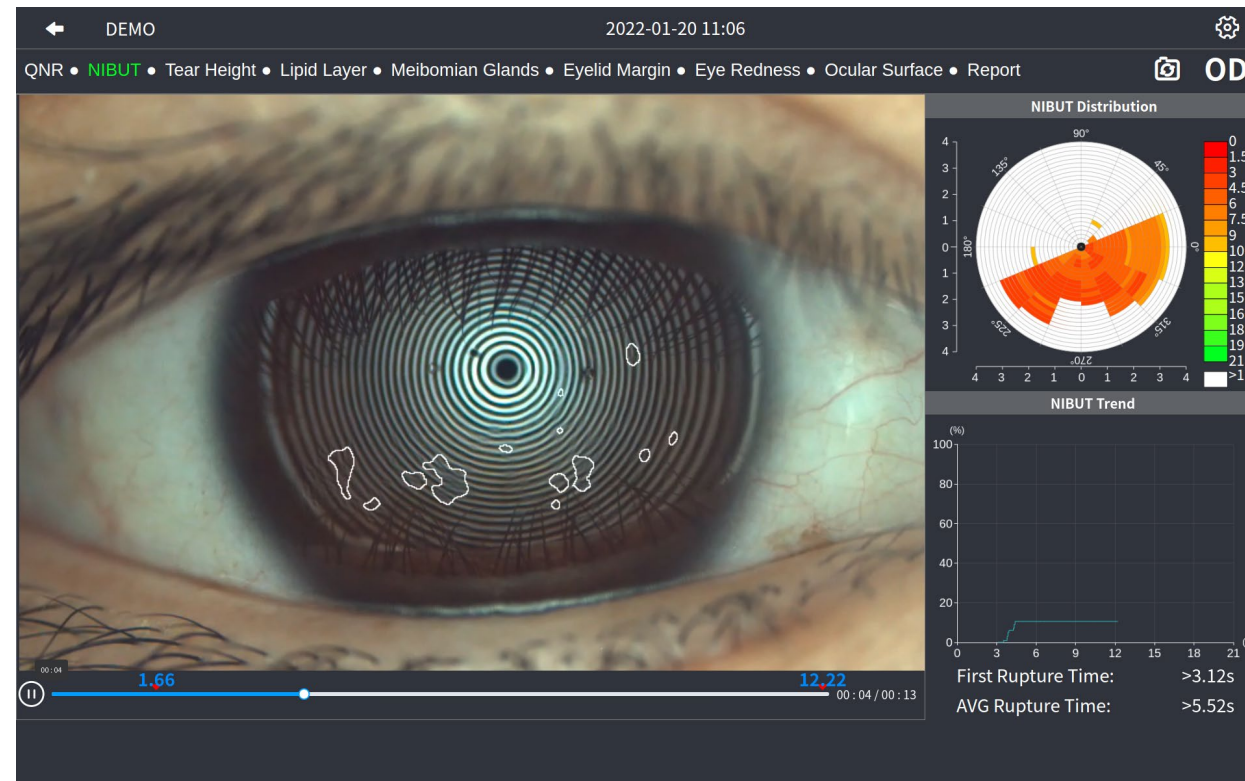
NIBUT

Advantages

Non-invasive inspection method, avoid errors caused by artificial timing of stimulation caused by traditional fluorescein sodium staining;

Limitations

The sensitivity and accuracy should be further improved, which is expected to become the main indicator of tear film stability.

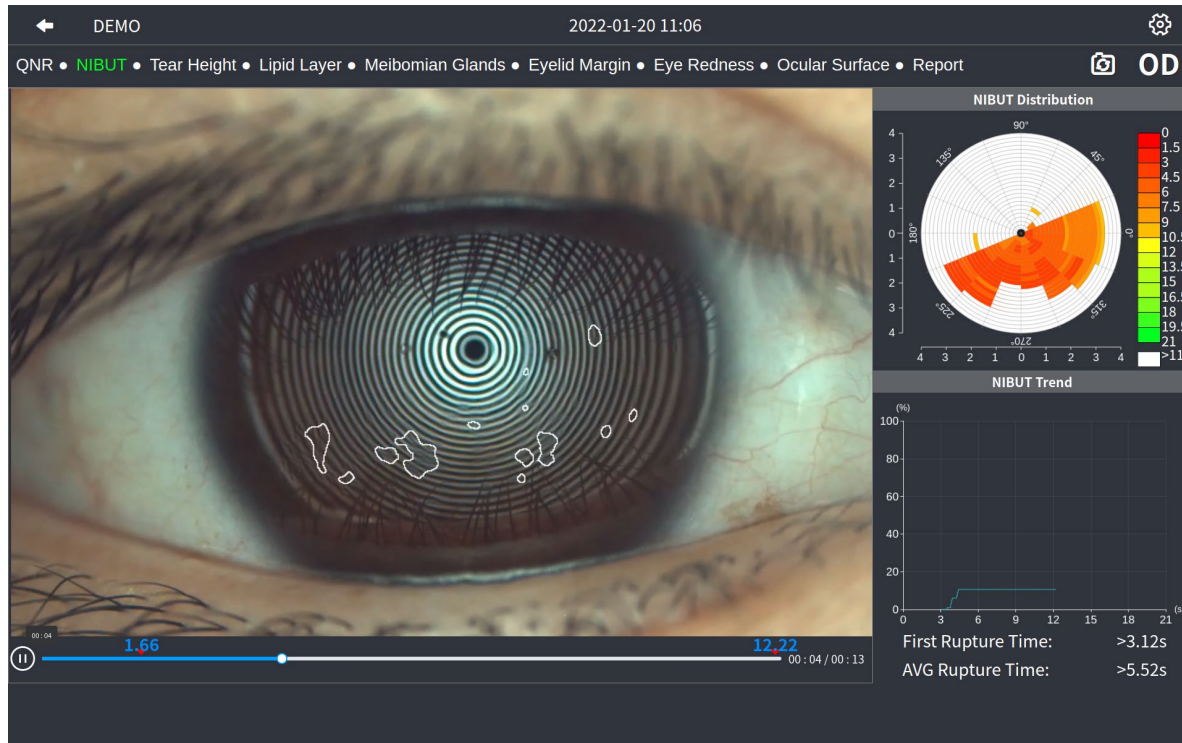


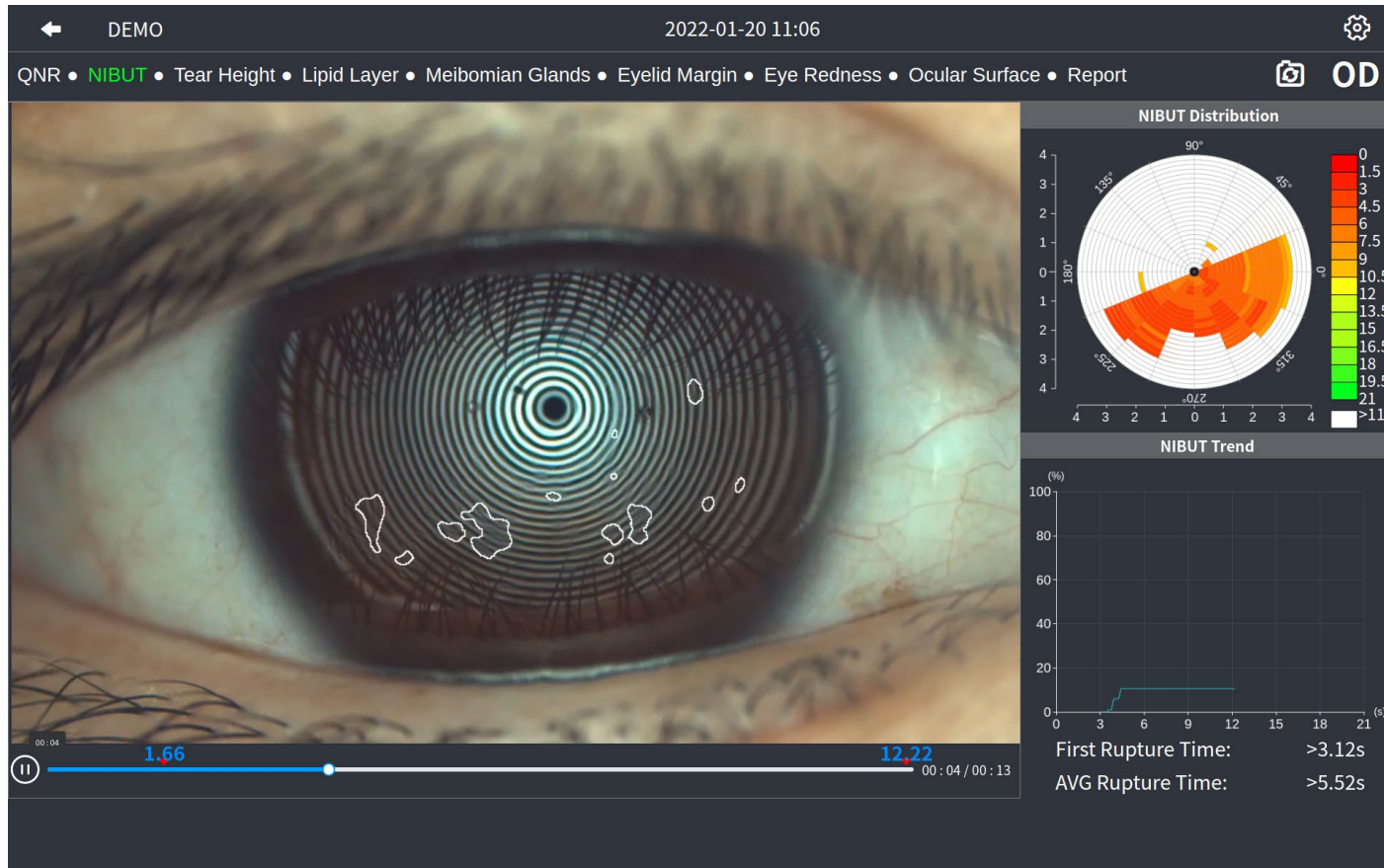
Break Up Area Analysis

- Offers target map based on corneal diameter
- Different colours corresponds to the time of tear film rupture

Percentage curve of tear film rupture

- Pay attention to curve slope, continuous rupture or relatively stable, objectively present the relationship between tear film rupture and dry eye
- First rupture time and average rupture time are automatically obtained





◆ Normal

- First break up time: 10s
- Average break up time: 14s

◆ Critical value

- First break up time: 6-9s
- Average break up time: 7-13s

◆ Dry eye

- First break up time: 5s
- Average break up time: 7s

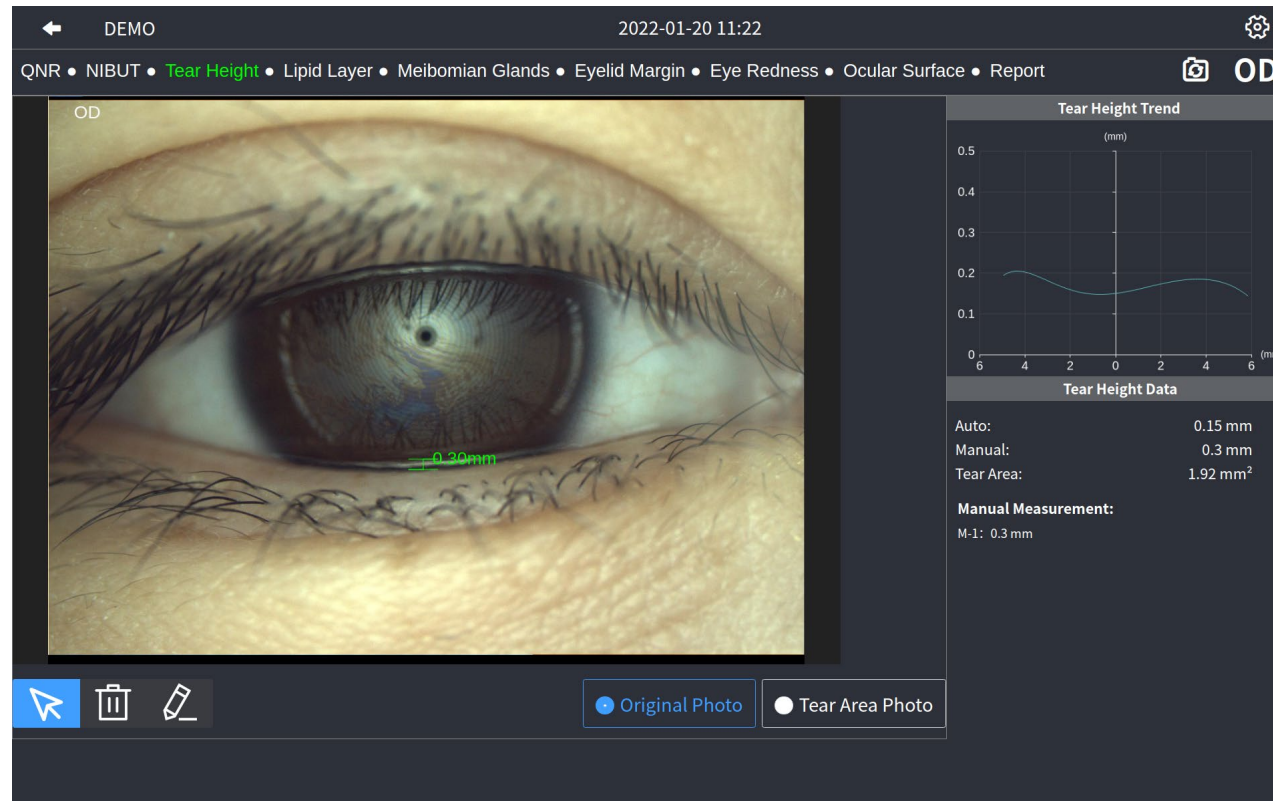
Non-Invasive Tear Meniscus Height



Detection of tear secretion: The secretory function of lacrimal gland and accessory lacrimal gland and the dynamic balance of tear production and clearance.

Examination methods: Tear meniscus height measurement, tear secretion test (SchirmerI test), phenol red cotton thread examination.

Measurement of tear meniscus height: The concave arc formed at the junction of tears and eyelid margin indirectly evaluates the tear secretion by measuring the tear storage height.



Non-Invasive Tear Meniscus Height



Advantages

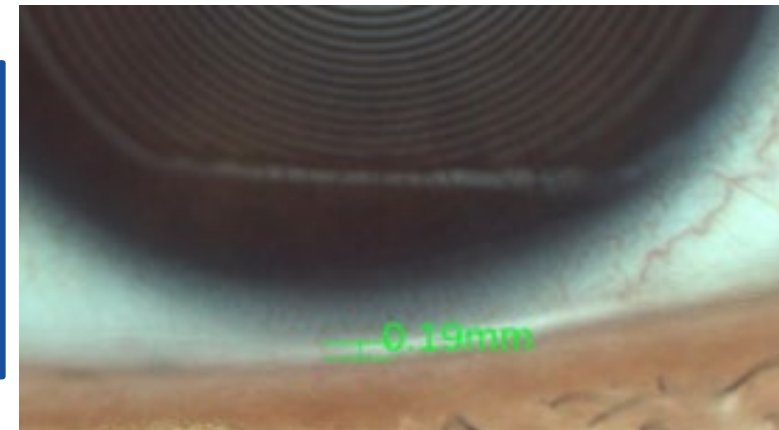
- One examination would generate both NIBUT and tear meniscus height results. AI automatically identified the location of tear meniscus and measured tear meniscus height.
- Non-invasive inspection, objective evaluation of tear secretion and tear meniscus continuous state, compared with the traditional SchirmerI test, less stimulation, more accurate results and less time cost.

Limitation

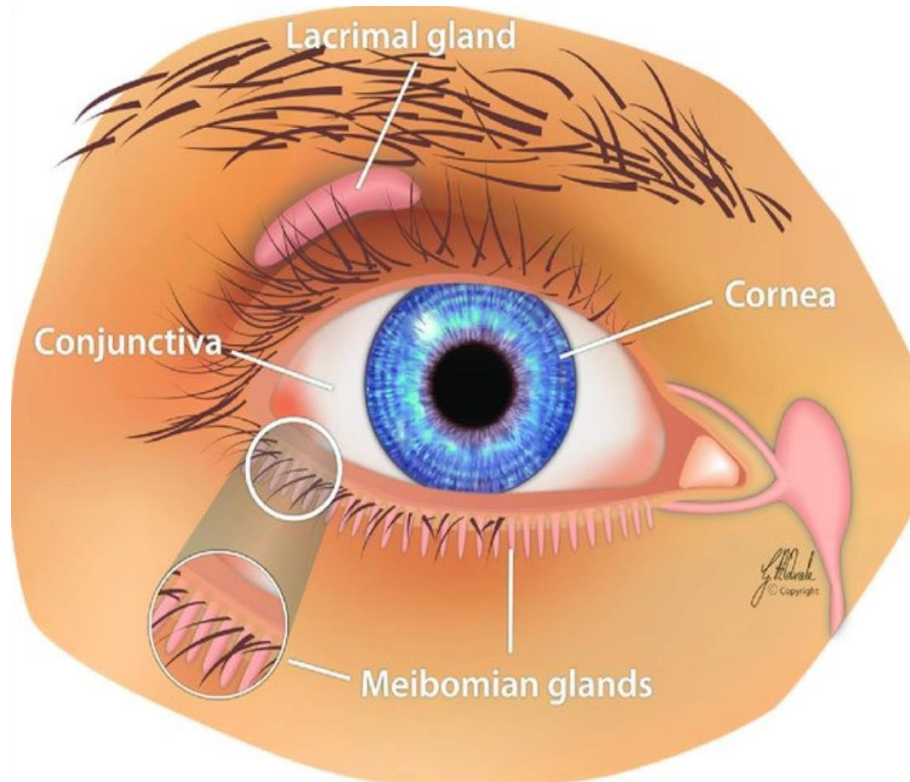
- Affected by eyelid anatomy factors, such as drooping eyelid skin, droop conjunctival, ectropion, eyelid scar and lacrimal apparatus disease.

Diagnosis

- ✓ Normal tear secretion: tear meniscus height $\geq 0.2\text{mm}$
- ✓ Abnormal tear secretion: tear meniscus height $< 0.2\text{mm}$
- ✓ Drooping conjunctival or eyelid margin change: tear river discontinuous or uneven



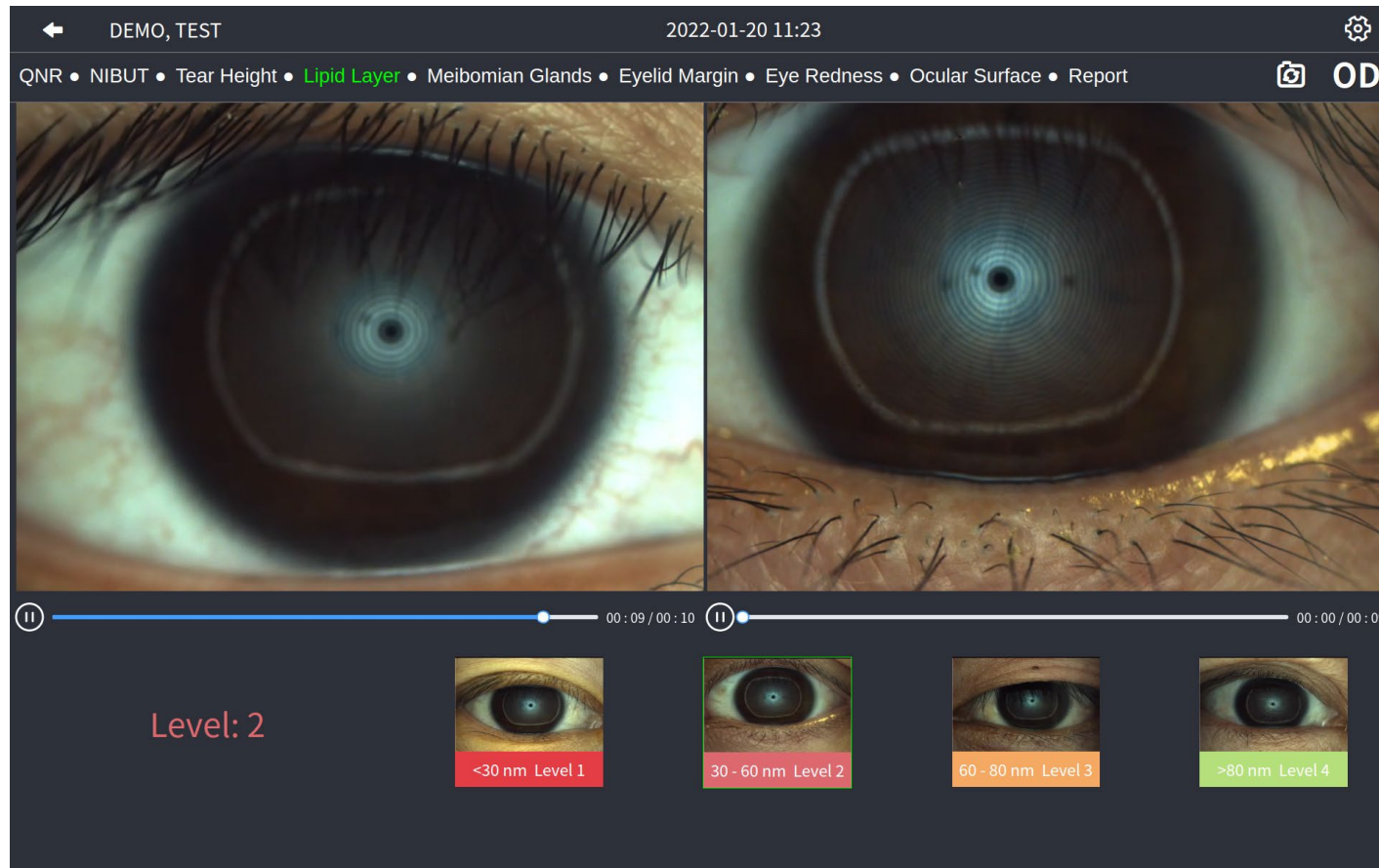
Lipid Layer Thickness



- The meibomian gland is buried in the upper and lower lids, and its opening is located at the edge of eyelid .
- The lipid layer of the tear film is secreted by the meibomian gland, and affects tear evaporation and tear film stability.
- Inflammation, blockage, environmental factors and other reasons can affect the number and morphology of meibomian gland, thus affecting the function of meibomian gland, then changing the secretion ability of meibomian gland oil, resulting in reduced stability of the tear film and **meibomian gland dysfunction (MGD)**.
- MGD is the main cause of evaporative dry eye.

Lipid Layer Thickness

- Observe color, distribution and dynamics of lipid layer by high resolution video (Normal lipid layer is colored with slow flow while thin lipid layer is light in color and move fast).
- By comparison with reference template, assess lipid layer thickness and offer objective data support for MGD..



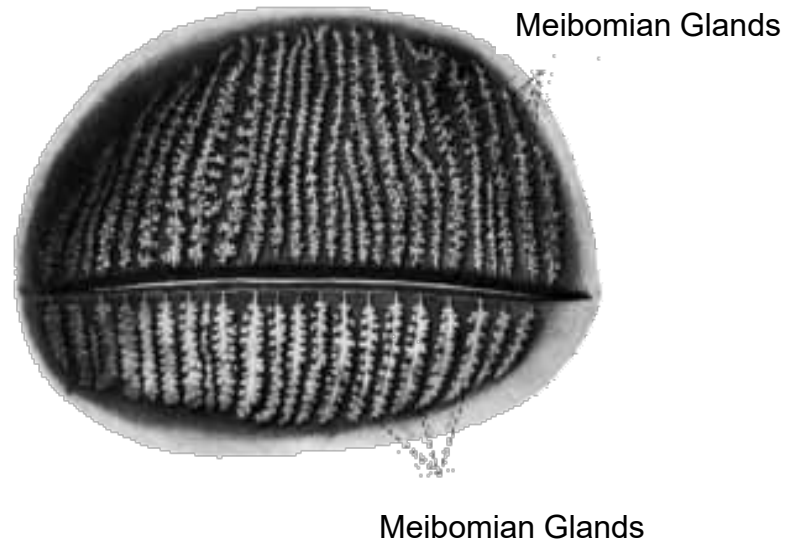
Grade 1: < 30nm

Grade 2: 30-60nm

Grade 3: 60-80nm

Grade 4: > 80nm

Meibomian Glands Function Evaluation



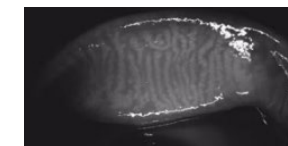
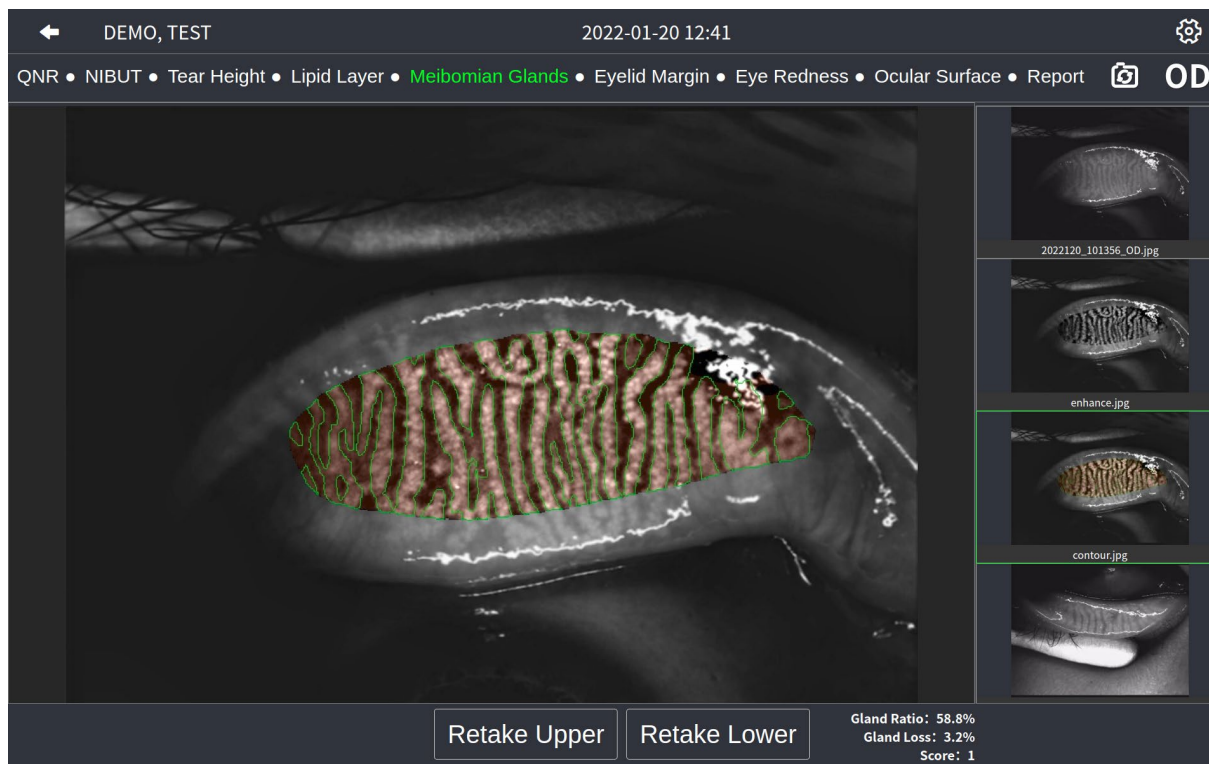
The lower lid glands are wider and shorter than the upper lid

	Upper eyelid		Lower eyelid	
Number (pcs)	25~40	Average 31	20~30	Average 26
Length (mm)	5.5(central)		2	
Capacity (ul)	26		13	

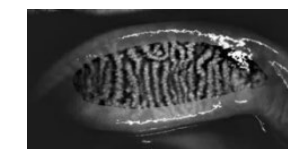
The physiological state of 40-50 years old will have obvious gland defects !

Meibomian Glands Function Evaluation

- Built-in infrared illumination system, bigger area of meibomian glands and an adjustable depth-of-field aperture, allowing the gland to be more clearly highlighted and easily identified.
- AI system analyzes meibomian glands, get original& enhance& result images by one capture.



Original Image



Enhanced Image

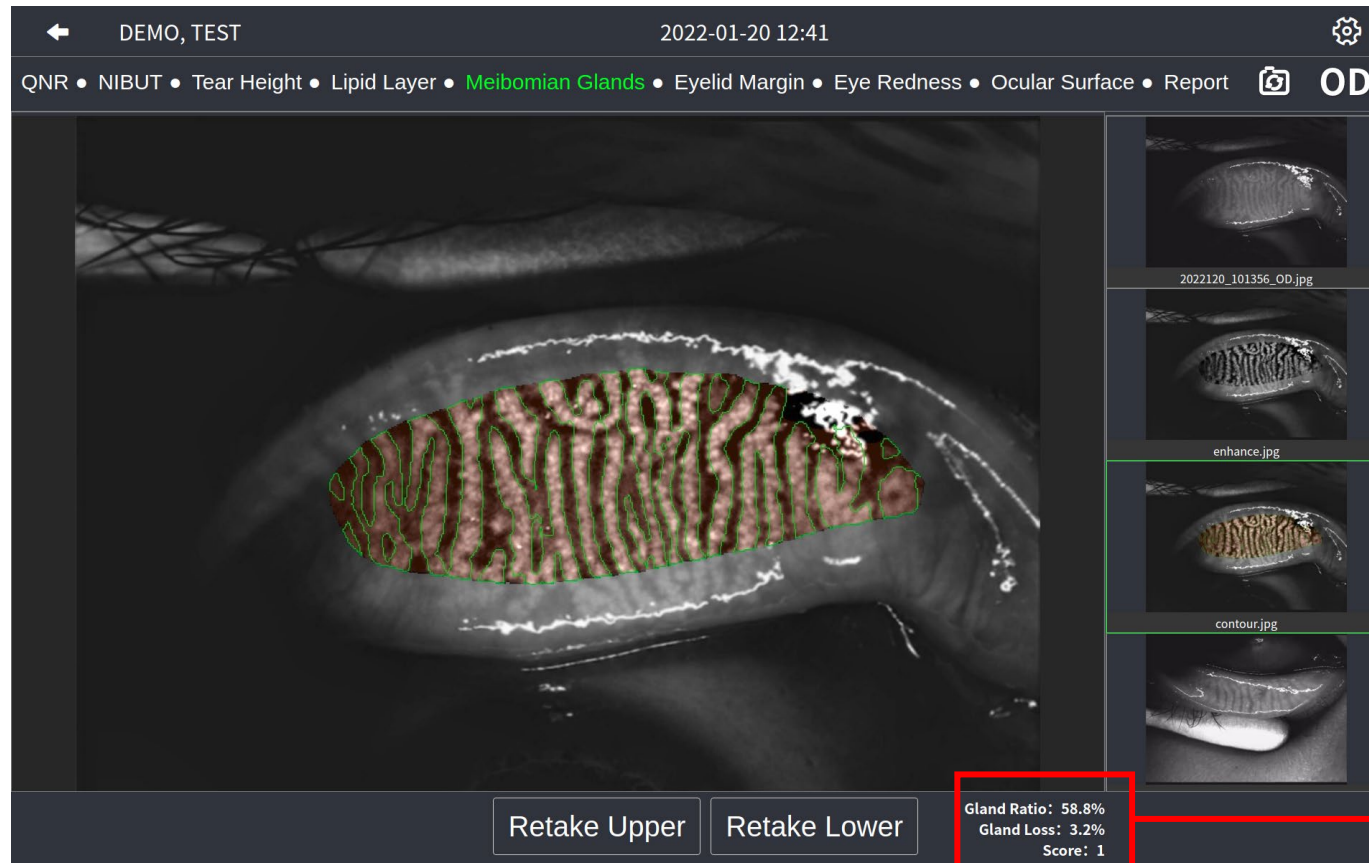


Result Image

Meibomian Glands Function Evaluation



Automatically calculates meibomian glands loss caused by meibomian glands dysfunction with precise and quantified diagnosis results. Objectively evaluate of meibomian glands morphological changes.



Percentage of glands: 58.8%

Absence of glands: 3.2%

Score: 1

Meibomian Glands Function Evaluation

Diagnosis

Meibomian glands score: Loss area/All meibomian glands

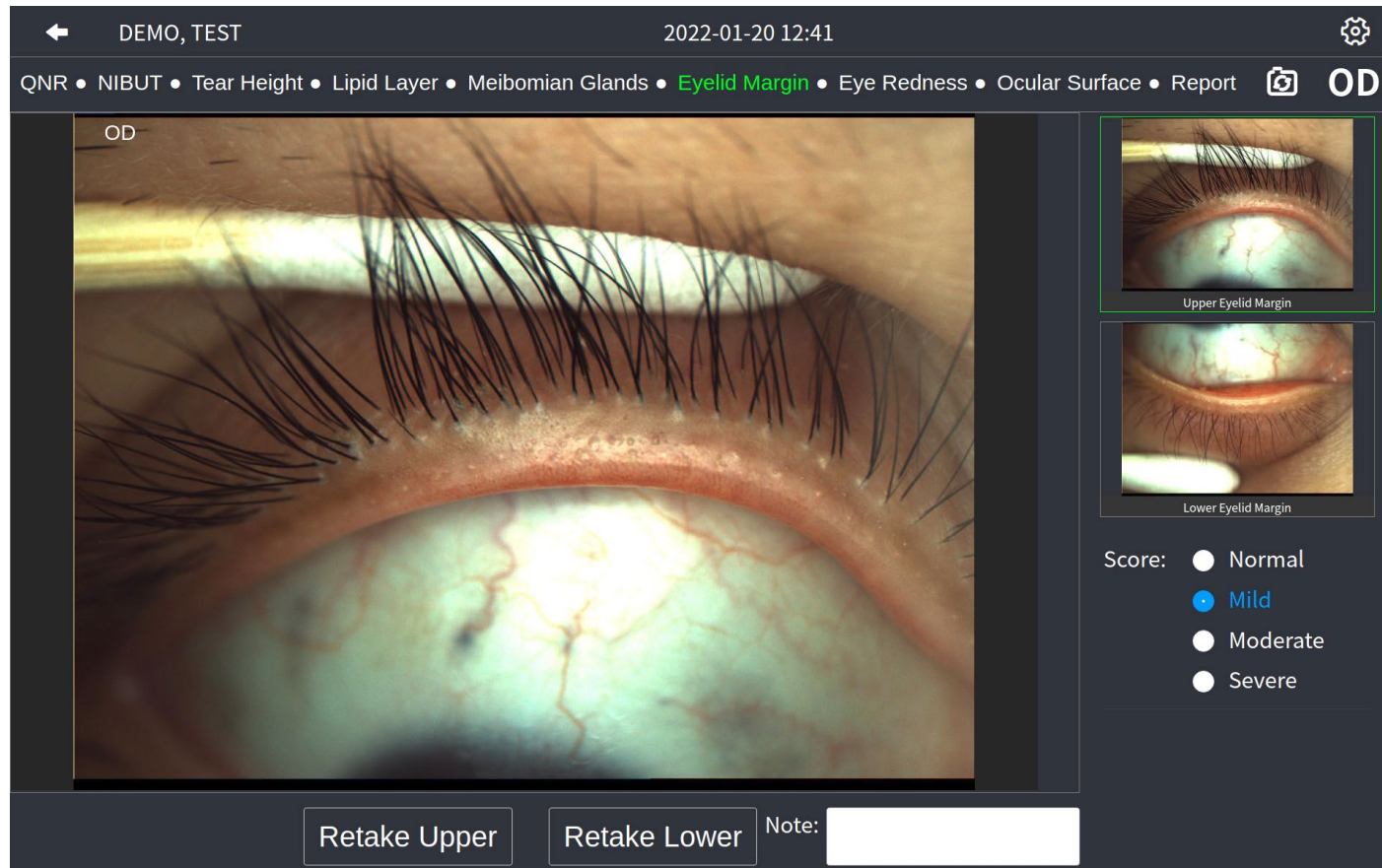
- **0 point: No loss**
- **1 point: Meibomian glands loss $< 1/3$**
- **2 points: Meibomian glands loss $1/3 \sim 2/3$**
- **3 points: Meibomian glands loss $> 2/3$**

Meibomian glands grade: add upper and lower score to make grade

- **Grade 0: 0-1**
- **Grade 1: 2-3**
- **Grade 2: 4-5**
- **Grade 3: 6**

Eyelid Margin Observation

High resolution image supports zoom in to meet examination requirements of overall shape of eyelid margin and its slight change.



Eyelid margin shape	<ul style="list-style-type: none"><input type="checkbox"/> Congestion and capillary dilation<input type="checkbox"/> Hyperkeratotic<input type="checkbox"/> Pachyblepharon<input type="checkbox"/> Irregular shape<input type="checkbox"/> Neovascularization
Meibomian glands orifices	<ul style="list-style-type: none"><input type="checkbox"/> Ester cap, augmentation and ester plugs at the orifices of meibomian glands<input type="checkbox"/> Congenital absence of meibomian glands orifices<input type="checkbox"/> Stenosis and occlusion of meibomian glands orifices<input type="checkbox"/> Meibomian glands orifices displaced

| Eyelid Margin Observation



Clear and transparent



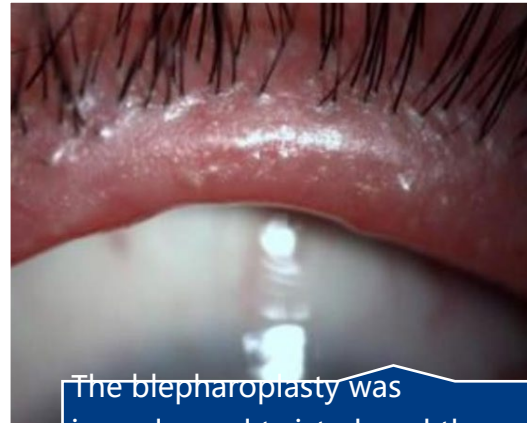
Eyelid marginal hyperemia



Eyelid margin obtuse, thickening, new blood vessels



Palpebral margin mucosa disappeared, palpebral margin crusts, excessive keratosis



The blepharoplasty was irregular and twisted, and the opening of blepharomeibomian gland disappeared



Eyelid margin ulcer and scar

Eyelid Margin Observation

Normal



Eyelid margin is clear and transparent
Eyelid margin orifice is normal

Mild



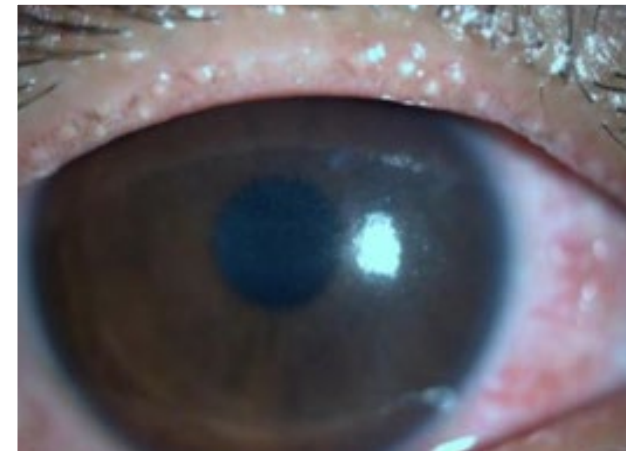
Mild congestion on eyelid margin and eyelid oil cap is visible

Moderate



Eyelid margin obtuse and thickened. Orifice is blocked and bulge

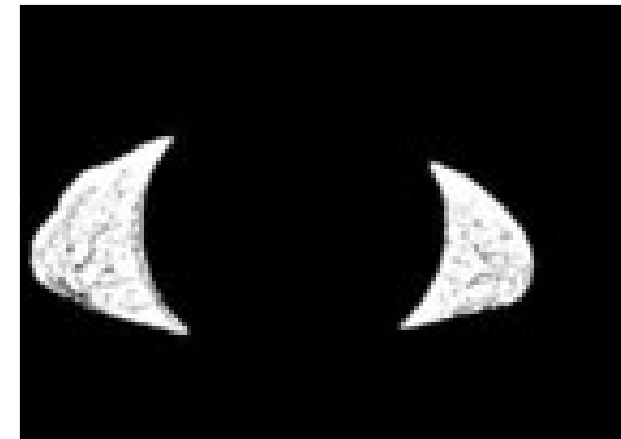
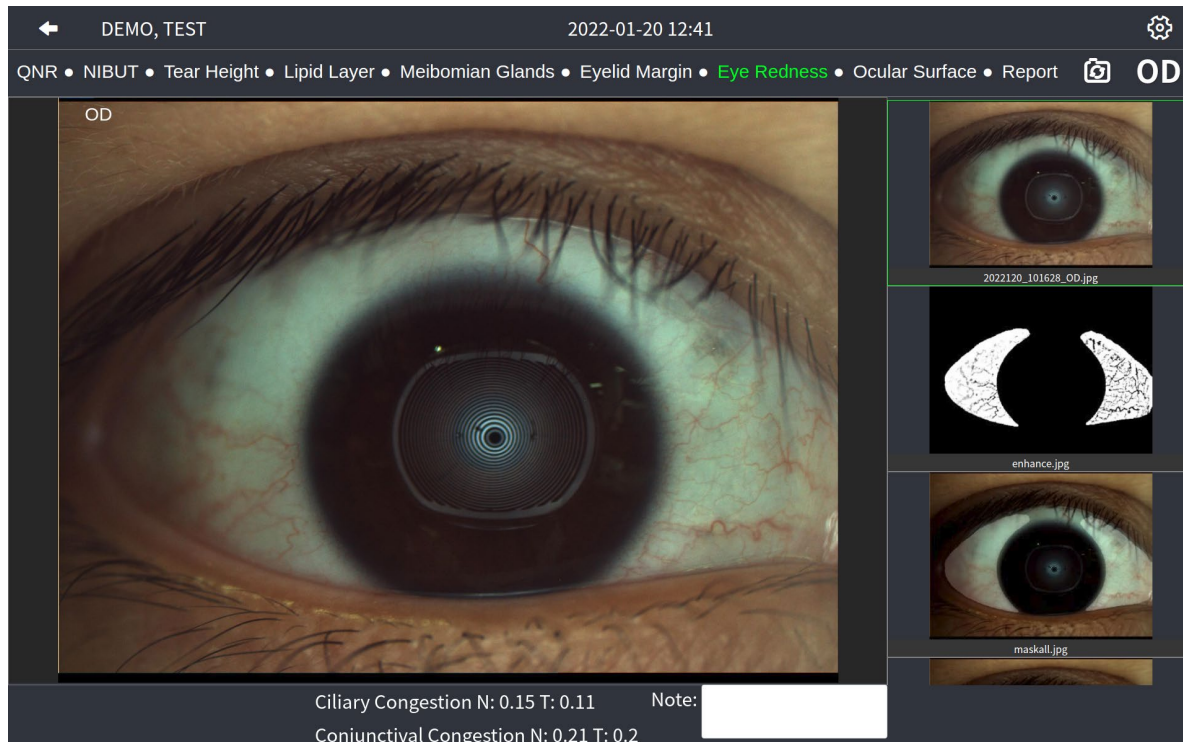
Severe



Eyelid margin thickened with obvious neovascularization. Orifice is blocked or fibrosis

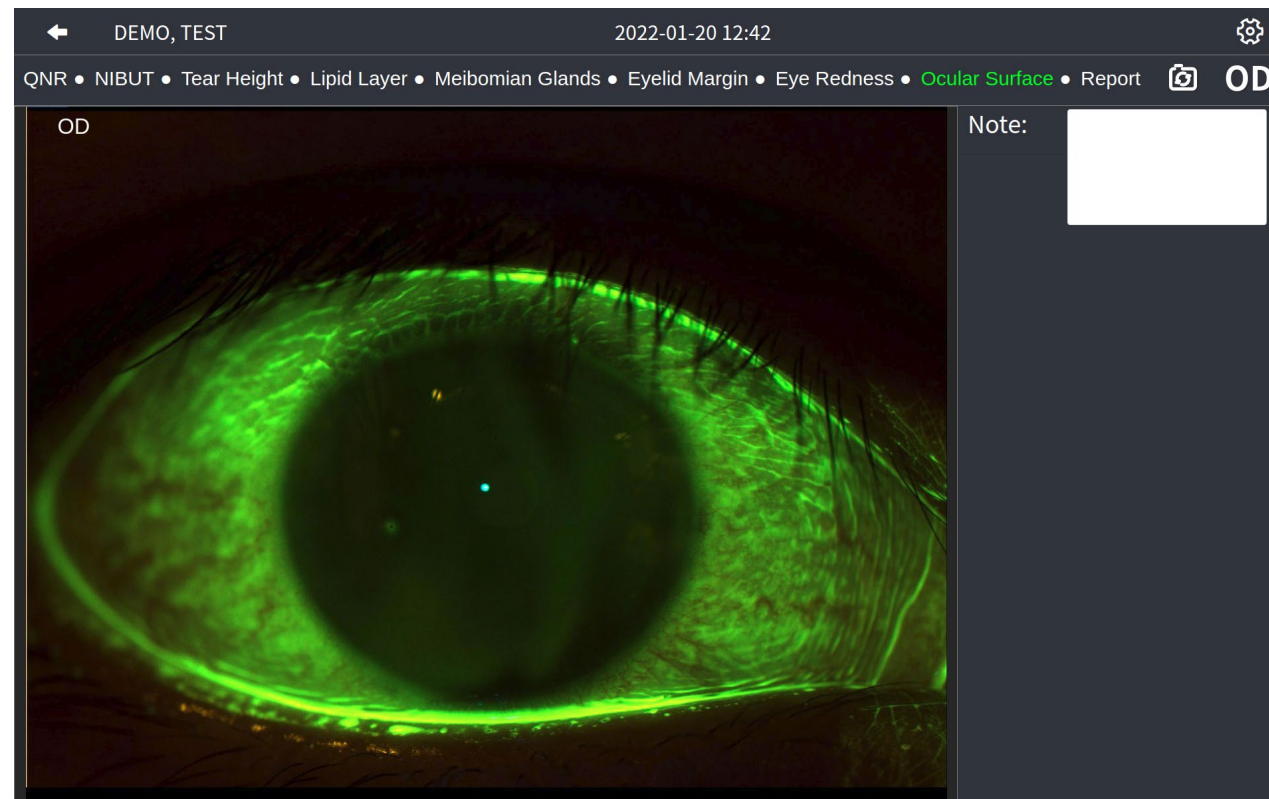
Eye Redness

- By taking high-definition images, automatic quantification of nasal / temporal ciliary congestion and conjunctival congestion, evaluate the severity of redness;
- The quantitative data were calculated based on the percentage of the blood vessels area and total area ;
- Objective assessment of ocular surface inflammation can be used to guide clinical dry eye grading and follow-up observation.



Corneal Fluorescein Sodium Staining

- **Principle:** When the integrity of ocular surface cells is impaired, it can be colored by specific dyes. Positive staining showed corneal epithelial defect.
- **Function:** To evaluate the barrier function and integrity of corneal epithelium, and examine mucin abnormal dry eye or corneal inflammation.
- **Advantages:** Professionally designed built-in yellow filter, with cobalt blue illumination, make corneal fluorescein sodium staining image more clear, to improve the positive rate of corneal epithelial staining in the early stage.



Corneal Fluorescein Sodium Staining

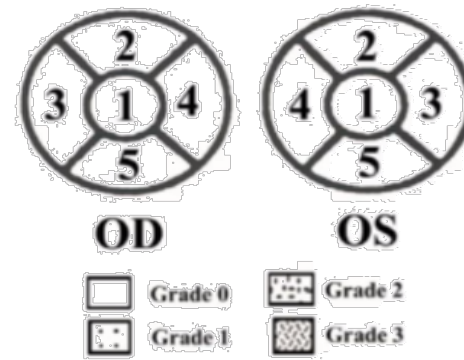
Examination methods

- Contact the lower eyelid margin with a luciferin test paper moistened with antibiotic eye drops without excess residual fluid ;
- The patient blinks 3-4 times to apply fluorescein to the eye surface, and observe fluorescein staining.

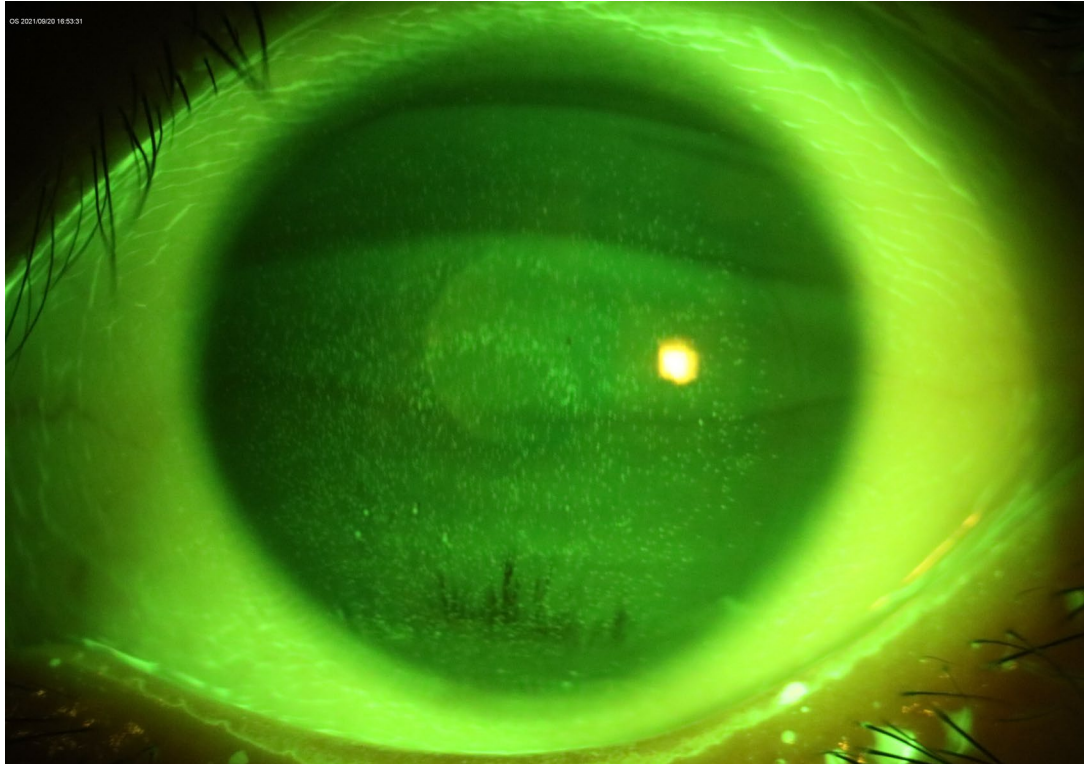
Scoring Criteria

NEI grade (Total corneal grade 0-15)

- ❑ Grade 0: 0 point
- ❑ Grade 1 : < 10 points
- ❑ Grade 2: 10~30 points
- ❑ Grade 3: >30 points or obvious integration



Corneal Fluorescein Sodium Staining



Mild

- Staining points < 5
- Corneal staining < 1 quadrant

Moderate

- $5 \leq$ staining points < 30
- 1 quadrant \leq corneal staining < 2 quadrants

Severe

- Staining points ≥ 30
- Corneal staining ≥ 2 quadrants
- Fused into coarse spots, flakes or with filaments

Dry Eye Report



Dry Eye Report



First Name: DEMO Gender: M Age: 0 PID: 00001

OD		OS																	
<p>Tear film rupture time Reference value(s)</p> <table border="1"> <thead> <tr> <th>Normal</th> <th>Critical</th> <th>Dry Eye</th> </tr> </thead> <tbody> <tr> <td>First Rupture Time: 10s</td> <td>6-9s</td> <td>5s</td> </tr> <tr> <td>AVG Rupture Time: 14s</td> <td>7-13s</td> <td>7s</td> </tr> </tbody> </table>		Normal	Critical	Dry Eye	First Rupture Time: 10s	6-9s	5s	AVG Rupture Time: 14s	7-13s	7s	<p>Dry Eye</p> <p>First Rupture Time:>3.12s AVG Rupture Time:>5.52s</p>								
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First Rupture Time: 10s	6-9s	5s																	
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<p>Normal</p> <p>First Rupture Time:>26.56s AVG Rupture Time:>26.56s</p>																			
<p>Tear Height Reference value Normal: ≥ 0.2mm</p> <table border="1"> <thead> <tr> <th>Normal</th> <th>Abnormal</th> </tr> </thead> <tbody> <tr> <td>0.30 mm</td> <td>0.15 mm</td> </tr> </tbody> </table>		Normal	Abnormal	0.30 mm	0.15 mm	<p>Tear Height Reference value Normal: ≥ 0.2mm</p> <table border="1"> <thead> <tr> <th>Normal</th> <th>Abnormal</th> </tr> </thead> <tbody> <tr> <td>0.30 mm</td> <td>0.15 mm</td> </tr> </tbody> </table>		Normal	Abnormal	0.30 mm	0.15 mm								
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0.30 mm	0.15 mm																		
<p>Level 4</p>		<p>Level 3</p>																	
<p>Meibomian Glands Reference value(Level)</p> <table border="1"> <thead> <tr> <th>0</th> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td><1/3</td> <td>1/3-2/3</td> <td>>2/3</td> <td></td> </tr> </tbody> </table>		0	1	2	3	<1/3	1/3-2/3	>2/3		<p>Meibomian Glands Reference value(Level)</p> <table border="1"> <thead> <tr> <th>0</th> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td><1/3</td> <td>1/3-2/3</td> <td>>2/3</td> <td></td> </tr> </tbody> </table>		0	1	2	3	<1/3	1/3-2/3	>2/3	
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<p>Level:1</p>		<p>Level:1</p>																	

Dry Eye Report



Name: DEMO Gender: M Age: 0 PID: 00001

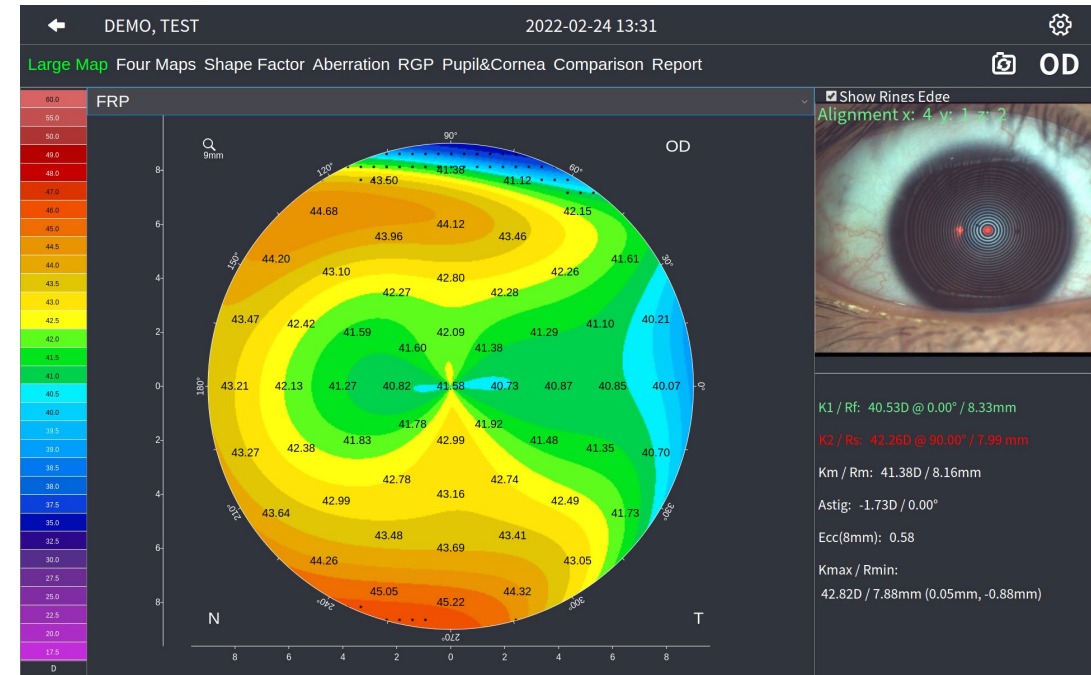
OD		OS																	
<p>Eye Redness Reference value Normal: ≤ 2 Abnormal: > 2</p> <table border="1"> <thead> <tr> <th>Normal</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Conjunctival grade: 1.44</td> <td>Conjunctival grade: 1.37</td> </tr> <tr> <td>Ciliary grade: 1.79</td> <td>Ciliary grade: 1.84</td> </tr> <tr> <td>Note:</td> <td>Note:</td> </tr> </tbody> </table>		Normal	Normal	Conjunctival grade: 1.44	Conjunctival grade: 1.37	Ciliary grade: 1.79	Ciliary grade: 1.84	Note:	Note:	<p>Eye Redness Reference value Normal: ≤ 2 Abnormal: > 2</p> <table border="1"> <thead> <tr> <th>Normal</th> <th>Normal</th> </tr> </thead> <tbody> <tr> <td>Conjunctival grade: 1.44</td> <td>Conjunctival grade: 1.37</td> </tr> <tr> <td>Ciliary grade: 1.79</td> <td>Ciliary grade: 1.84</td> </tr> <tr> <td>Note:</td> <td>Note:</td> </tr> </tbody> </table>		Normal	Normal	Conjunctival grade: 1.44	Conjunctival grade: 1.37	Ciliary grade: 1.79	Ciliary grade: 1.84	Note:	Note:
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Note:	Note:																		
<p>result:</p>		<p>result:</p>																	

Doctor: Admin

Print Date: 2022-01-20

Corneal Topography

- Quantitative analysis of corneal surface morphology and curvature changes;
- Refractive power is displayed in different colors;
- Early diagnosis of abnormal corneal diseases such as keratoconus and marginal corneal degeneration;
- It is used for preoperative examination of corneal refractive surgery and orthokeratology lens fitting, assisting in surgical design and eliminating contraindications. Evaluate the postoperative effect and detecte the postoperative abnormalities.



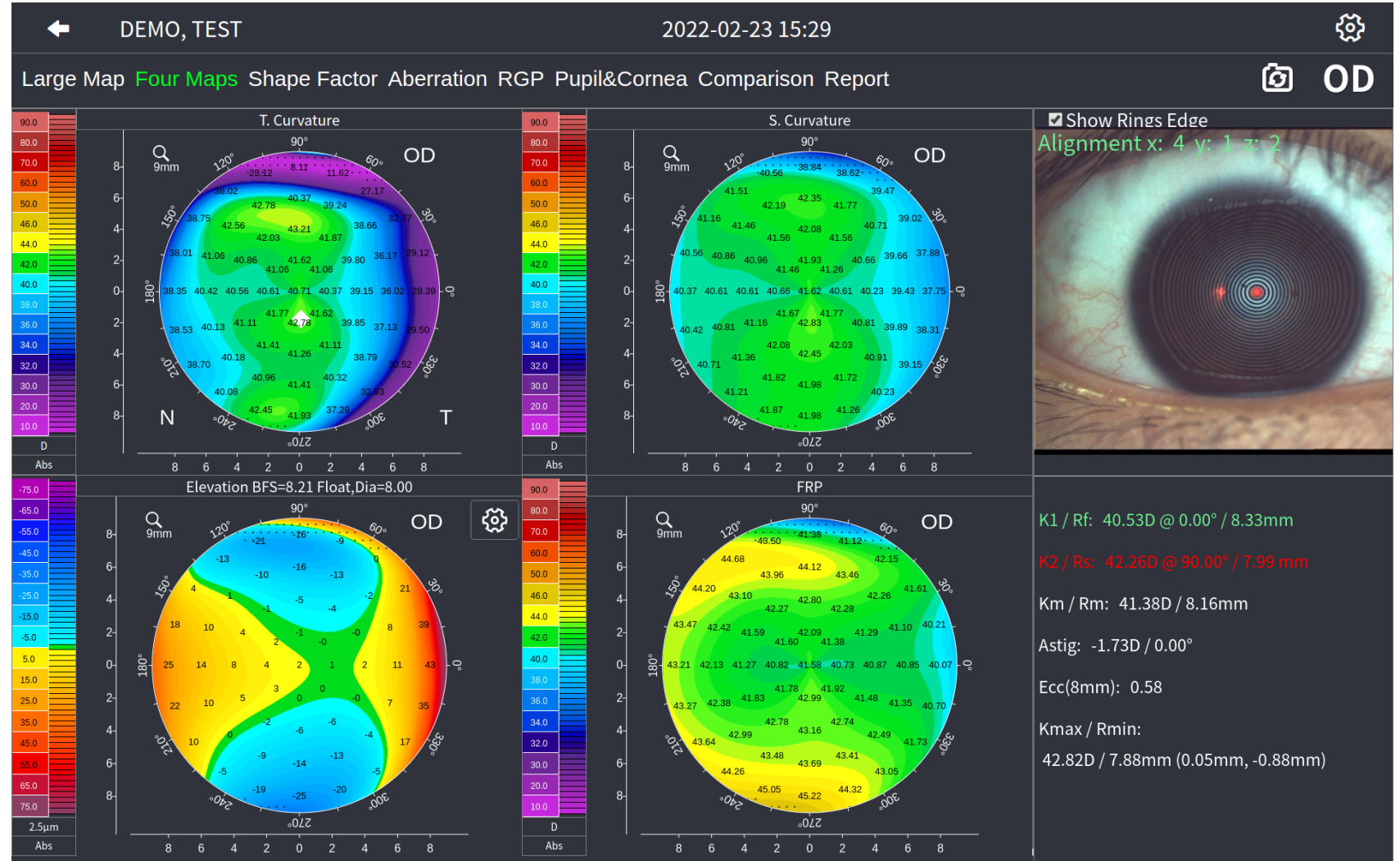
Four Maps

Sagittal Curvature map

Tangential Curvature map

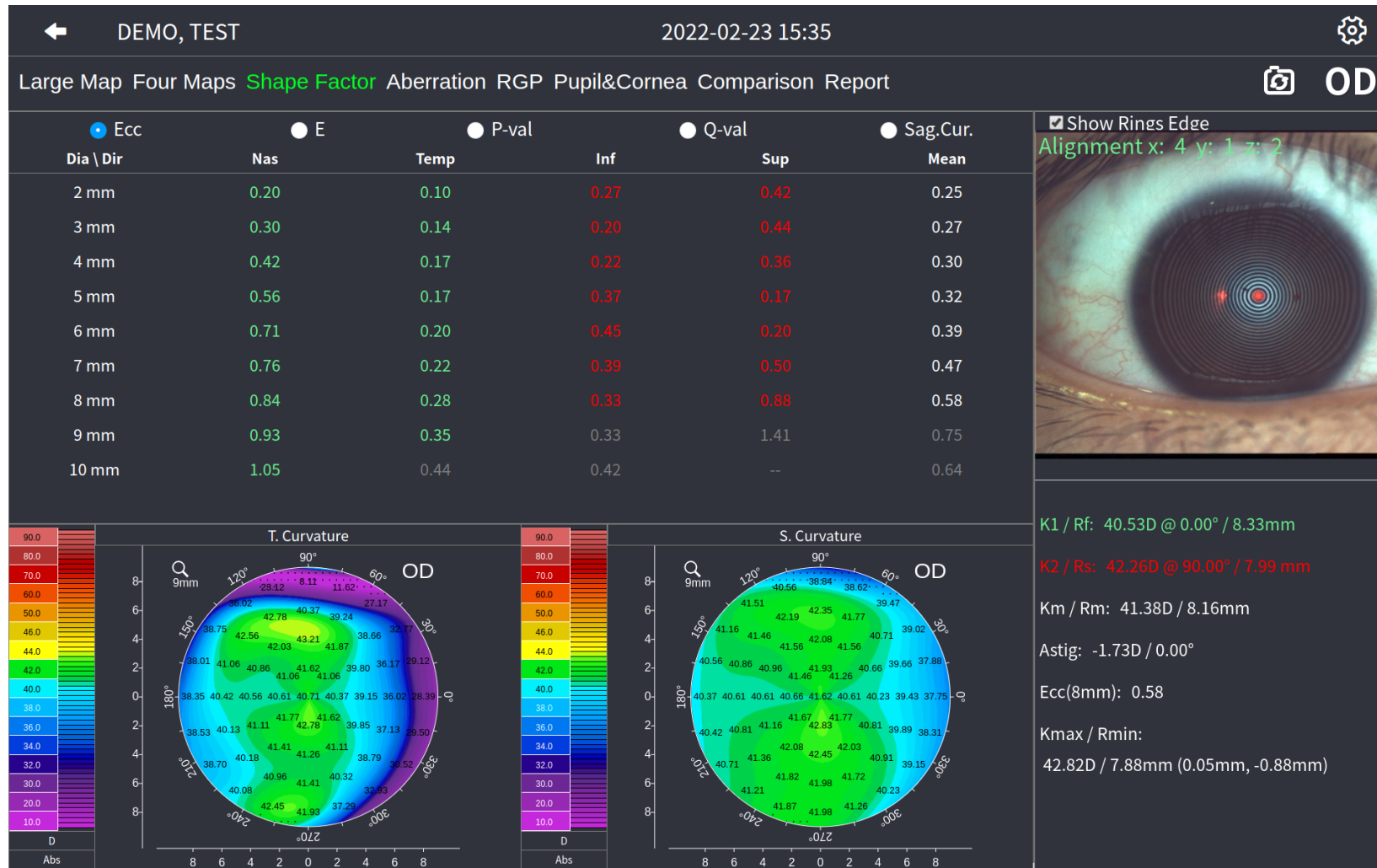
Elevation map

Refractive Power map



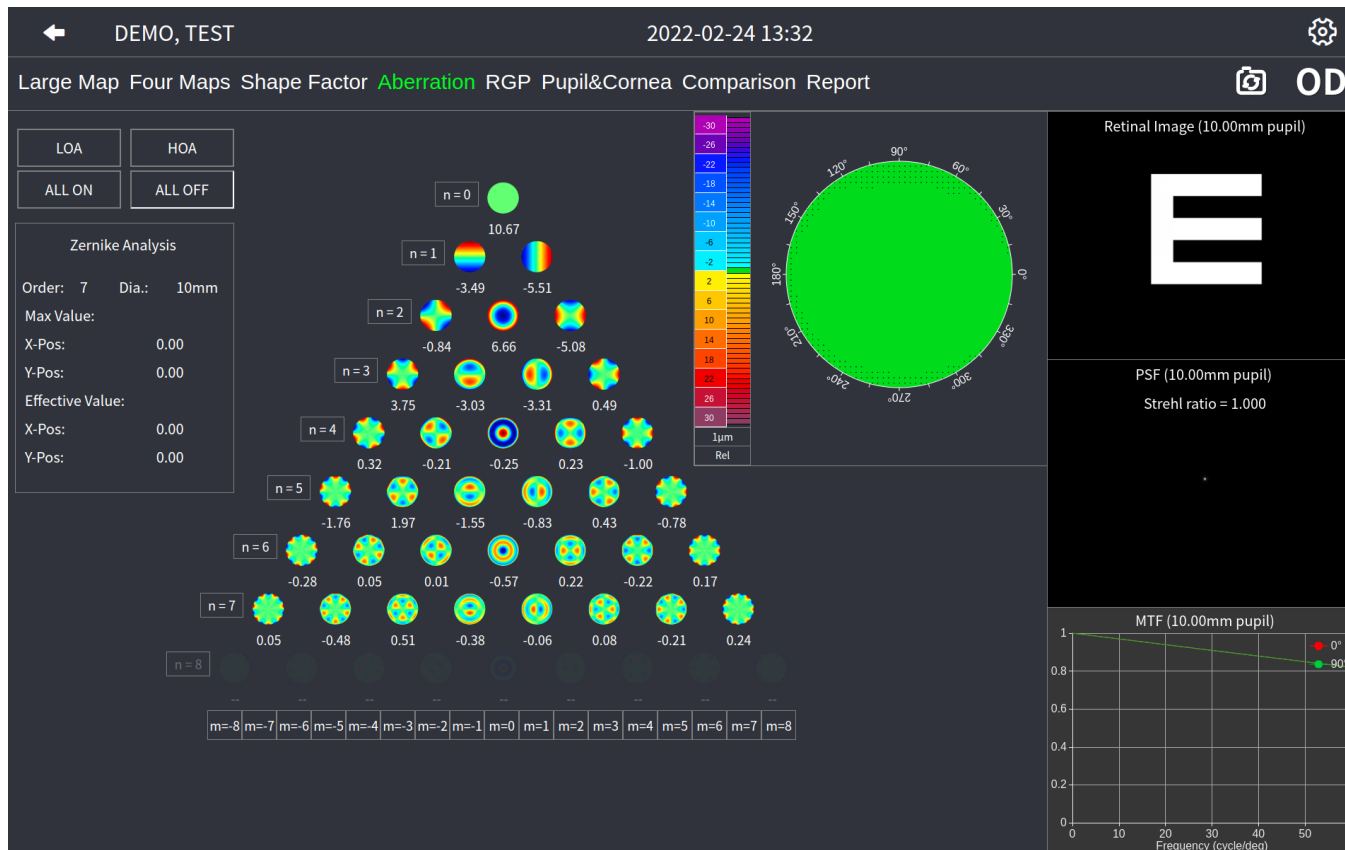
Shape Factor

Provide value of Ecc, E, p, Q in range of 2-10mm



Aberration Analysis

Use Zernike polynomial to analyze the aberration of the whole cornea, and provide accurate information for optical correction through retinal image, point spread function, modulation transfer function, and ensures patient's postoperative vision quality.



Retinal image



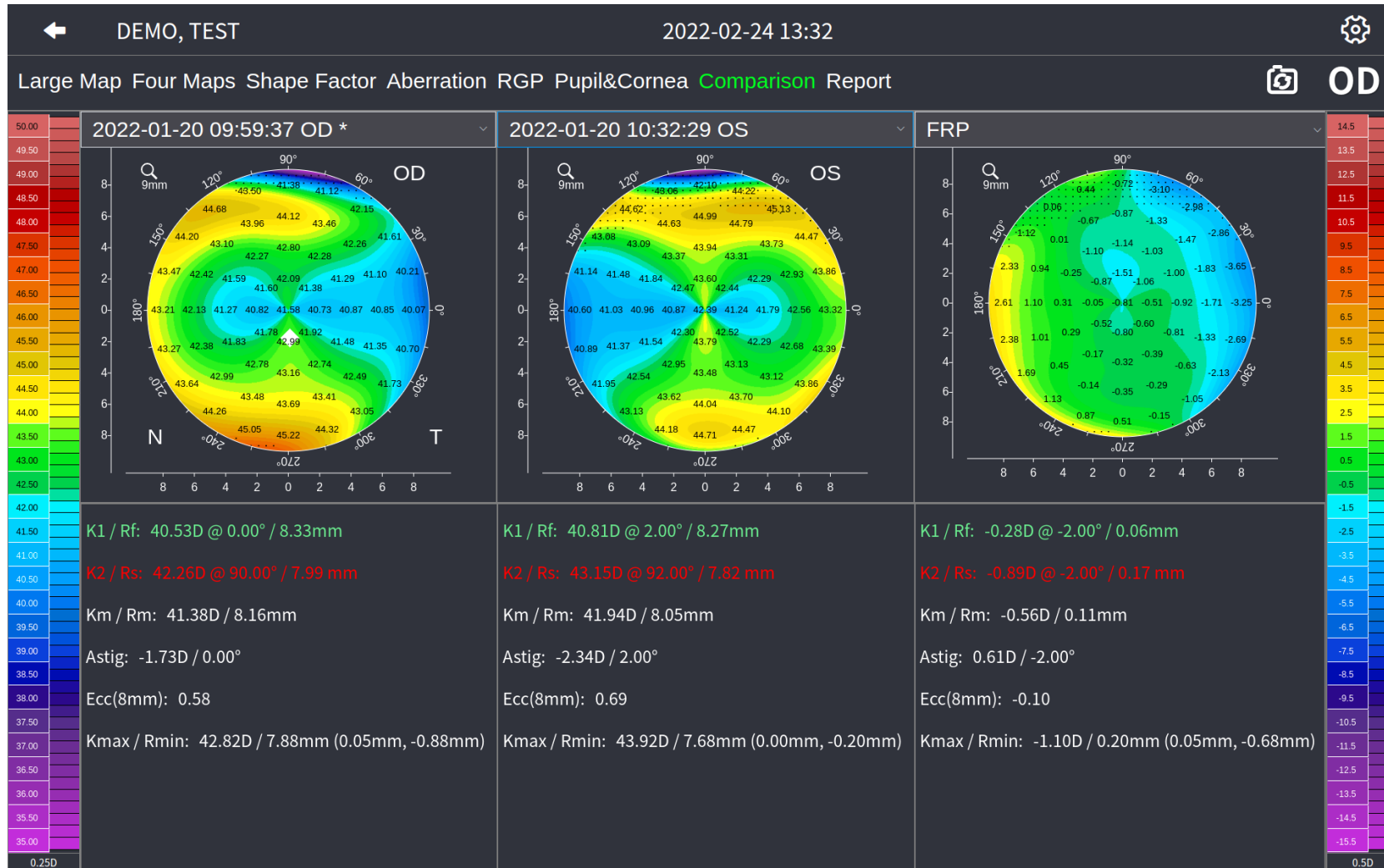
Point spread function



Modulation transfer function

Case Comparison

Support case follow-up and binocular contrast of the same patient.



Pupil & Corneal Diameter Measurement



Infrared photography, no discomfort, and automatically detects pupil and corneal diameter, provide important parameters for preoperative evaluation of refractive surgery and cataract surgery.

The screenshot displays a software interface for eye measurements. At the top, it shows 'DEMO, TEST' and the date '2022-02-23 15:31'. Below this is a navigation bar with options: 'Large Map', 'Four Maps', 'Shape Factor', 'Aberration RGP', 'Pupil&Cornea' (highlighted in green), 'Comparison', and 'Report'. On the right side of the navigation bar are icons for a camera and 'OD'. The main area shows an infrared image of an eye with a green dashed circle around the pupil and a yellow dashed circle around the cornea. To the right of the image, the following measurements are listed:

Pupil Diameter:	3.52 mm
Pupil Center:	X: 11.34 mm
	Y: 8.23 mm
Cornea Diameter:	10.44 mm
Cornea Center:	X: 11.23 mm
	Y: 8.66 mm

At the bottom of the interface, there are icons for a mouse cursor and a refresh button.

Contact Lens Fitting



- The module is researched and developed with the SOS team of Eye & ENT Hospital of Fudan University, it automatically recommends the appropriate fitting parameters of orthokeratology lens and contact lens.
- Customize the lens database, simulate the fitting of fluorescent staining, and save the trouble for patient to do real several fluorescein staining.

DEMO, TEST 2022-02-23 15:30

Large Map Four Maps Shape Factor Aberration RGP Pupil&Cornea Comparison Report

Orthokeratology recommendation Contact lens recommendation

Manufacturer: Mediworks + -

Len: M14 + -

Manufacturer	Phone	Address
Mediworks	+86-21-54260421	Shanghai MediWorks Precision Instruments Co., Ltd.

Len R (mm) W (mm) Ecc

M14	8.60, 7.80, 8.30, 8.60, 0, 0, 0	3, 0.5, 0.5, 1, 0, 0, 0	0, 0, 0, 0, 0, 0, 0
M13	8.50, 7.70, 8.20, 8.50, 0, 0, 0	3, 0.5, 0.5, 1, 0, 0, 0	0, 0, 0, 0, 0, 0, 0
M12	8.40, 7.60, 8.10, 8.40, 0, 0, 0	3, 0.5, 0.5, 1, 0, 0, 0	0, 0, 0, 0, 0, 0, 0
M11	8.30, 7.50, 8.00, 8.30, 0, 0, 0	3, 0.5, 0.5, 1, 0, 0, 0	0, 0, 0, 0, 0, 0, 0
M10	8.20, 7.40, 7.90, 8.20, 0, 0, 0	3, 0.5, 0.5, 1, 0, 0, 0	0, 0, 0, 0, 0, 0, 0

Rise Of Arc K1: 40@14 e: 0.8 K2: 42@104 e: 0.1 Dia.: 7.00 mm

Calculation of automatic fitting parameters for orthokeratology lens

Sphere: Diopter (D):

Cylinder: Positioning arc (D):

K1 (D): 40.53 Dia. (mm):

K2 (D): 42.26 Toric:

Ecc: 0.58 SOS team recommends positioning arc (D):

W2W: 10.44

Height difference for 4m radius (μm): 55.2

Calculation of Automatic Fitting Parameters for Contact Lenses

Spherical soft contact lens. Intraocular astigmatism < 1D, > 1D with complete curved soft contact lens

Sphere: Base arc (mm):

Cylinder: Diopter (D):

K1 (D): 40.53 Dia. (mm):

K2 (D): 42.26

Km (D): 40.53

W2W: 10.44

Spherical RGP. Toric is recommended for corneal astigmatism < 3D, intraocular astigmatism < 1D, corneal astigmatism > 3D

Sphere: Base arc (mm):

Cylinder: Diopter (D):

K1 (D): 40.53 Dia. (mm):

K2 (D): 42.26

W2W: 10.44

Back ring surface RGP (toric). Corneal astigmatism > 3D, intraocular astigmatism < 1D

Sphere: Flat base arc (mm):

Cylinder: Steep base arc (mm):

K1 (D): 40.53 Diopter (D):

K2 (D): 42.26

SimK1 (D): 40.53 Dia. (mm):

Ecc: 0.58

W2W: 10.44

Double posterior ring curved RGP. Intraocular astigmatism > 1D or corneal astigmatism > 2D

Sphere: Flat BC (mm):

Cylinder: Steep BC (mm):

K1 (D): 40.53 Flat diopter (D):

K2 (D): 42.26

SimK1 (D): 40.53 Steep diopter (D):

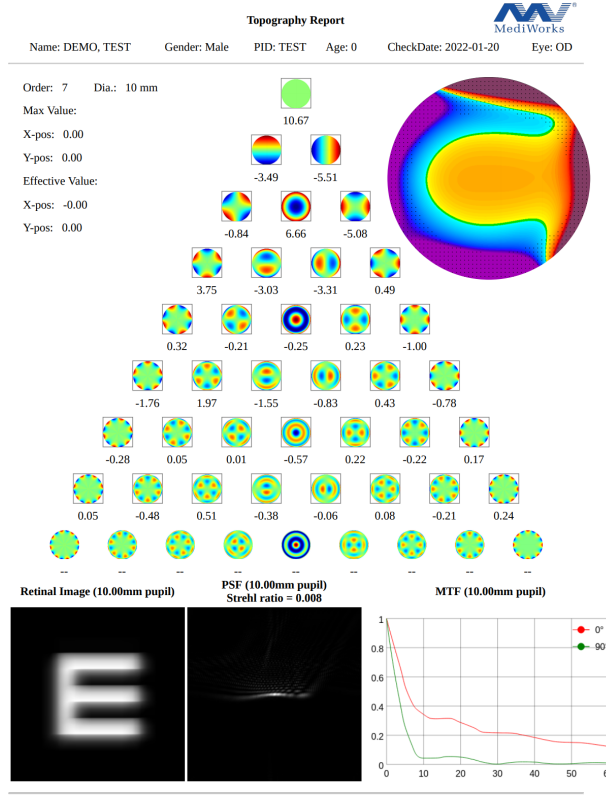
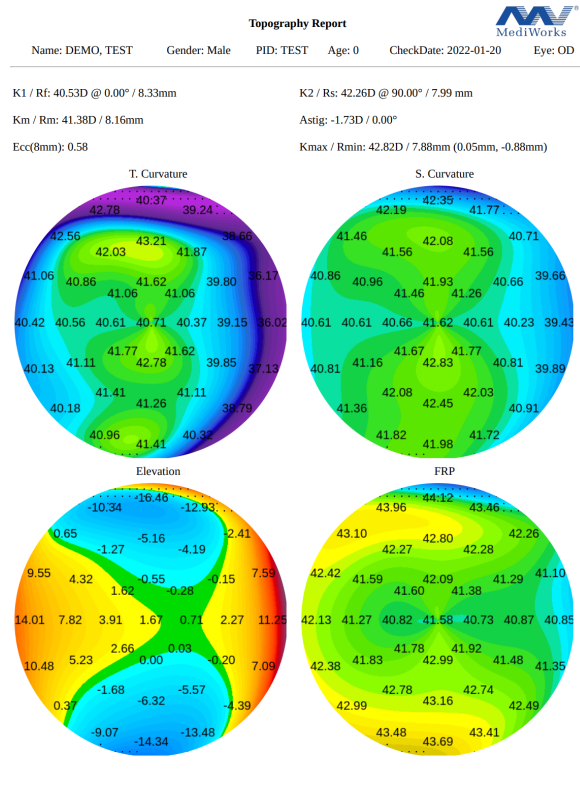
SimK2 (D): 42.26

Ecc1: 0.56 Dia. (mm):





Ecc2: 0.60

W2W: 10.44

Corneal Topography Report



Products Comparisons

	 MediWorks DEA520	 CSO Antares	 Oculus Keratograph 5M	 Medmont meridia™
Examination method	Small Placido plate	Big Placido plate	Big Placido plate	Small Placido plate
Placido rings	50rings	24rings	22rings	32rings
Detection points	18000	> 100000	> 22000	> 102000
Illuminations	White / Infrared / Cobalt blue light	White / Infrared / Cobalt blue light	White /840nm Infrared / 880nm Infrared / 465nm Cobalt blue light	
Capture method	Manual / Automatic	Manual / Automatic	Manual / Automatic	Manual / Automatic
Dry Eye Examinations				
Questionnaires	OSDI / McMonnies / SPEED	OSDI	DEQ-5 / OSDI	OSDI
Noninvasive breakup time	✓	✓	✓	✓
Tear meniscus Height	Automatic	Manual	Manual	Manual
Lipid layer thickness	✓	✓	✓	X
Meibomian glands function evaluation	Automatic	manual	manual	Automatic
Eyelid margin analysis	Support electronic enlargement	2 magnifications selectable	5 magnifications selectable	NA
Eye redness analysis	Automatic	Automatic	Automatic	Automatic
Corneal fluorescein sodium staining	Built-in yellow filter	Without built-in yellow filter	Without built-in yellow filter	Built-in yellow filter
Dry Eye Report	✓	✓	✓	✓

Products Comparisons



	MediWorks DEA520	CSO Antares	Oculus Keratograph 5M	Medmont meridia™
Corneal Topographer Analysis				
Corneal coverage (diameter)	11mm	10mm	10.91mm	11mm
Radius of curvature	5.5mm-10.5mm (32.14D-61.36D)	5.5mm-10.0mm (33.75D-61.36D)	5.5mm-10.0mm (33.75D-61.36D)	NA
	±0.02mm (±0.1D)	±0.03mm (±0.1D)	0.02mm (±0.1D)	0.02mm (±0.1D)
Maps	Sagittal Curvature	Sagittal Curvature	Sagittal Curvature	Sagittal Curvature
	Tangential Curvature	Tangential Curvature	Tangential Curvature	
	Elevation	Elevation	Elevation	
	Refractive Power	Refractive Power	Refractive Power	
	Difference	Difference	Difference	
	Wavefront Aberration	Wavefront Aberration	Wavefront Aberration	
Shape factor	E, Ecc, p, Q values	E, Ecc, p, Q values	E, Ecc, p, Q values	NA
Visual quality analysis	Zernicke wavefront aberration	Zernicke wavefront aberration	Zernicke wavefront aberration	NA
		Analysis of corneal visual quality		
	Simulated retinal image	Simulated retinal image		
	Point spread function (PSF)	Point spread function (PSF)	Point spread function (PSF)	
	Modulation transfer function (MTF)	Modulation transfer function (MTF)	Modulation transfer function (MTF)	
Case Comparison	✓	✓	✓	NA
Keratoconus screening	✓	✓	✓	NA
Contact lens fitting	✓	✓	✓	✓
Display	Built-in computer	External computer	External computer	External computer
DICOM	✓	✓	✓	✓

2 in 1 Ocular Diagnostic Master



- **Corneal morphology examination:** It provides Sagittal Curvature, Tangential Curvature, Elevation and Refractive Power, suitable for screening and early diagnosis of abnormal corneal diseases such as Keratoconus; It is used for preoperative examination of corneal refractive surgery and orthokeratology lens fitting, assisting in surgical design and eliminating contraindications. Evaluate the postoperative effect and detect the postoperative abnormalities.
- **Zernike aberration analysis:** Use Zernike polynomial to analyze the aberration of the whole cornea, and provide accurate information for optical correction through retinal image, point spread function, modulation transfer function, and ensures patient's postoperative vision quality.
- **Pupil & corneal diameter measurement:** Automatically detects pupil and corneal diameter, provides important parameters for preoperative evaluation of refractive surgery and cataract surgery.
- **Comprehensive dry eye assessment and case follow ups:** 7 examinations offers objective evidence for classification and severity of dry eye, and guide individualized treatment of dry eye.
- **Contact lens simulation fitting:** Automatically recommend appropriate OK lens and contact lens fitting parameters based on the patient's corneal morphology. Customize the lens database, simulate the fitting of fluorescent staining, and save the trouble for patient to do real several fluorescein staining.

THANK YOU

Website: www.mediworks.biz

E-mail: marketing@mediworks.biz