

# TERA

## Dry Eye Imager<sup>®</sup>

REPORT GUIDE



# TERA Report Elements

## TERA report selection options:

1. **Topography**  
Corneal Topography Report
2. **Comparison (OD or OS Only)**  
Multiple Visit Comparison Report
3. **Zernike**  
Corneal Aberrometry Report
4. **Pupil**  
Pupillometry Report
5. **NIBUT**  
Noninvasive Tear Breakup Time Report
6. **TMH**  
Tear Meniscus Height Report
7. **Redness**  
Conjunctival Redness Report
8. **Blepharitis**  
Blepharitis Report
9. **Lipid Layer**  
Lipid Layer Flow Report
10. **Meibomian**  
Meibomian Gland Imaging Report
11. **Fluorescein**  
Fluorescein Staining Report
12. **Lissamine**  
Lissamine Green Staining Report
13. **Dry Eye Report**  
Single Visit Dry Eye Summary Report
14. **Dry Eye Follow-Up Report**  
Dry Eye Progression



# Report Elements at a Glance

## Basic report features:

- 1 Patient information
- 2 Laterality (OD/OS)
- 3 Map scale color reference
- 4 Capture data
- 5 Notes/comments  
(Space for handwritten notes after printing)

**KERATOMETRY REPORT**

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**1** Patient DEMO PATIENT  
Patient ID DEMOPAT  
Date Of Birth 01/01/1991

Gender Male  
Exam Date 07/30/2025 6:51 PM  
Age 35

OD

**2**

Sim-K		
K1	K2	CYL
39.83D@3°	41.24D@93°	-1.41D@3°

Cornea Data			
Cornea Decentration	H: 0.01mm	V: 0.11mm	
Cornea Diameter	11.88mm		
Photopic Pupil Decentration	H: 0.00mm	V: 0.00mm	
Photopic Pupil Diameter	0.00mm		
Ave. Pupillar Power	ø4.5: 40.62D / ø3.0: 40.61D		

Meridians					
2 mm		4 mm		6 mm	
39.81D@4°	39.77D@2°	39.49D@4°			
41.32D@94°	41.27D@92°	41.16D@94°			
-1.51D@4°	-1.50D@2°	-1.67D@4°			

Emimeridians					
2 mm		4 mm		6 mm	
39.75D@13°	39.55D@8°	39.18D@12°			
41.47D@266°	41.64D@275°	41.56D@279°			
39.81D@180°	39.93D@173°	39.72D@169°			
41.26D@102°	40.93D@96°	40.67D@98°			

Keratoconus Screening			
AK	AGC	SI	KPI
42.53D	1.02D/mm	0.68D	0%

Topography not compatible with keratoconus

A	D	Rho - Theta	RND
N.A.	N.A.	N.A.	N.A.

Keratorefractive Indexes			
SD	SAI	Asph.	Kc
0.46D	0.28D	0.32	40.63D

**5** Notes

# Topography Report

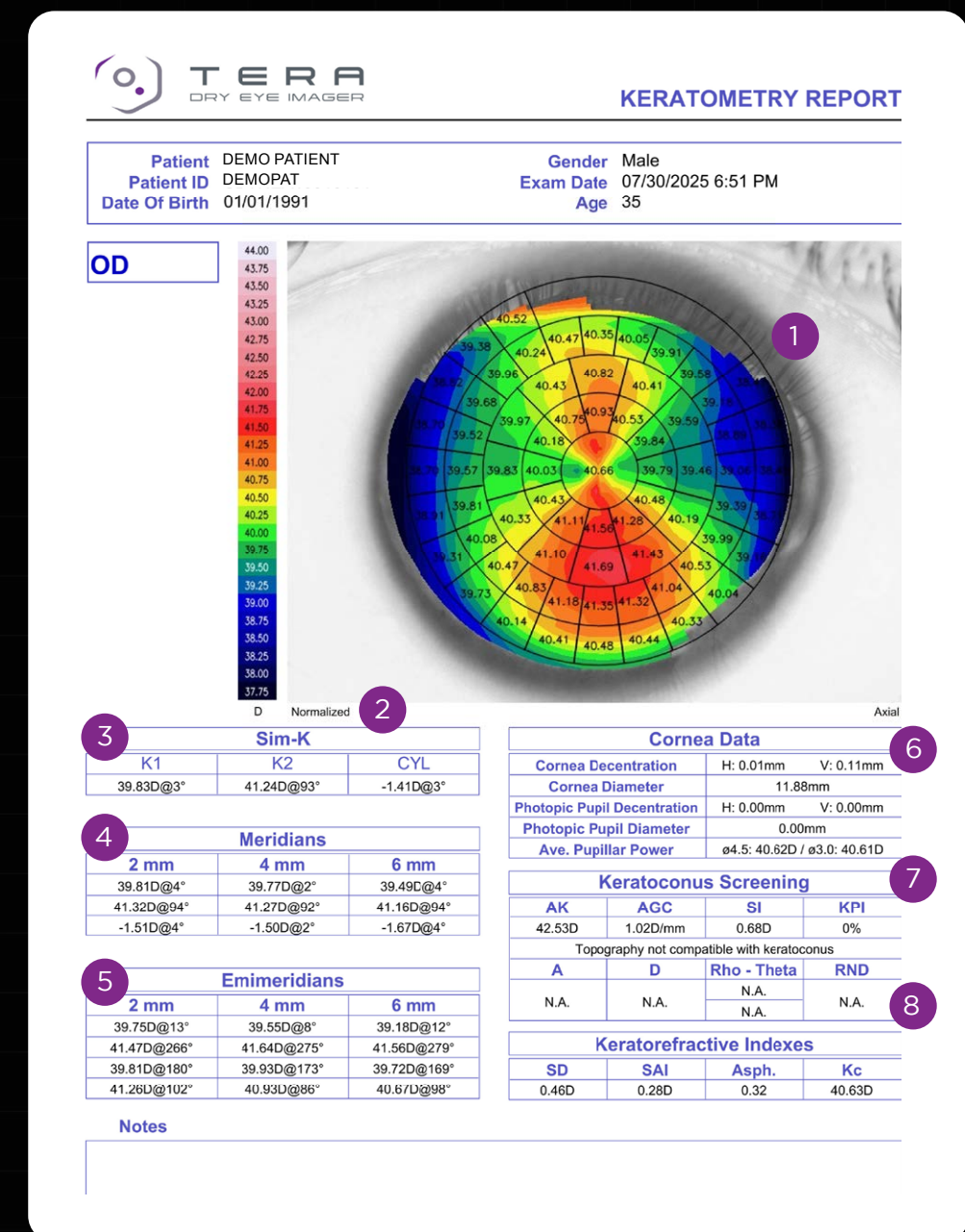
## Evaluate corneal shape and curvature

- 1 **Map view display:** shows corneal curvature represented using a color-coded scale
- 2 **Map display options:** map scale (absolute vs. normalized) and map type (axial vs. tangential)
- 3 **Sim-K values:** simulated keratometry values describing the two major corneal meridians  
K1: flat meridian, K2: steep meridian. CYL: K2-K1, Axis: orientation of K1
- 4 **Meridians:** keratometry measurements for the two major corneal meridians (flat K, steep K, CYL), calculated across standard corneal zones/rings (e.g., 3-5-7 mm or 2-4-6 mm)
- 5 **Emimeridans (semi-meridians):** keratometry measurements for the four major corneal meridians, also calculated across the same standard zones/rings (e.g., 3-5-7 mm or 2-4-6 mm)
- 6 **Cornea Data**
  - Cornea Decentration: decentration of the center of the cornea relative to the pupillary axis
  - Diameter: white-to-white (WTW) measurement to assess the horizontal visible iris diameter
  - Photopic Pupil Decentration: decentration of the pupillary axis relative to the center of the cornea under photopic (bright light) conditions
  - Photopic Pupil Diameter: size of pupil in photopic setting
  - Ave. Pupillary Power: average refractive power of the cornea calculated within a 3 mm and 4.5 mm corneal area/ring
- 7 **Keratoconus Screening:**†
  - AK (Apical Keratometry): corneal curvature measured at the corneal apex
  - AGC (Apical Gradient Curvature): rate of curvature change moving away from the cone apex
  - SI (Symmetry Index): measures superior-inferior curvature asymmetry
  - KPI (Keratometry Pentacam Index): indicator of overall corneal asymmetry derived from anterior corneal surface analysis

† Reference: Cavas-Martínez F, De la Cruz Sánchez E, Nieto Martínez J, Fernández Cañavate FJ, Fernández-Pacheco DG. Corneal topography in keratoconus: state of the art. Eye Vis (Lond). 2016;3:5.

## 8 Keratorefractive Indices†

- SD: standard deviation of curvature irregularity over a 4.5 mm pupillary area (values > 1D suggest corneal disease)
- SAI: surface asymmetry index representing the difference between the steepest and flattest corneal hemispheres
- Asph: corneal eccentricity (e-value), describing deviation from a spherical shape
- Kc: central corneal curvature in diopters (D)



# Topography Comparison Report

Compare two images taken of the same eye, visit to visit

1 Laterality and dates of each capture

2 Comparison of Sim-K and corneal astigmatism values

3 Cornea Data comparison

- Cornea Decentration: decentration of the center of the cornea relative to the pupillary axis
- Diameter: white-to-white (WTW) measurement to assess the horizontal visible iris diameter
- Photopic Pupil Decentration: decentration of the pupillary axis relative to the center of the cornea under photopic (bright light) conditions
- Photopic Pupil Diameter: size of pupil in photopic setting
- Ave. Pupillary Power: average refractive power of the cornea calculated within a 3 mm and 4.5 mm corneal area/ring

4 Comparison of keratoconus screening indices (i.e., AK, AGC, SI, and Kpi)

5 Comparison of keratorefractive indices

# Topography Comparison Report


**KERATOMETRY COMPARISON REPORT**

<b>Patient</b> Demo Patient <b>Patient ID</b> DEMPAT19751204 <b>Date Of Birth</b> 12/04/1975	<b>Gender</b> Male <b>Exam Date</b> 10/29/2025 12:48 PM <b>Age</b> 49
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1 **OD 10/29/2025 12:48 PM**



D Absolute Axial

1 **OD 10/31/2025 12:04 PM**



D Absolute Axial

2 Sim-K					
K1	K2	CYL	K1	K2	CYL
42.66 D @ 162 °	43.30 D @ 72 °	-0.65 D @ 162 °	42.48 D @ 160 °	43.12 D @ 70 °	-0.63 D @ 160 °

3 Cornea Data							
Cornea Decentration		H: -0.52 mm	V: 0.27 mm	Cornea Decentration		H: -0.50 mm	V: 0.30 mm
Cornea Diameter		11.58 mm		Cornea Diameter		11.57 mm	
Photopic Pupil Decentration		H: -0.07 mm	V: -0.13 mm	Photopic Pupil Decentration		H: -0.07 mm	V: -0.16 mm
Photopic Pupil Diameter		2.80 mm		Photopic Pupil Diameter		3.16 mm	
Ave. Pupillary Power		ø4.5: 43.00 D / ø3.0: 43.05 D		Ave. Pupillary Power		ø4.5: 42.86 D / ø3.0: 42.90 D	

4 Keratoconus Screening							
AK	AGC	SI	Kpi	AK	AGC	SI	Kpi
44.48 D	1.05 D/mm	0.30 D	0 %	44.01 D	0.94 D/mm	0.34 D	0 %
Topography not compatible with keratoconus							
A	D	Rho - Theta	RND	A	D	Rho - Theta	RND
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

5 Keratorefractive Indexes							
SD	SAI	Asph.	Kc	SD	SAI	Asph.	Kc
0.55 D	0.23 D	0.71	43.00 D	0.45 D	0.16 D	0.64	42.86 D

Notes

# Zernike (Anterior Corneal Aberrometry)

Quantify anterior corneal aberrations, or optical imperfections, to assess visual quality

## 1 Entering Pupil Size:

The preset pupil diameter used for calculating corneal aberrations. This value can be changed in the “Measurement” tab to assess how pupil size affects corneal aberrations.

## 2 Total Aberration (OPD):

The corneal wavefront aberration profile map. It represents the total, or sum, of all aberration components shown on the right.

## 3 Zernike Coefficients Graph:

A color-coded histogram that provides a graphical representation of the “weight” of each corresponding Zernike coefficient/polynomial associated with wavefront aberrations in the eye

## 4 Root Mean Square (RMS) Value:

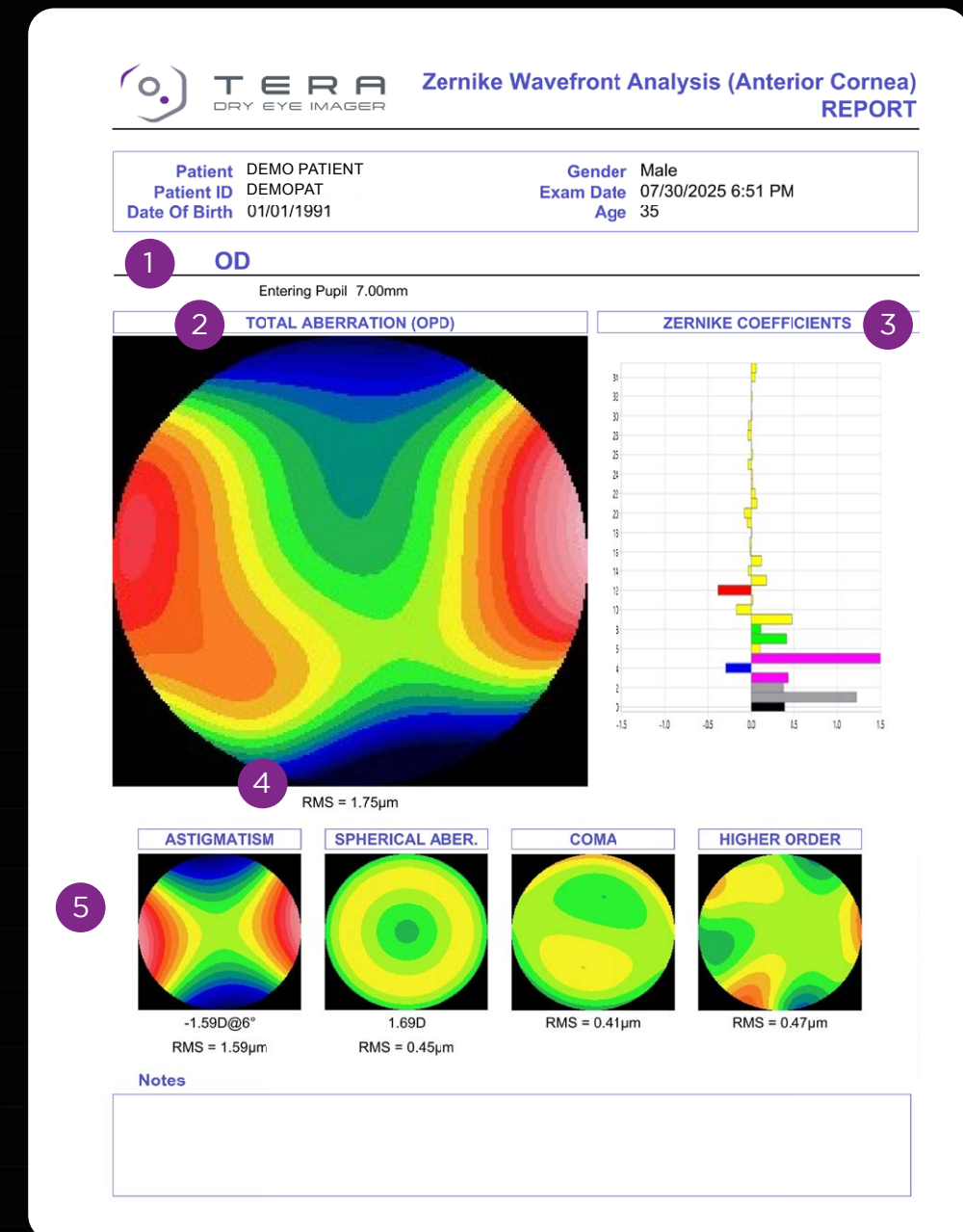
A value used to summarize the overall magnitude of optical aberrations in the cornea (a higher value indicates more aberrations)

## 5 Aberration Maps and RMS Values:

Shows the anterior corneal wavefront aberration components over a selected pupil size, as well as the RMS value for each component

- **Astigmatism:** the magnitude in diopters and axis are displayed
- **Spherical aberration:** quantity of longitudinal spherical aberration in diopters
- **Coma:** map and direction shown
- **High Order:** all the components of an order higher than the primary aberrations above are grouped

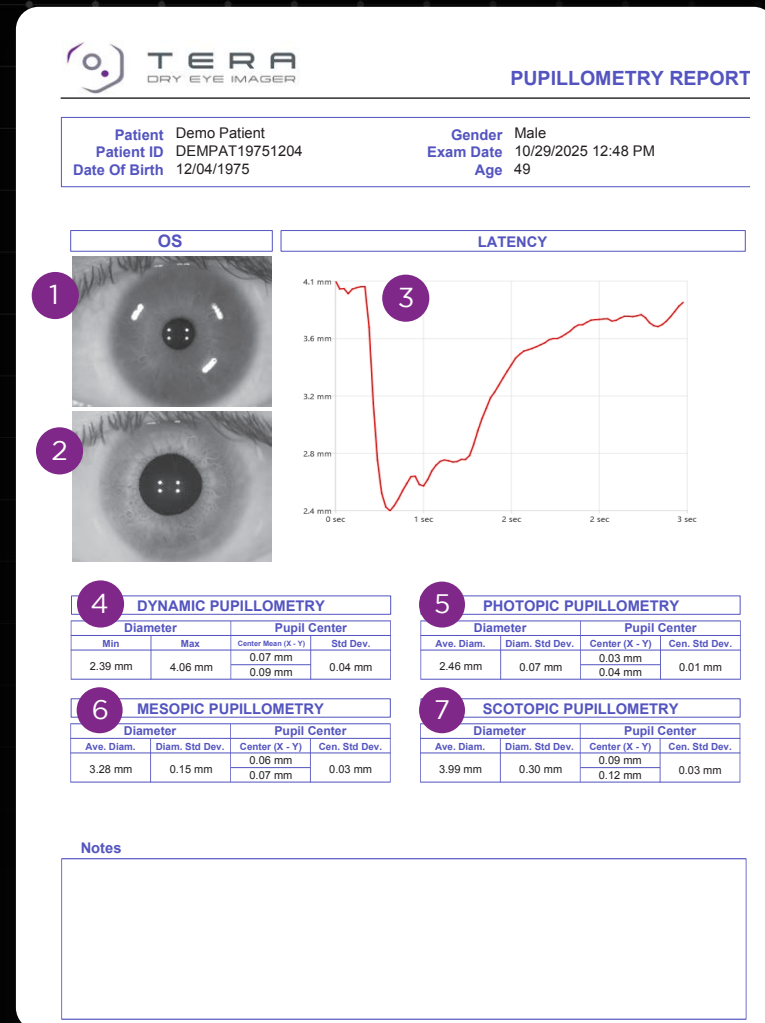
# Zernike (Anterior Corneal Aberrometry)



# Pupillometry Report

Analyze the characteristics of dynamic and static pupillometry

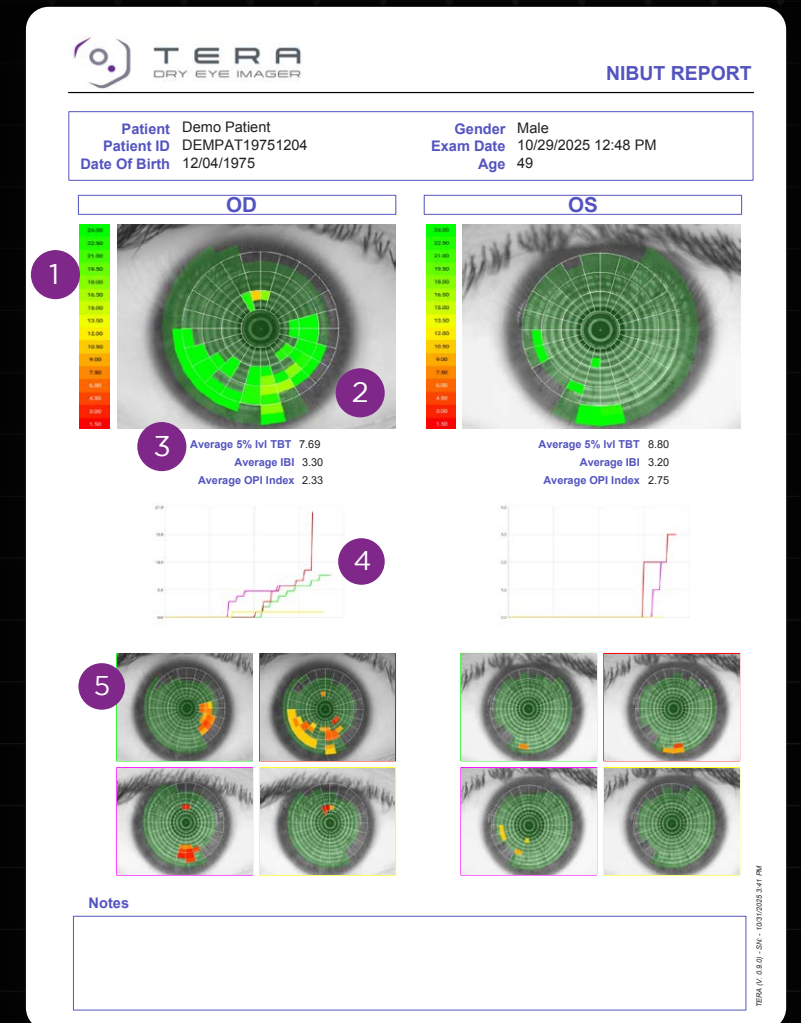
- 1 Minimum Measured Pupil Size:**  
pupil diameter recorded under photopic (bright-light) conditions
- 2 Maximum Measured Pupil Size:**  
pupil diameter recorded under scotopic (dark) conditions
- 3 Pupil Latency Graph:**  
a graph that tracks changes in pupil diameter over time as lighting transitions from scotopic to photopic, then back to scotopic
- 4 Dynamic Pupillometry:**  
analysis of pupil diameter and decentration relative to the optical axis under variable light conditions
- 5 Photopic Pupillometry:**  
assessment of pupil characteristics under static, bright-light conditions
- 6 Mesopic Pupillometry:**  
assessment of pupil characteristics under static, dim-light conditions
- 7 Scotopic Pupillometry:**  
assessment of pupil characteristics under static, dark conditions



# NIBUT (Noninvasive Tear Break-up) Report

Evaluate tear film stability by analyzing the timing and distribution of tear film break-up across multiple acquisitions

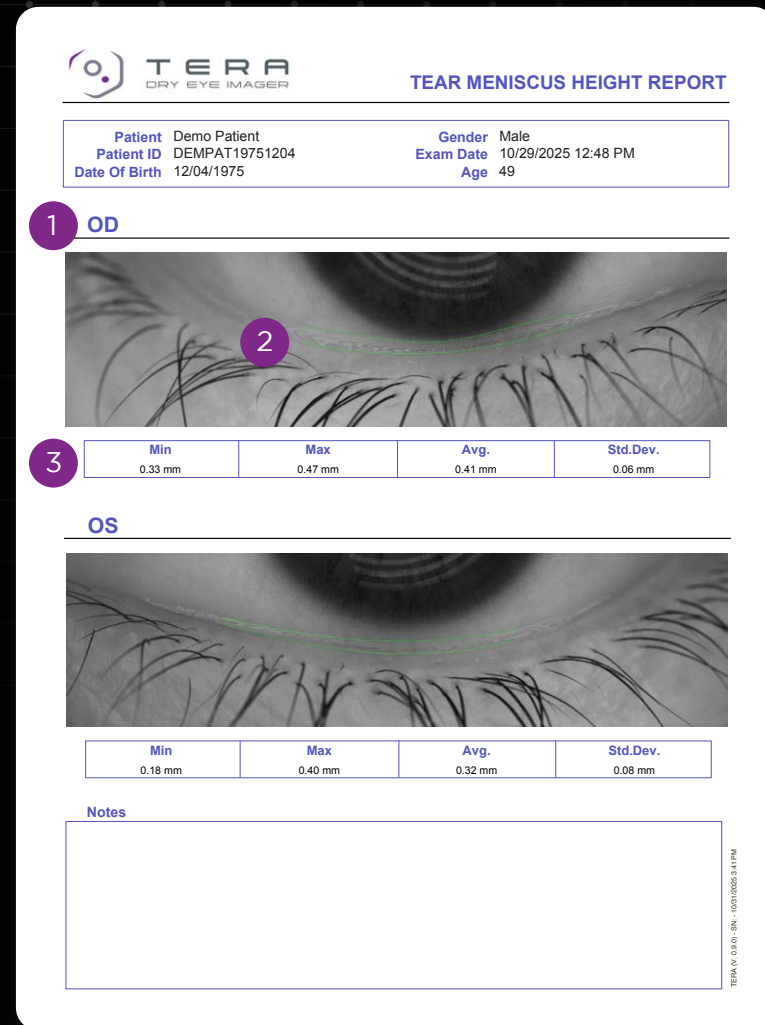
- 1 Time Scale (in seconds):**  
displays measurement timeline
- 2 Colored NIBUT Maps:**  
color-coded map indicating the areas where the first tear film break-up (TBT) occurs
- 3 NIBUT Indices:**
  - Average 5% Ivl TBT:** average tear film break-up time calculated across all valid acquisitions at the 5% tear break-up threshold level
  - Average IBI (Inter-Blink Interval):** available only if a BLINK acquisition was performed; represents the average duration between blinks
  - Average OPI (Ocular Protection Index):** available only when IBI is available; calculated as Average 5% TBT divided by IBI
- 4 TBT Overlay Map:** plot showing time on the x-axis against the percentage of broken sectors at each moment; includes all acquisitions when multiple are recorded (the color of the plotted curve in the graph matches that of the frame of the corresponding TBT acquisition map below)
- 5 TBT Analysis Maps:** displays areas of first break-up across multiple TBT acquisitions, shown as a color-coded grid of instability zones. The color of the frame of each TBT Analysis Map matches that of the corresponding plotted curve in the TBT Overlay Map above.



# Tear Meniscus Height (TMH) Report

Evaluate tear volume by measuring the height and uniformity of the lower tear meniscus

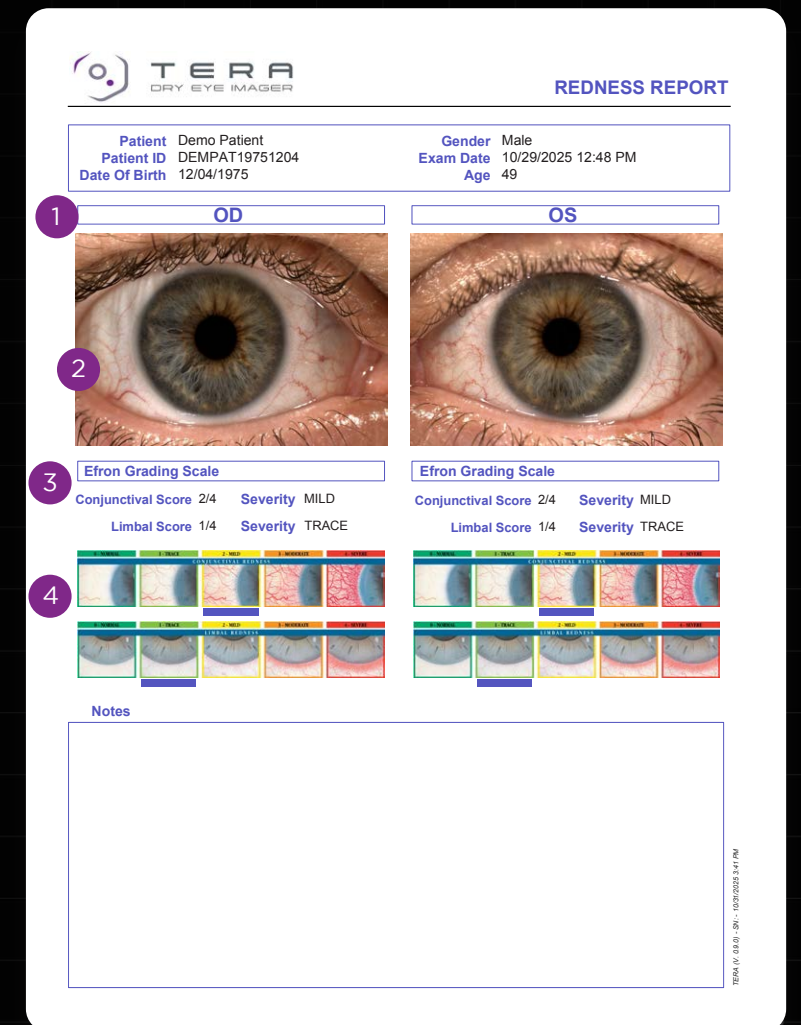
- 1 **Laterality:** OD or OS
- 2 **TMH Height Profile:** image showing the inferior tear meniscus with the analyzed tear profile outlined in green; note that five calipers must be set and “Show Profile” must be enabled to generate the profile
- 3 **TMH Characteristics:**
  - **Min:** the lowest measured tear meniscus height within the profile
  - **Max:** the highest measured tear meniscus height within the profile
  - **Average:** the mean tear meniscus height calculated across all measured points
  - **Standard Deviation:** analysis of the amount of variation in the tear meniscus height



# Redness Report

Evaluate ocular surface redness with the use of validated grading scales

- 1 **Laterality:** OD or OS
- 2 **Captured Conjunctival Redness Photo:** acquired images used for assessment of conjunctival and limbal redness
- 3 **Redness Analysis:** clinician-assigned grading of conjunctival and/or limbal redness based on evaluation of the photo compared to the Efron<sup>1</sup> or Jenvis<sup>2</sup> clinical reference scale
- 4 **Clinically Validated Grading Scales:** validated reference scales for evaluating conjunctival and limbal redness (the severity level selected by the user is indicated by a line below the image). Users can select the grading scale type (Efron or Jenvis) in device Settings.

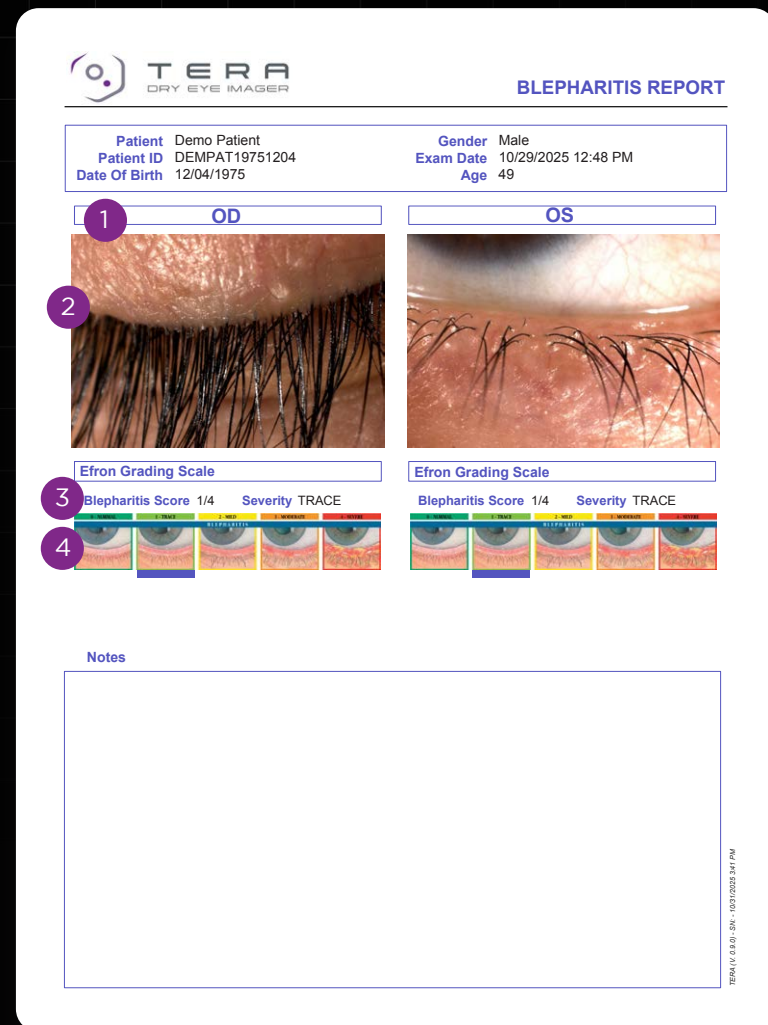


1. Efron, N., Morgan, P. B., & Katsara, S. S. (2001). Validation of grading scales for contact lens complications. *Ophthalmic and Physiological Optics*, 21(1), 17-29.  
 2. Jenvis, D. R., et al. (2007). The development and validation of the Jenvis Dry Eye Questionnaire. *Optician*, 233(6091), 16-21.

# Blepharitis Report

Evaluate blepharitis with the use of a validated grading scale

- 1 **Laterality:** OD or OS
- 2 **Captured Blepharitis Photo:** acquired images used for assessment of blepharitis
- 3 **Blepharitis Analysis:** clinician-assigned grading of blepharitis based on evaluation of the captured image compared to the Efron clinical reference scale
- 4 **Clinically Validated Grading Scale:**<sup>1</sup> validated reference scale for evaluating blepharitis (the severity level selected by the user is indicated by a line below the image)

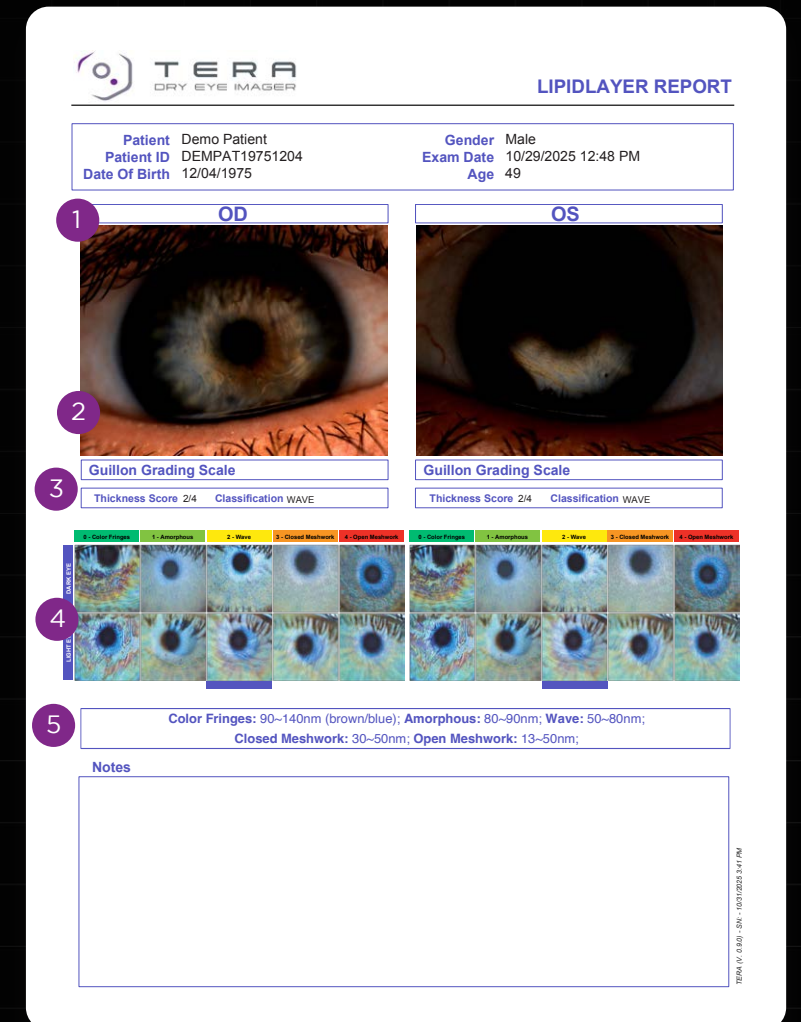


1. Efron, N., Morgan, P. B., & Katsara, S. S. (2001). Validation of grading scales for contact lens complications. *Ophthalmic and Physiological Optics*, 21(1), 17–29.

# Lipid Layer Report

Evaluate lipid layer flow to assess tear film quality

- 1 **Laterality:** OD or OS
- 2 **Captured Lipid Layer Photo:** acquired images used for qualitative assessment of lipid layer flow
- 3 **Lipid Layer Thickness Grading:** clinician-assigned grading of lipid layer thickness based on evaluation of the captured image compared to the Guillon<sup>3</sup> clinical reference scale
- 4 **Guillon Lipid Layer Grading Scale:** validated reference scale for evaluating lipid layer flow (the severity level selected by the user is indicated by a short purple line below the image)
- 5 **Lipid Layer Thickness Reference Values:** thickness values corresponding to each lipid layer flow grade, as reported in the referenced publication<sup>3</sup>

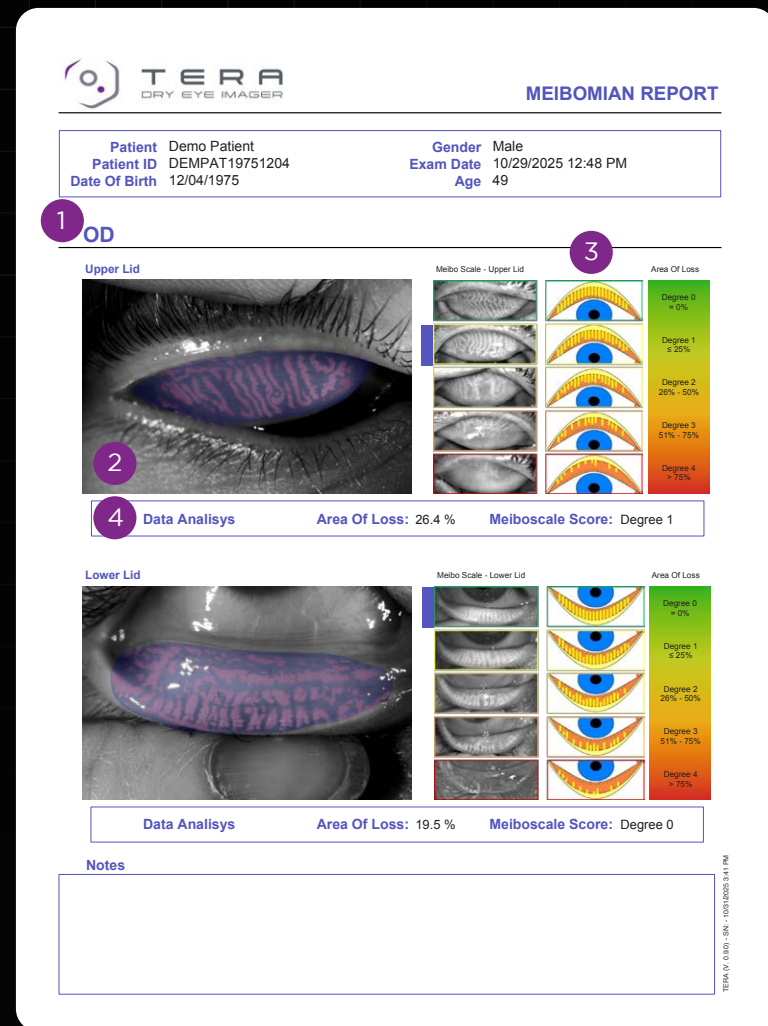


3. Guillon, M. (1998). Use of the Tearscope Plus in the routine contact lens fitting practice. *Contact Lens and Anterior Eye*, 21(Suppl 1), S31–S40.

# Meibomian Gland Report

Evaluate meibomian gland structure by analyzing gland dropout and area of loss

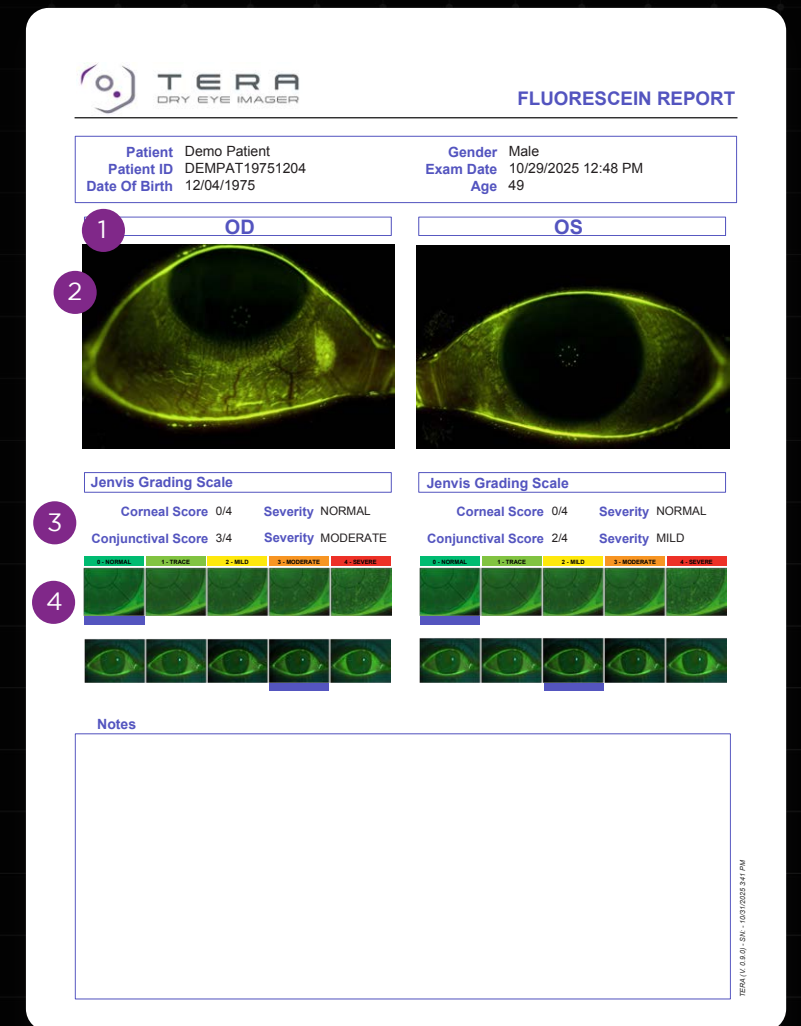
- Laterality and Lid Selection (Upper/Lower):** indicates which eye and eyelid were evaluated
- Captured Meibomian Gland Photo:** acquired images used for assessment of meibomian gland dropout (purple region is manually selected by the clinician for analysis)
- Meiboscale:<sup>4</sup>** validated clinical reference scale for evaluating meibomian gland area of loss (the severity level selected by the user is indicated by a purple vertical line shown to the left of the Meiboscale)
- Data Analysis:**
  - Area of Loss: proportion of the eyelid region showing missing or atrophied meibomian glands relative to the total analyzed area
  - Meiboscale Score: clinician-assigned grade of meibomian gland dropout based on comparison of the image to the Meiboscale reference



# Fluorescein Report

Evaluate conjunctival and corneal staining by comparing captured fluorescein images to validated grading criteria

- Laterality: OD or OS**
- Captured Fluorescein Staining Photo:** acquired images used for assessment of fluorescein staining
- Fluorescein Analysis:** clinician-assigned grading of staining based on evaluation of the captured image compared to the Jenvis<sup>2</sup> clinical reference scale
- Clinically Validated Jenvis Grading Scale:** validated reference scale for evaluating conjunctival and corneal staining (the severity level selected by the user is indicated by a purple horizontal line shown below the reference scale)



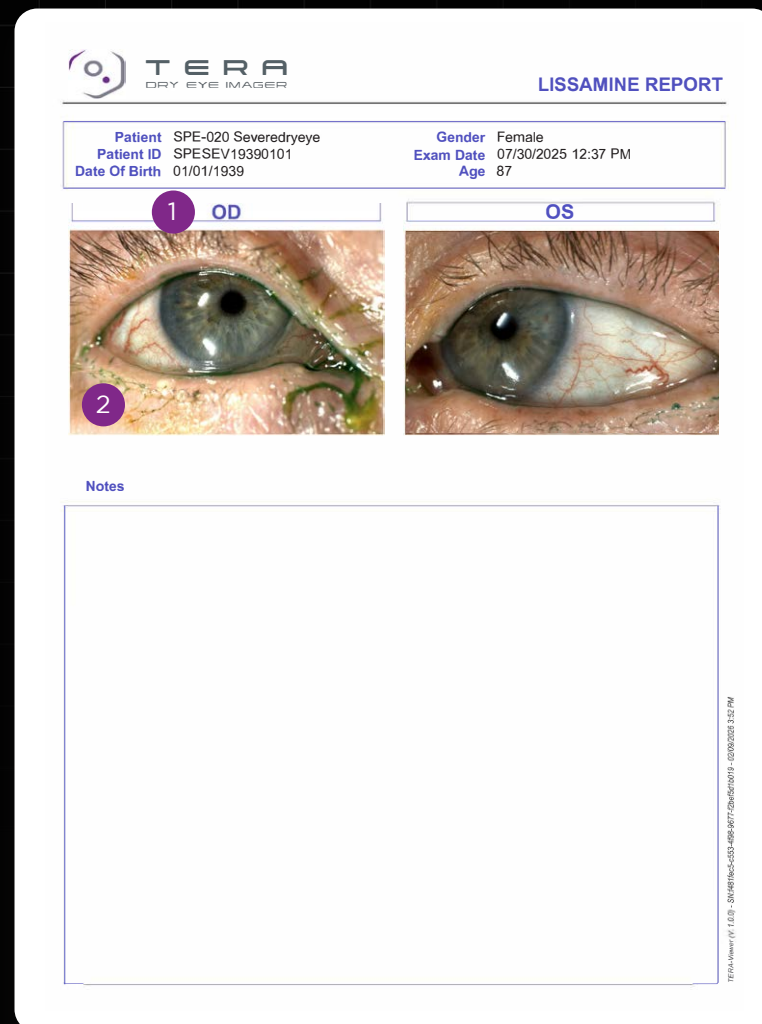
4. Pult, H., & Riede-Pult, B. H. (2012). Non-contact meibography: Keep it simple but effective. Contact Lens and Anterior Eye, 35(2), 77-80.

2. Jenvis, D. R., et al. (2007). The development and validation of the Jenvis Dry Eye Questionnaire. Optician, 233(6091), 16-21.

# Lissamine Green Report

Evaluate Lissamine Green staining

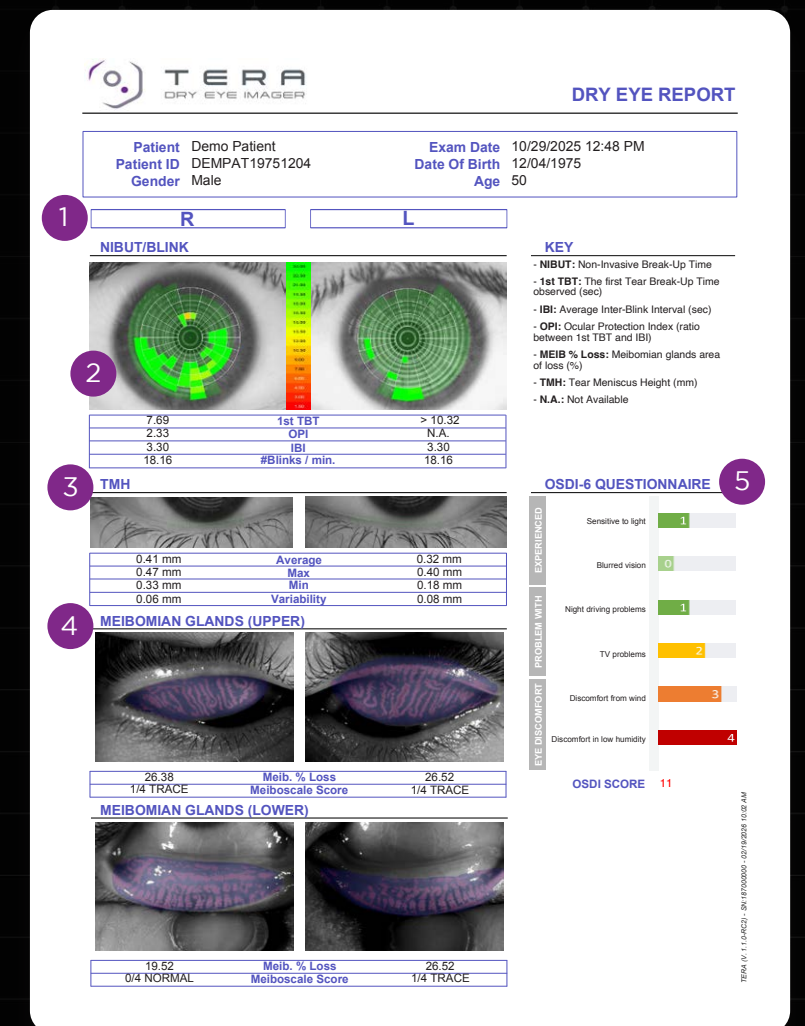
- 1 **Laterality:** OD or OS
- 2 **Captured Lissamine Green Staining Photo:** acquired images used for assessment of Lissamine Green staining



# Dry Eye Summary Report

The Dry Eye Summary Report offers a consolidated view of all acquired dry eye tests

- 1 **Laterality:** OD or OS
- 2 **NIBUT/BLINK Results:** 1st TBT, OPI, IBI, and number of blinks per minute
- 3 **TMH Results:** average, maximum, and minimum tear meniscus height with variability measured in millimeters
- 4 **Meibomian Gland Imaging Results:**
  - Meib. % Loss
  - Meiboscale Score
- 5 **Dry Eye Questionnaire (OSDI-6, DEQ-5) Results:** the severity of patient-reported symptoms is displayed with an associated color code



# Dry Eye Summary Report

The Dry Eye Summary Report offers a consolidated view of all acquired dry eye tests

- Redness Results:**  
conjunctival and limbal scores
- Lipid Layer Results:**  
lipid layer flow pattern scores
- Blepharitis Results:**  
lid margin inflammation scores
- Ocular Staining Results:**  
corneal and conjunctival staining scores. By default, results and images related to Fluorescein staining are always reported; if only Lissamine Green is acquired, then those images will be shown in the report (without grading scores)

**TERA DRY EYE REPORT**

Patient: Demo Patient, Exam Date: 10/29/2025 12:48 PM  
 Patient ID: DEMPAT19751204, Date Of Birth: 12/04/1975  
 Gender: Male, Age: 49

**OD OS**

**1 REDNESS**  
Efron Score  
2/4 MILD Conjunctival 2/4 MILD  
1/4 TRACE Limbal 1/4 TRACE

**2 LIPID LAYER**  
Guillon Score  
2/4 WAVE 2/4 WAVE

**3 BLEPHARITIS**  
Efron Score  
1/4 TRACE 1/4 TRACE

**4 OCULAR STAINING**  
Jenvis Score  
0/4 NORMAL Corneal 0/4 NORMAL  
3/4 MODERATE Conjunctival 2/4 MILD

Notes

# Dry Eye Follow Up Report

Compare dry eye findings across two visits to evaluate changes in tear film, conjunctiva, lids, staining, and symptoms

- Laterality:** OD or OS
- Tear Film Comparison\*:**  
differences in NIBUT, TMH, and lipid layer assessments between two selected exams
- Conjunctiva Comparison\*:**  
differences in conjunctival and limbal redness between two selected exams
- Lid Comparison\*:**  
differences in gland loss, Meiboscale score, and Efron blepharitis score between two selected exams
- Fluorescein Staining Comparison\*:**  
differences in corneal and conjunctival staining using the Jenvis score across two exams
- Comparison of TBT Scans:**  
evaluation of tear break-up time scans from two selected exams

**TERA DRY EYE FOLLOW UP REPORT**

Patient: Demo Patient, Exam Date: 10/31/2025 12:04 PM  
 Patient ID: DEMPAT19751204, Date Of Birth: 12/04/1975  
 Gender: Male, Age: 49

Exam 1: 10/29/2025 12:48 PM Exam 2: 10/31/2025 12:04 PM

**1 OD OS**

**2 TEAR FILM**

	Exam 1	Diff. (Exam 2-1)	Exam 2	Exam 1	Diff. (Exam 2-1)
NIBUT (sec)	+14.69	7.89	N/A	+10.32	N/A
OSI (sec)	N/A	-4.97	N/A	2.79	N/A
IBI (sec)	2.81	3.30	-0.49	2.81	3.30
# of Blinking	21.35	18.16	3.19	21.35	18.16
TMH Average (mm)	0.39	0.41	-0.02	0.33	0.32
TMH Min (mm)	0.29	0.33	-0.03	0.25	0.18
TMH Max (mm)	0.44	0.47	-0.03	0.39	0.40
TMH SD (mm)	0.06	0.06	-0.00	0.06	0.02
Guillon Score	2/4 WAVE	2/4 WAVE	2/4 WAVE	2/4 WAVE	2/4 WAVE

**3 CONJUNCTIVA**

	Exam 1	Exam 2	Exam 1	Exam 2
Efron Conjunct Redness	1/4 TRACE	2/4 MILD	1/4 TRACE	2/4 MILD
Efron Limbal Redness	1/4 TRACE	1/4 TRACE	1/4 TRACE	1/4 TRACE

**4 LIDS**

	Exam 1	Exam 2	Exam 1	Exam 2	
Meib Upper Gland	32.0 %	26.4 %	5.6 %	40.0 %	28.0 %
Meib Lower Gland	24.0 %	19.5 %	4.5 %	28.0 %	18.4 %
Upper Meiboscale Score	1/4 TRACE	1/4 TRACE	1/4 TRACE	2/4 MILD	1/4 TRACE
Lower Meiboscale Score	0/4 NORMAL	0/4 NORMAL	0/4 NORMAL	0/4 NORMAL	1/4 TRACE
Efron Blepharitis Score	1/4 TRACE	1/4 TRACE	1/4 TRACE	0/4 NORMAL	1/4 TRACE

**5 FLUORESCIN STAINING**

	Exam 1	Exam 2	Exam 1	Exam 2
Jenvis - Corneal Score	0/4 NORMAL	0/4 NORMAL	0/4 NORMAL	0/4 NORMAL
Jenvis - Conjunct Score	0/4 NORMAL	0/4 MODERATE	0/4 NORMAL	2/4 MILD

Notes

**TERA NIBUT FOLLOW UP REPORT**

Patient: Demo Patient, Exam Date: 10/31/2025 12:04 PM  
 Patient ID: DEMPAT19751204, Date Of Birth: 12/04/1975  
 Gender: Male, Age: 49

Exam 1: 10/29/2025 12:48 PM Exam 2: 10/31/2025 12:04 PM

**6 OD - Exam1 OS - Exam1**

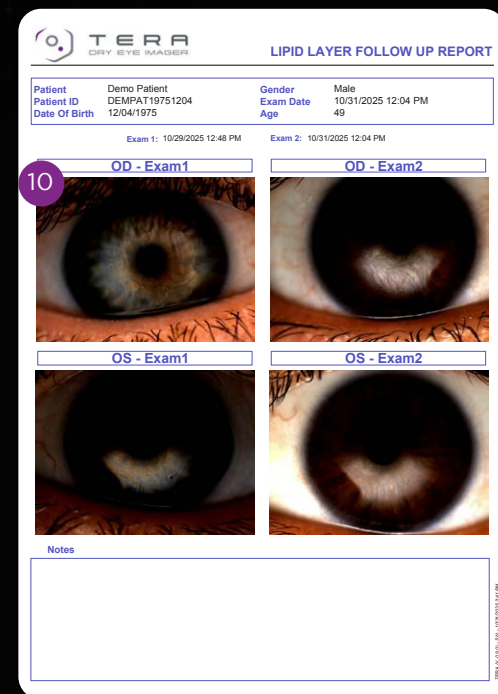
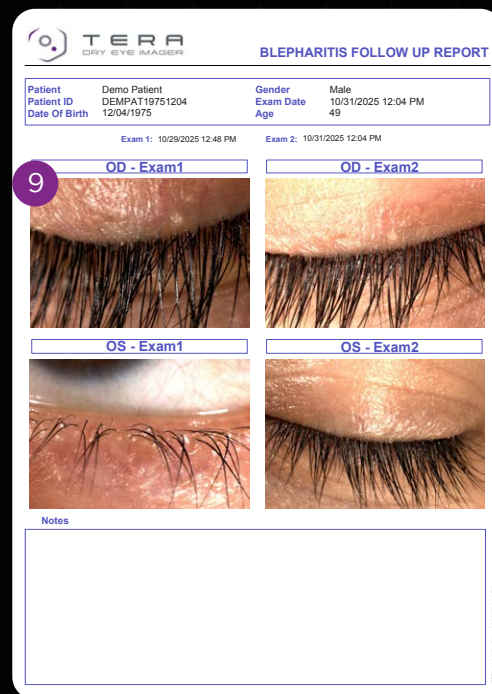
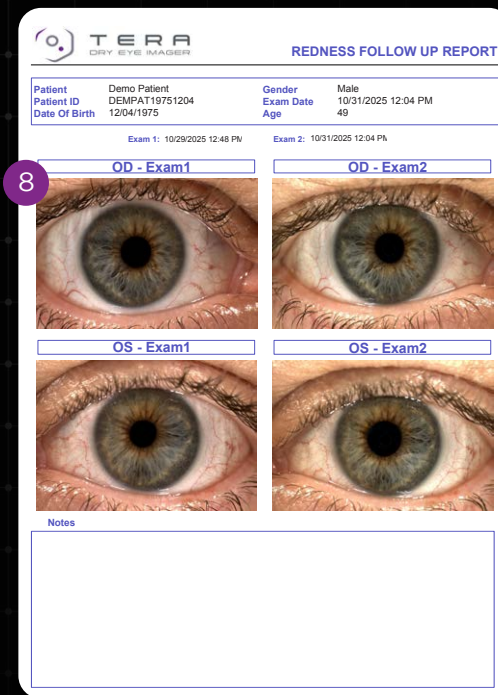
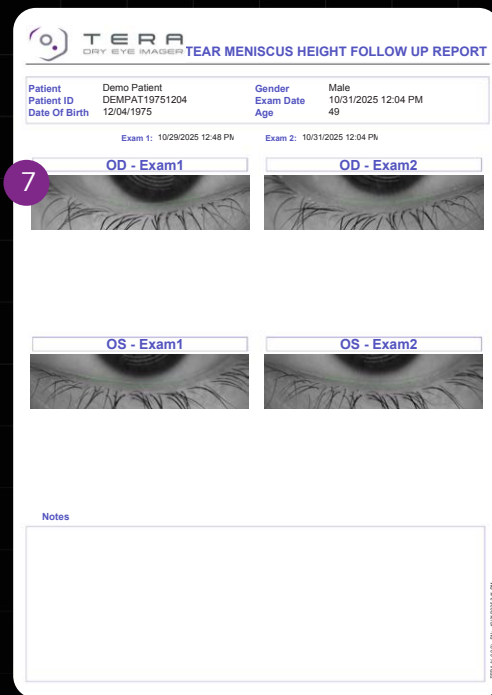
**6 OD - Exam2 OS - Exam2**

Notes

\* Colored arrows indicate whether there is an increase, decrease, or no change between the two selected examinations shown.

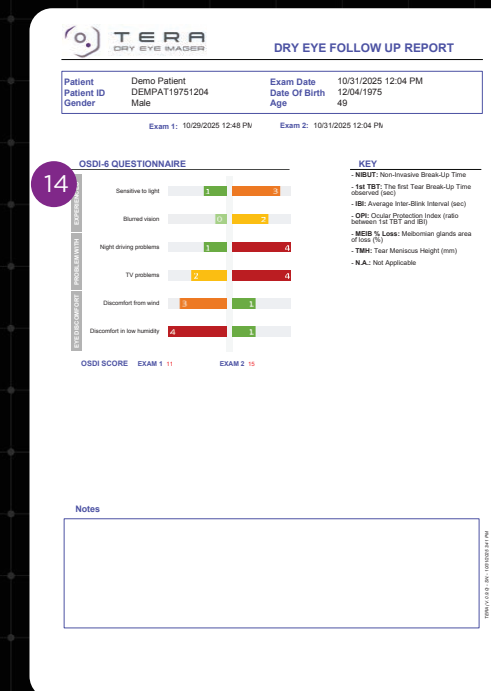
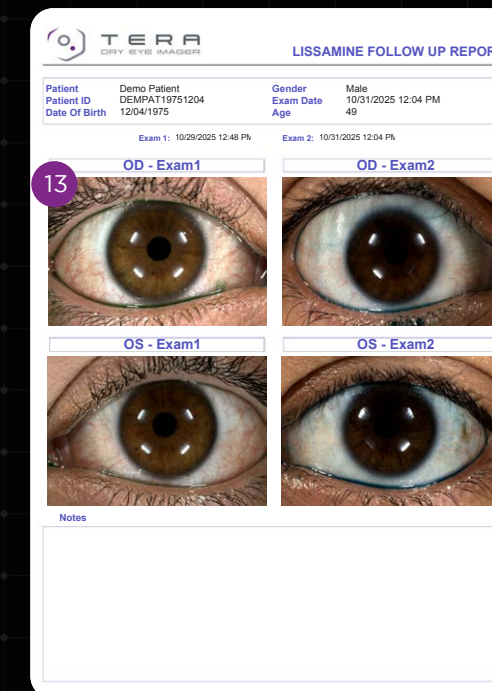
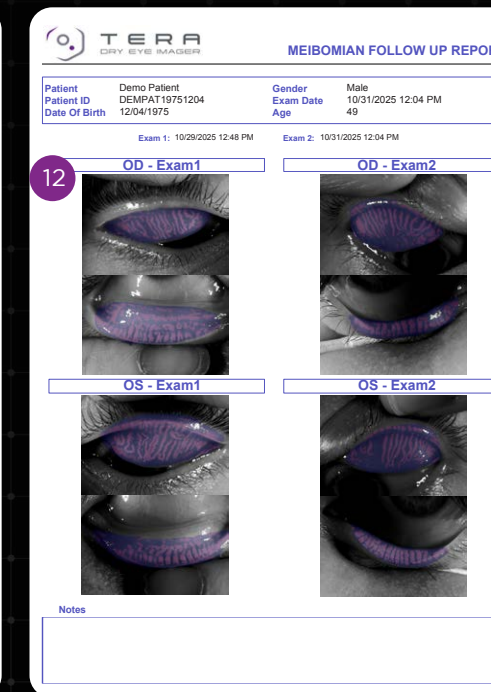
# Dry Eye Follow Up Report

- 7 **Comparison of Tear Meniscus Height Scans:** evaluation of TMH images from two selected exams
- 8 **Conjunctival Redness Comparison:** evaluation of conjunctival redness images from two selected exams
- 9 **Blepharitis Comparison:** evaluation of blepharitis findings between two selected exams
- 10 **Lipid Layer Image Comparison:** evaluation of lipid layer flow quality between two selected exams



# Dry Eye Follow Up Report

- 11 **Fluorescein Staining Image Comparison:** evaluation of corneal and conjunctival staining patterns between two selected exams
- 12 **Meibomian Gland Image Comparison:** evaluation of meibomian gland dropout patterns between two selected exams
- 13 **Lissamine Green Staining Comparison:** evaluation of lissamine green staining patterns between two selected exams
- 14 **Dry Eye Questionnaire Results Comparison:** evaluation of differences in dry eye symptom responses and overall resulting scores between two selected exams



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