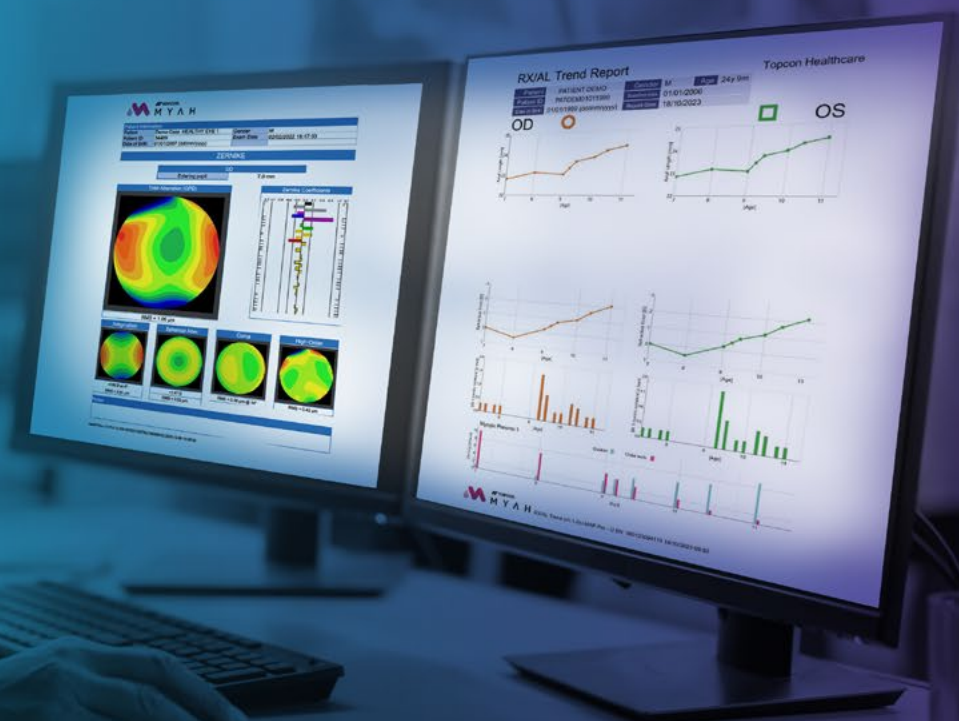


MYAH[®]

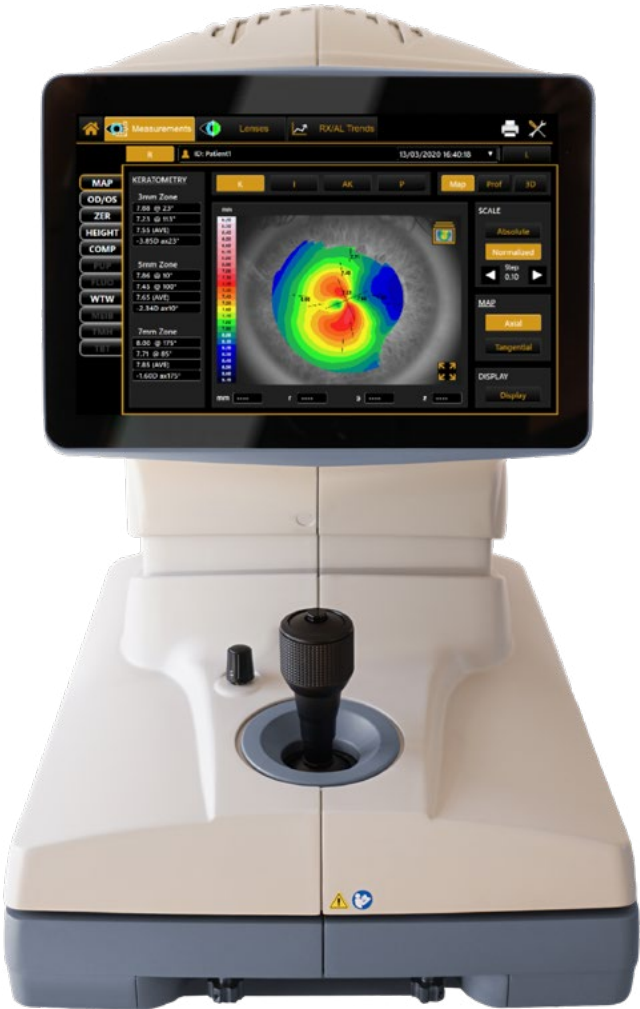
US Report Guide



MYAH Report Elements

MYAH report selection options:

- 1. **Keratometry**
Corneal Topography Report
- 2. **Height Map**
Corneal Elevation Report
- 3. **Comparison**
Comparison Report
- 4. **Zernike**
Corneal Aberrometry Report
- 5. **Pupil**
Pupillometry Report
- 6. **Contact Lens**
Contact Lens Fitting Report
- 7. **Meibomian**
Meibomian Gland Imaging Report
- 8. **RX/AL Trends**
Myopia Progression Report
- 9. **Parental Report**
Myopia Progression and Treatment Summary Report



Report Elements at a Glance

Basic report features:

- 1 Patient information
- 2 Laterality/eye
- 3 Map scale color reference
- 4 Capture data
- 5 Notes/comments (written on printout)

Patient Information			
Patient	Demo HEALTHY EYE	Gender	M
Patient ID	Demo001	Exam Date	02/14/2024 11:20:43 PM
Date of Birth	01/01/1991 (mm/dd/yyyy)		

1

MAP

2

3

4

Sim-K		
K1	K2	CYL
7.86 @ 13°	7.62 @ 103°	-1.37D ax13°

Meridians		
3 mm	5 mm	7 mm
7.86 @ 14°	7.86 @ 12°	7.90 @ 12°
7.63 @ 104°	7.60 @ 102°	7.66 @ 102°
-1.27D ax14°	-1.50D ax12°	-1.34D ax12°

Emimeridians		
3 mm	5 mm	7 mm
7.87 @ 191°	7.87 @ 181°	7.95 @ 27°
7.62 @ 288°	7.59 @ 104°	7.60 @ 273°
7.85 @ 10°	7.87 @ 18°	7.88 @ 177°
7.64 @ 94°	7.61 @ 288°	7.71 @ 105°

Axial Length	
AL (mm)	
22.76 mm (0.03)	

5

Cornea Data			
Cornea Decentration	H= -0.52 mm	V= -0.24 mm	
Diameter	12.52 mm		
Photopic pupil decentration	H= -0.35 mm	V= -0.17 mm	
Photopic pupil diameter	2.67 mm		
Ave. Pupil Power	4.5mm: 43.63 D / 3mm: 43.60 D		

AK			
AK	AGC	SI	Kpi
44.82 D	0.75 D/mm	0.66 D	0

Keratorefractive Indexes			
SD	SAI	Asph.	Kc
SD = 0.50 D	SAI = 0.34 D	e = 0.32	43.63

Notes

i-MAP Pro - U V1.1.0 SN: 170823081958(170230083) 2024/02/23 12:34:36

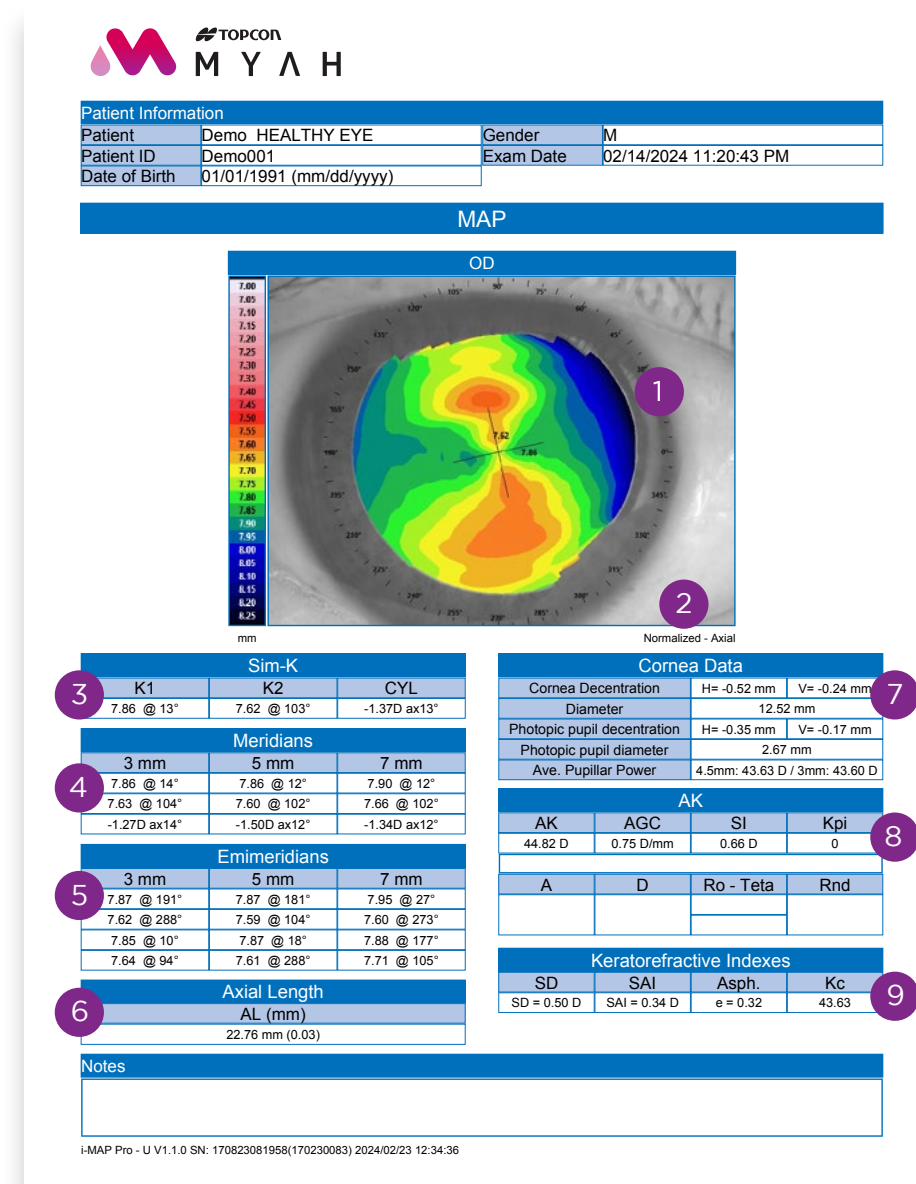
Keratometry/Corneal Topography

Corneal curvature features:

- 1 **Map view display:** corneal curvature depicted in color 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 @K1)
- 4 **Meridians:** keratometry data characterizing the two major meridians of the cornea (flat K, steep K, cyl) over three distinct areas/rings (i.e. 3-5-7 mm or 2-4-6 mm)
- 5 **Emimeridians:** keratometry data characterizing the four major meridians of the cornea (flat K, steep K) over three distinct areas/rings (i.e. 3-5-7 mm or 2-4-6 mm)
- 6 **Axial length (AL):** axial length measurement and standard deviation (in parenthesis).
Note: AL is provided as an average (median) of all measurements captured during data acquisition (one standard acquisition sequence captures 6 AL data points)
- 7 **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
- 8 **AK**
 - AK: apical keratometry, shows the curvature at the corneal apex
 - AGC: apical gradient curvature, shows the average rate of change of curvature moving away from the cone apex
 - SI: symmetry index - superior/inferior asymmetry, shows the asymmetry of curvature between matched locations in the superior and inferior cornea
 - Kpi: apex keratometry index, an indicator of corneal asymmetry derived from the analysis of anterior corneal characteristics

9 Keratorefractive Indexes

- SD: measures curvature irregularity – standard deviation of the variability of cornea curvature over a 4.5 mm pupillary area. (High SD > 1D are related to corneal disease)
- SAI: surface asymmetry index - asymmetry represented by the difference between the steepest and flattest corneal hemispheres.
- Asph: corneal eccentricity (e-value). Describes how the corneal shape differs from a spherical surface.
- Kc: central corneal curvature in diopters (D)

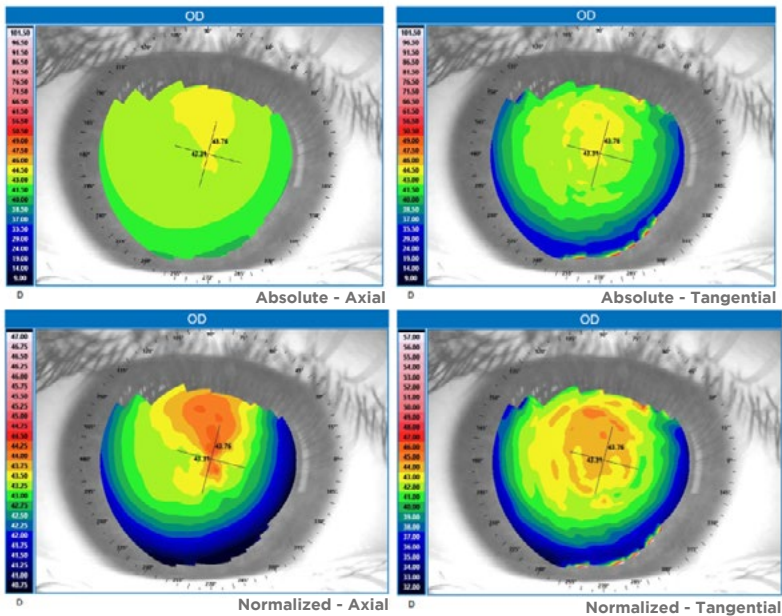


Corneal Topography Bilateral Report

Corneal topography data from both eyes combined in 1 report:

- 1 Corneal map OD/OS: color map based on map scale (absolute vs. normalized) and map type (axial vs. tangential).

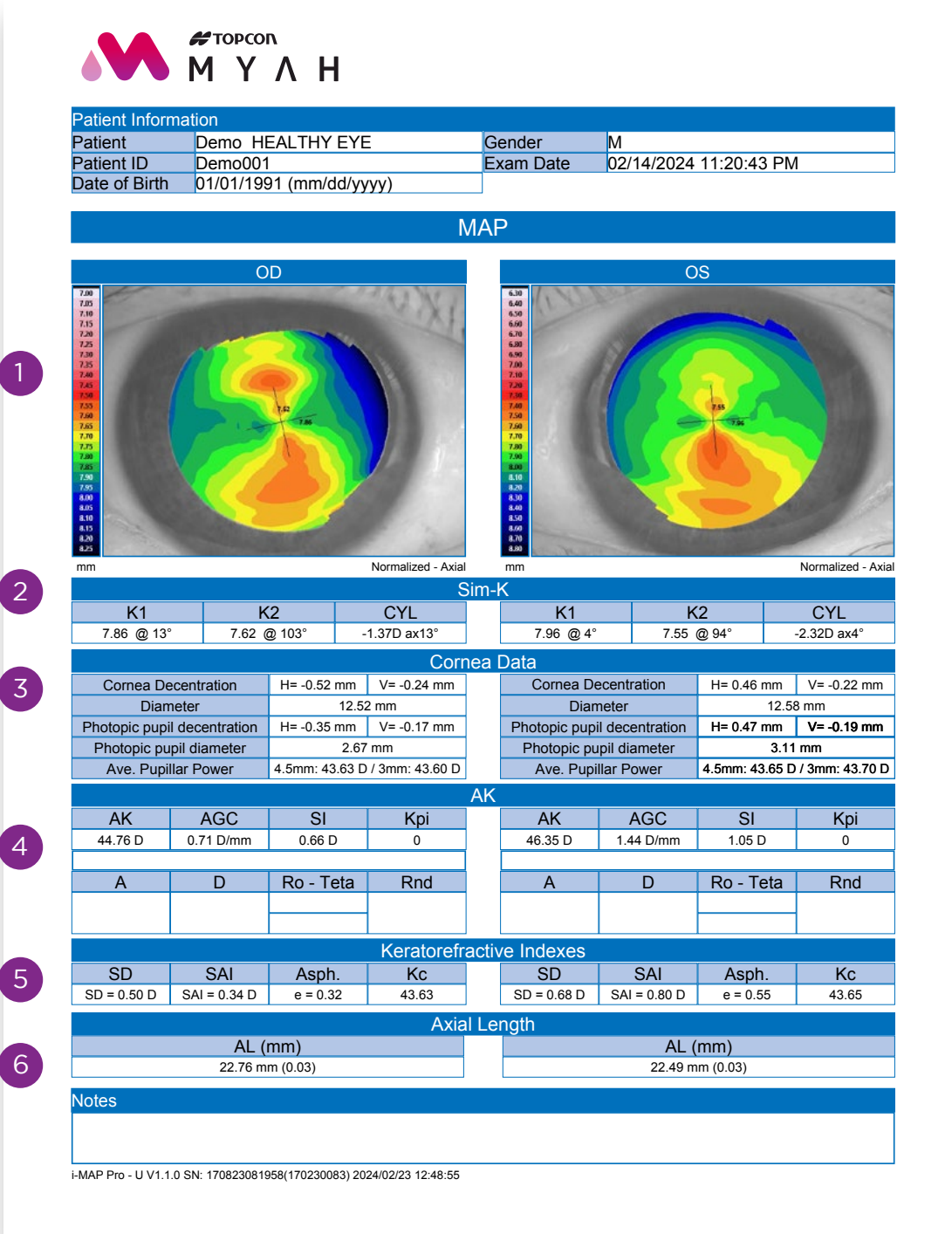
Examples of color map displays with customizable map scale and map type:



- **Axial maps** provide an overview of the average overall corneal shape and power, using the apex as a reference point to generate a smoothed display.
- **Tangential maps** provide greater sensitivity to localized changes in curvature, especially in the corneal periphery. They are better for assessing fine detail and more precise changes in curvature.

- 2 Sim-K OD/OS
- 3 Cornea data OD/OS
- 4 Corneal indices OD/OS
- 5 Display of axial length OD/OS
- 6 Keratorefractive indices OD/OS

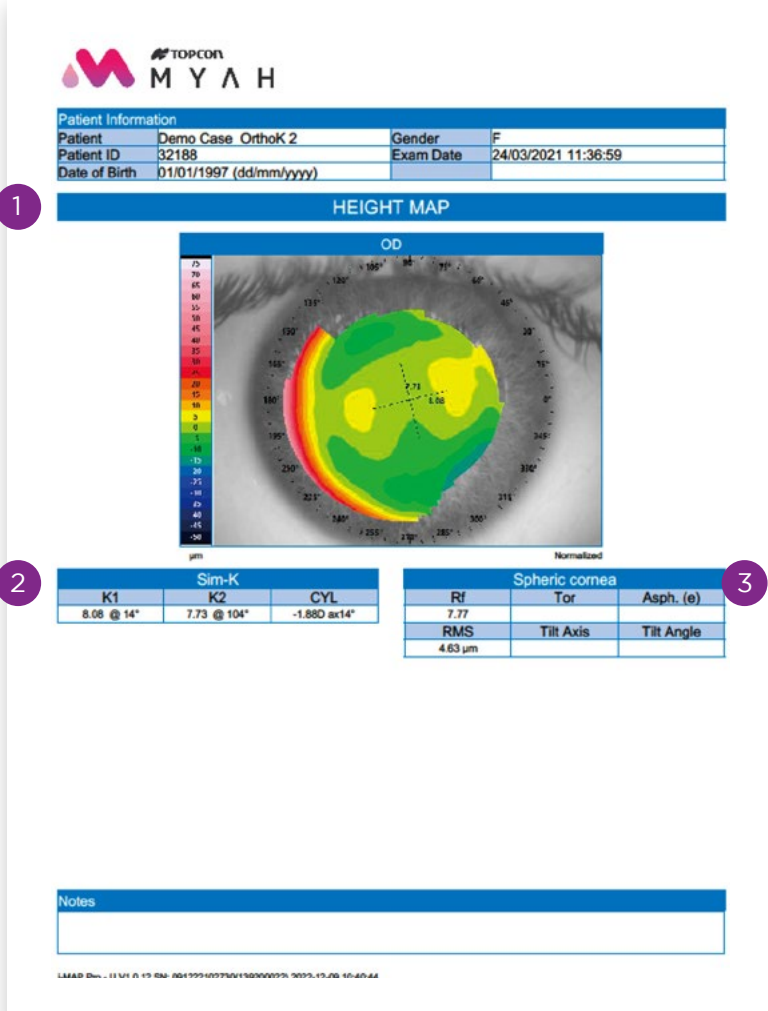
Corneal Topography Bilateral Report



Corneal Elevation Report

Compare the cornea’s shape with a reference surface.

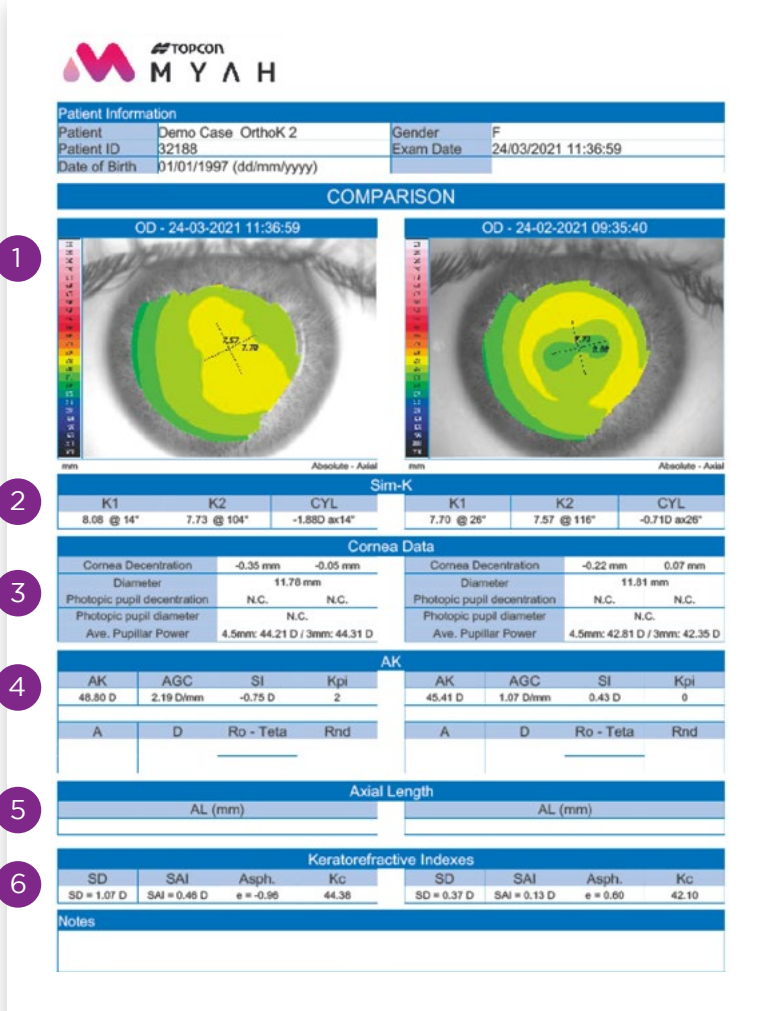
- 1 **Map view display:**
Corneal curvature depicted in color scale
- 2 **Sim-K values**
- 3 **Corneal Sphericity (labeled Spheric, Aspheric, or Asphero-Toric cornea:**
Compare elevation relative to a reference surface
 - Rf: Radius of curvature of a reference sphere
 - Tor: Toricity of a reference surface
 - Asph. (e): Asphericity of reference surface
 - RMS (Root Mean Square): Describes deviation in the regularity of the captured corneal profile relative to a reference surface
 - Tilt Axis and Tilt Angle: the axis and angle used to obtain the best fit/ alignment of the corneal profile relative to the reference surface



Topography Comparison Report

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

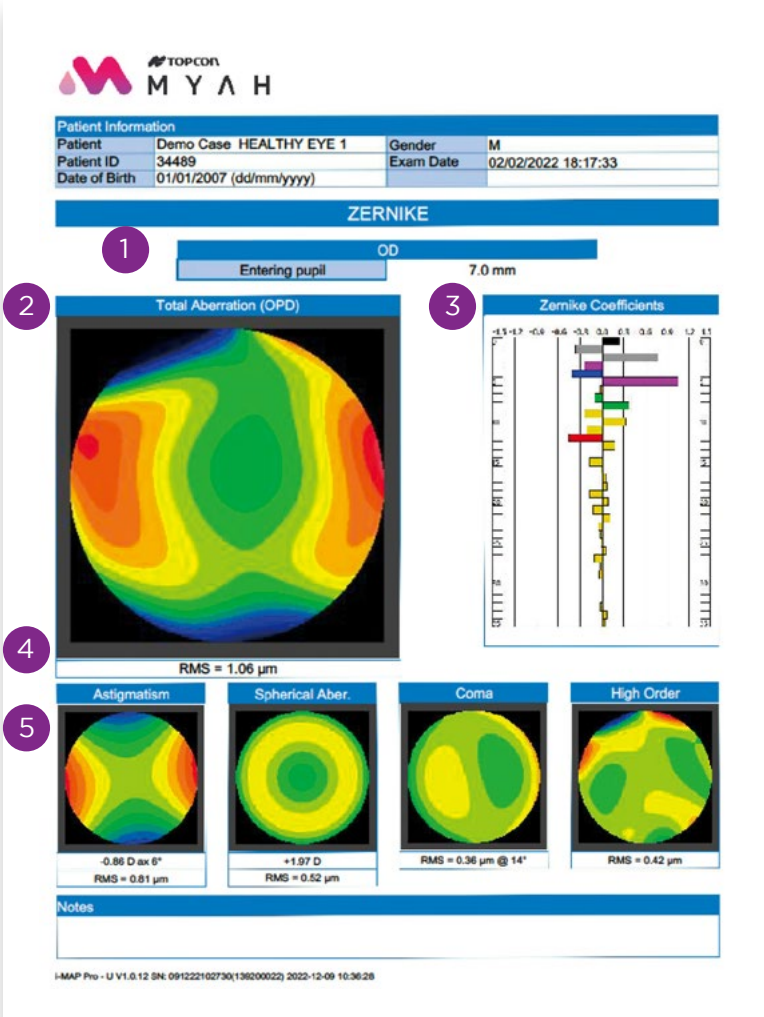
- 1 Laterality (eye), Date, and Time for each image captured
- 2 Comparison of Sim-K and corneal astigmatism values
- 3 Cornea Data comparison
- 4 Comparison of corneal indices
- 5 Comparison of axial length
- 6 Comparison of Keratorefractive Indexes



Corneal Aberrometry Report

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

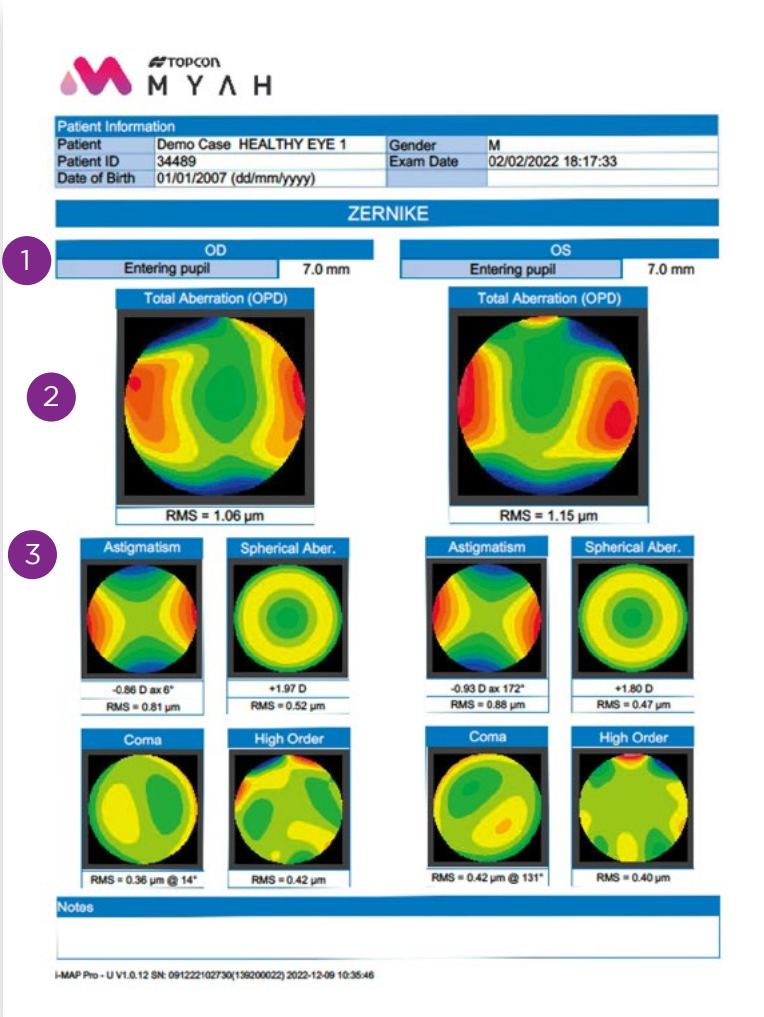
- 1 **Entering pupil size:**
pre-set pupil diameter at which corneal aberrations were calculated (can be changed from default to assess impact of pupil size on corneal aberrations)
- 2 **Total aberration (OPD):**
corneal wavefront aberration profile map. Represents the total, or sum, of all aberration components shown on the right
- 3 **Zernike Coefficients graph:**
color-coded histogram – 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:**
value used to summarize the overall magnitude of optical aberrations in the cornea (higher value = more aberrations)
- 5 **Aberration maps and RMS values:**
Shows the anterior corneal wavefront aberration components of: Astigmatism, Spherical Aberration, Coma, and Higher Order Aberrations over a selected pupil size, as well as the RMS value for each component



Corneal Aberrometry Bilateral Report

Compare corneal aberrometry between right and left eyes.

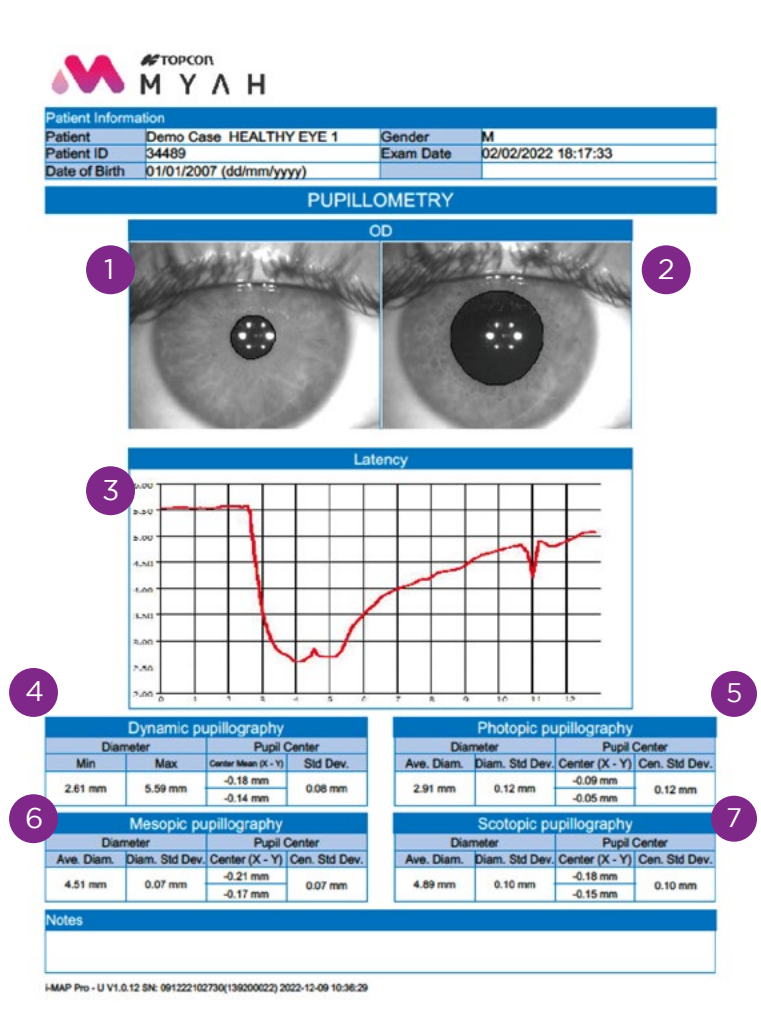
- 1 **Entering pupil size:**
displays the pupil size selected for wavefront analysis captured below
- 2 **Total aberration (OPD):**
composite display of all wavefront aberrations across the selected entering pupil size
- 3 Comparison of each type of corneal aberration with corresponding Root Mean Square (RMS) values:
- 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



Pupillometry Report

Analyze the characteristics of dynamic and static pupillometry.

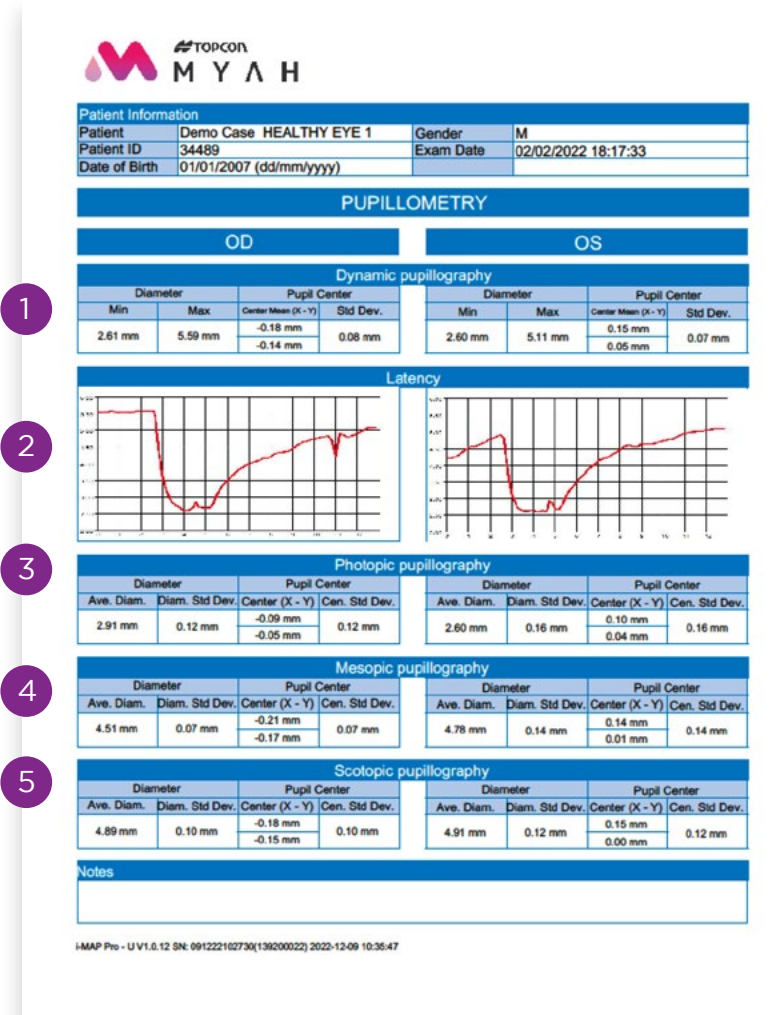
- 1
- Minimum measured pupil size
(measured in photopic conditions)
- 2
- Maximum measured pupil size
(measured in scotopic conditions)
- 3
- Pupil latency graph:**
tracks changes in pupil diameter
over time under variable light
conditions, from scotopic to
photopic, and back to scotopic
- 4
- Dynamic pupillography:**
Analysis of pupil diameter and
decentration relative to the
optical axis measured under
variable light conditions
- 5
- Photopic pupillography:**
pupil characteristics measured
under static, bright conditions
- 6
- Mesopic pupillography:**
pupil characteristics measured
under static, dim conditions
- 7
- Scotopic pupillography:**
pupil characteristics measured
under static, dark conditions



Pupillometry Bilateral Report

Compare the pupil data captured between right and left eyes.

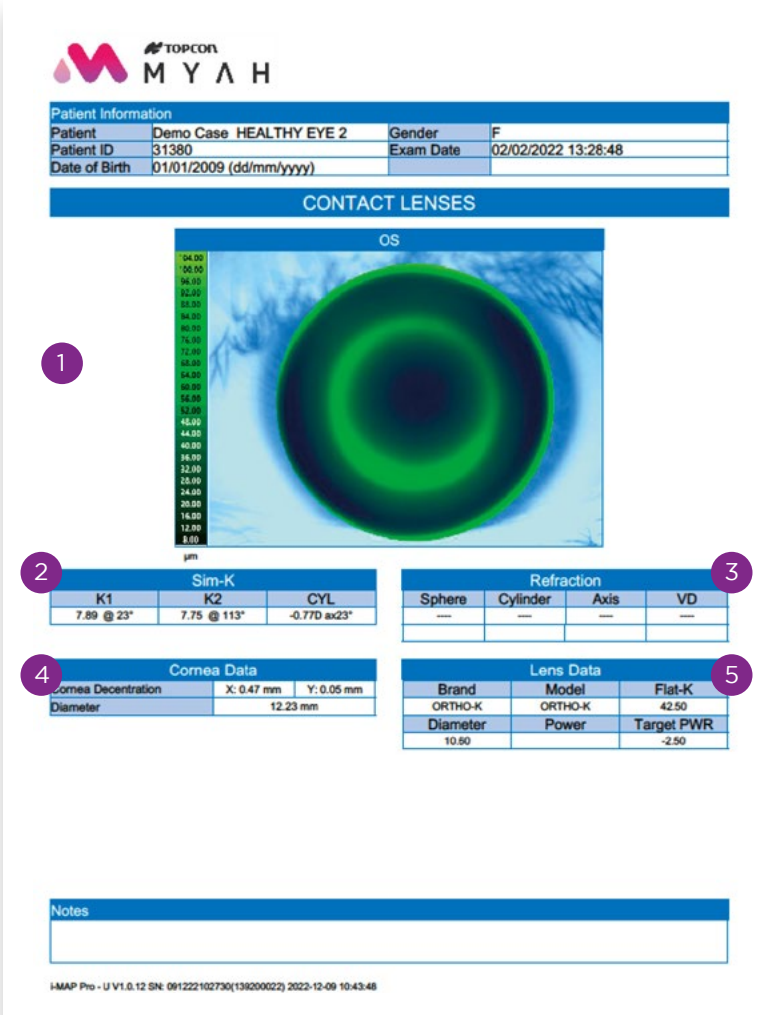
- 1
- Dynamic pupillography,
OD/OS
- 2
- Pupil latency, OD/OS
- 3
- Photopic pupillography
comparison, OD/OS
- 4
- Mesopic pupillography
comparison, OD/OS
- 5
- Scotopic pupillography
comparison, OD/OS
- ⋮
- Dynamic mode:** capture
the pupil response to
varying light conditions
-
- Scotopic mode:** capture
pupil size in darkness
- ☾
- Mesopic mode:** capture
pupil size under nighttime
conditions
- ☀
- Photopic mode:** capture
pupil size under daytime
conditions



Contact Lens Fit Data Report

Summarize pertinent contact lens fit data.

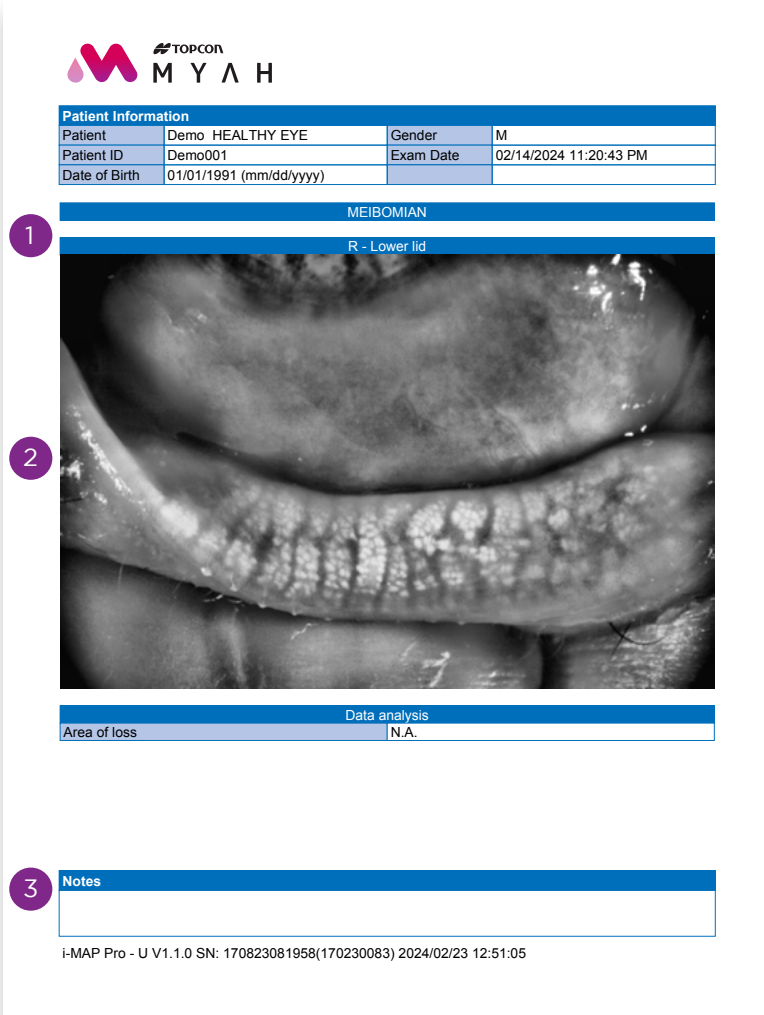
- 1 **Fluorescein simulation map**
- 2 **Sim-K values:**
K1 = flat, K2 = steep,
CYL = corneal astigmatism
- 3 **Refraction:** option to enter
patient's refractive data
- 4 **Cornea Data:**
 - Cornea Decentration:
decentration of the
corneal apex from the
optical axis of eye
 - Diameter: patient
white-to-white (WTW)
or horizontal visible iris
diameter
- 5 **Lens Data: contact lens
characteristics:**
Brand, Model, Diameter,
Power (spherical power
of the manifest refraction
in minus cylinder format),
Flat K (flat sim-K value),
Target Power (vertexed
power at the corneal plane)



Meibomian Gland Imaging Report

Meibomian gland imaging

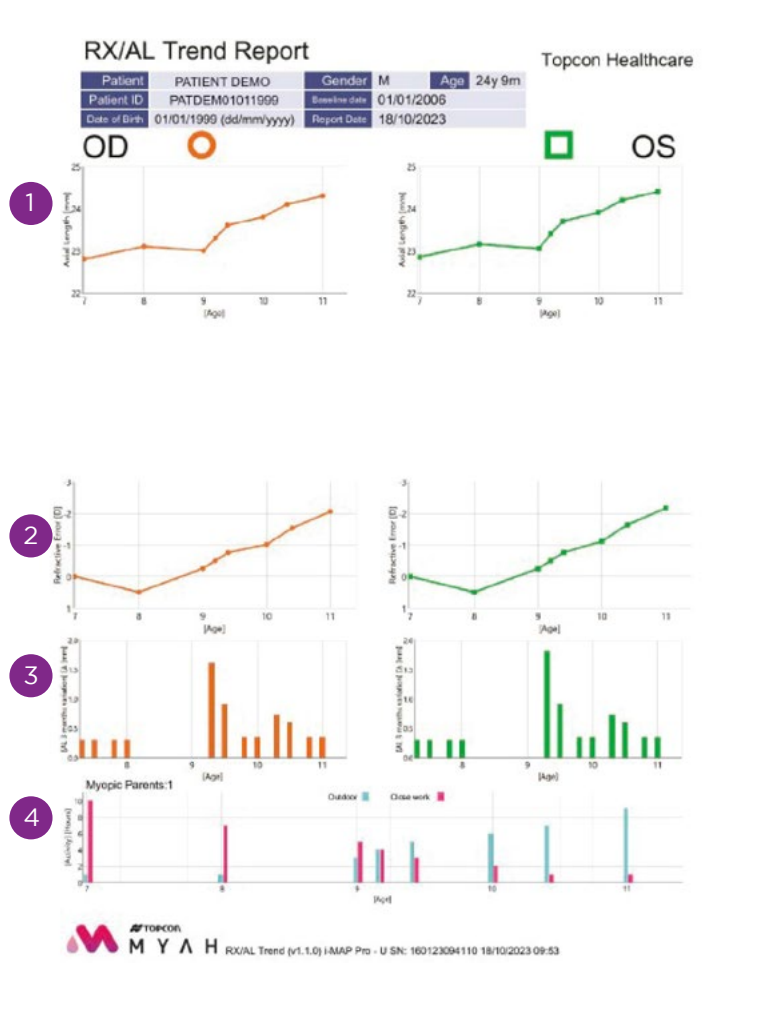
- 1 Laterality and upper/
lower lid designation
- 2 Infrared image of
meibomian glands
- 3 Notes section:
documentation
of quantity and/
or appearance of
meibomian gland
morphology



RX/AL Trend Report

Assess myopia progression and changes in risk factors for myopia over time.

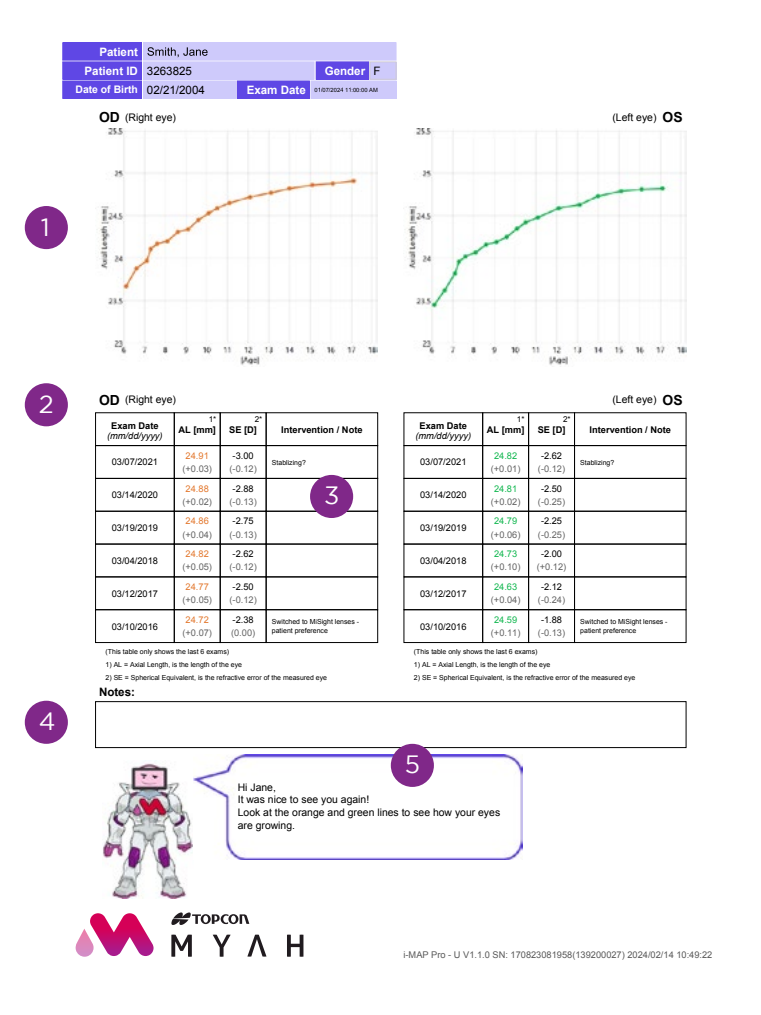
- 1 **Axial Length (mm) vs Age:**
visualize changes in axial length values visit to visit
- 2 **Refractive Error (D) vs Age:**
track prescription change in diopters
- 3 **Axial length variation (mm):**
visualize the variation in axial length over a predefined time period (i.e. 3, 6 month intervals) with age
- 4 **Myopia questionnaire results:**
 - Number of myopic parents
 - Number of hours spent outdoors
 - Number of hours spent on close work



Myopia Progression and Treatment Summary

Track myopia progression and assess efficacy of myopia management interventions.

- 1 **Axial Length (mm) vs Age:**
visualize changes in axial length values visit to visit
- 2 **Exam table:** easily view axial length (AL) and spherical equivalent (SE) power measured from the last 6 visits
- 3 **Intervention/Note:**
review any free-text notes (i.e. used to describe treatment start/stop dates or any side effects from treatment)
- 4 **General notes:** record any instructions or reminders for patients/parents in this take-home report
- 5 Select from a list of customizable messages to print for patient education, including:
 - Default, Ortho-K, Contact Lenses, Eye drops, Spectacles



Corneal Topography

- **Axial map:** Power/curvature with reference to corneal apex. Represents refractive power of cornea
- **Tangential map (instantaneous):** Power/curvature relative to local corneal surface. Represents actual physical shape of the cornea
- **Absolute scale:** Upper and lower limits set to show the maximum measurement range of MYAH (very large step size, shows less detail)
- **Normalized scale:** Upper and lower limits are set to show the range measured by the MYAH for a particular patient’s cornea (small, adjustable step size, shows finer detail)
- **Sim-K:** Simulated keratometry measurements characterizing corneal curvatures in the central 3-mm area
- **AK (Apical keratometry):** AK shows the curvature at the corneal apex
- **AGC (Apical gradient of curvature):** AGC shows the average rate of change of curvature moving away from the cone apex
- **SI (Superior/inferior asymmetry):** SI shows the asymmetry of curvature between matched locations in the superior and inferior cornea
- **SD:** Expresses the variability of the corneal curvature (curvature irregularity) over a 4.5 mm area
- **SAI (Surface asymmetry index):** Asymmetry between the flattest and steepest hemispheres over 4.5 mm
- **Asph. (asphericity):** Describes how the corneal shape differs from a spherical surface. Asphericity can be changed in the settings to be expressed in terms of e, SF, p, or Q

Aberrometry

- **Corneal aberrations:** optical imperfections of the cornea that cause visual degradation due to light not being able to focus precisely on the retina
- **Zernike Coefficients:** mathematical values used to describe the magnitude and orientation of various optical aberrations
- **RMS value (root mean square):** numerical measure used to quantify corneal aberrations. Lower values of RMS indicate a more regular corneal surface while higher values signify an irregular corneal surface
- **Astigmatism:** blur caused by the inability of a single part of a lens to focus the image of an off-axis point at a single point - occurs when the lens fails to focus line images with different directions in the same plane
- **Spherical aberration:** optical degradation arising from refraction through a spherical surface such that light passing through the periphery of the lens does not converge to the same point as light passing through the central part. Central rays are focused farther away than those passing through the periphery
- **Coma:** blur created when rays from an off-axis object are imaged by different parts of a refracting surface, resulting in smearing of a point into a comet shape
- **High order aberrations:** optical irregularities that cannot be corrected by simple refractive (i.e. sphere and cylinder) corrections

Pupillometry

- **Pupil Center Mean (X-Y):** Horizontal and vertical decentration of the pupil center with respect to the optical axis
- **Pupil Center Std. Dev.:** standard deviation of the measured pupil center

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