NIDEK

Optical Biometer

AL-Scan M

THE ART OF EYE CARE

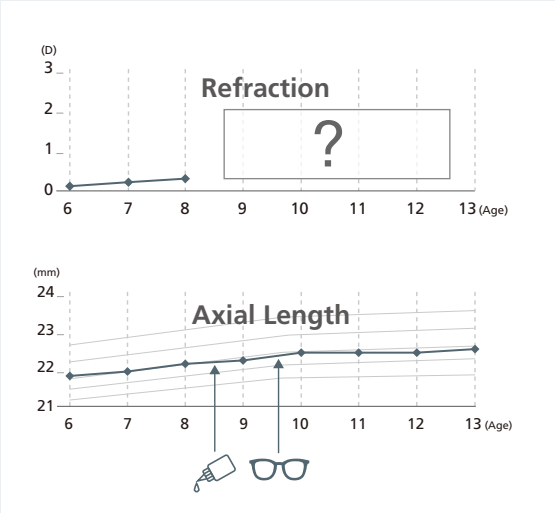
Monitoring **Axial Length** is the most reliable path to success in **Myopia Management.**

What refraction misses, axial length measures.

Accurate data enables timely and effective care — and builds patient trust.

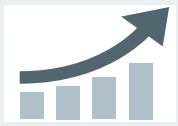
How much do you trust auto refractometer results in children?
According to Rauscher et al. (2019)[*1], the repeatability (95%) of the spherical equivalent for non-cycloplegic autorefraction is ±1.49 D, while under cycloplegia, it is ±0.50 D in children's eyes. Although the benefits of cycloplegia are well established, it carries some risks of side effects, and the wait times for dilation can affect clinic workflow, limiting routine use.

However, axial length is a non-invasive and more sensitive parameter — **our optical biometer measures with a precision of ±0.05 mm, offering nearly four times the accuracy of cycloplegic autorefraction.** This enables the detection of subtle myopic changes that autorefraction may miss, leading to timely, appropriate intervention and management. This data-driven consultation builds confidence in both patients and practitioners — supporting better long-term visual outcomes for children.



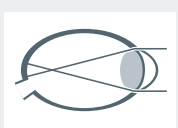
Why Myopia Management now?

The increasing prevalence of myopia especially among young children is becoming a significant global health concern. Managing myopia or myopic progression can reduce the risk of severe vision loss and increase the long-term quality of life for these patients.



Experts predict that by 2050, up to 50% of the world's population will have myopia.[*2]

The rise in near work due to the prevalence of digital devices in daily life increases the risk of myopia and/or myopic progression.



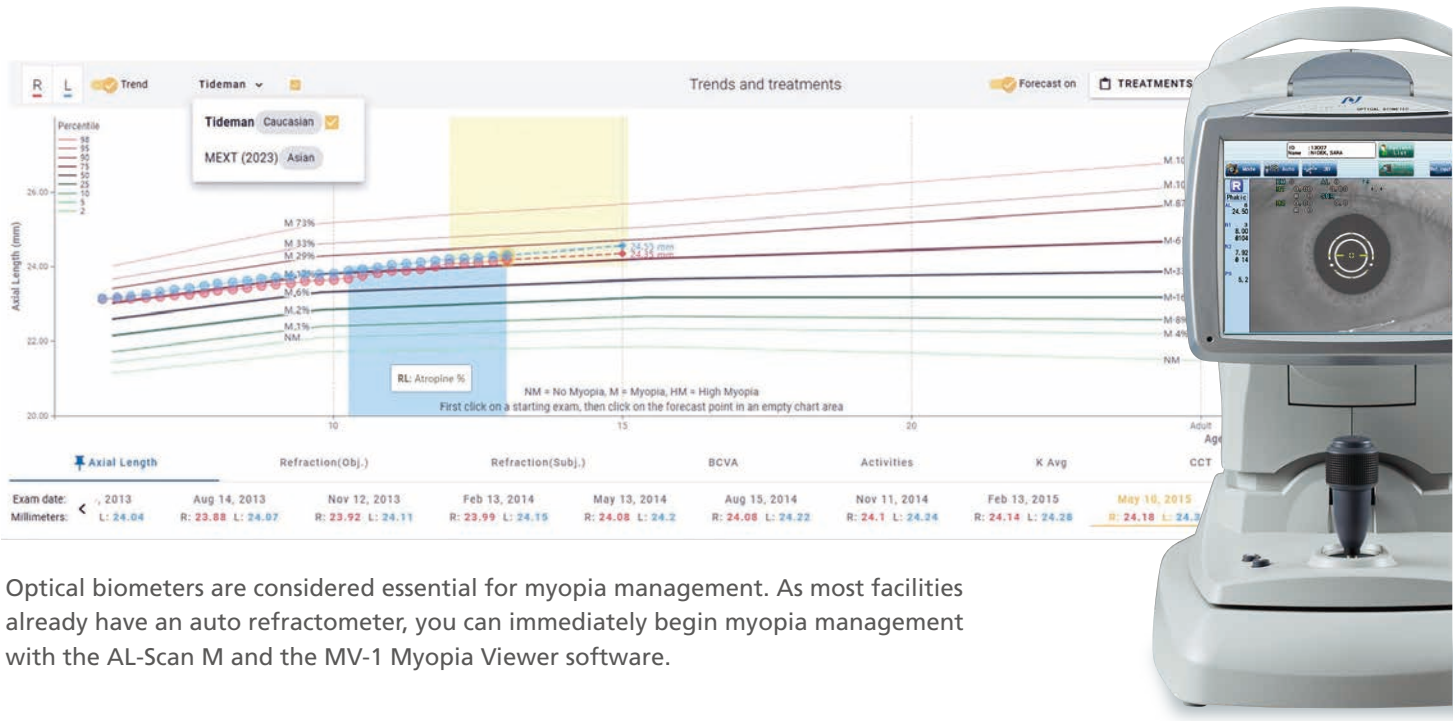
Progression to high myopia increases the risk of retinal detachment, glaucoma, and other ocular pathologies that may limit visual potential or lead to blindness.

*1 Rauscher FG, Lange H, Yahiaoui-Doktor M, et al. Agreement and Repeatability of Noncycloplegic and Cycloplegic Wavefront-based Autorefraction in Children. *Optom Vis Sci.* 2019;96(11):879-889. doi:10.1097/OPX.0000000000001444

*2 Holden BA, Fricke TR, Wilson DA, et al. Global Prevalence of Myopia and High Myopia and Temporal Trends from 2000 through 2050.*Ophthalmology*. 2016;123(5):1036-1042. doi:10.1016/j.ophtha.2016.01.006

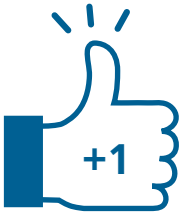
AL-Scan M

The First Piece for Myopia Management, The Key Piece for Success

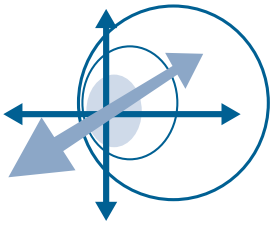


Optical biometers are considered essential for myopia management. As most facilities already have an auto refractometer, you can immediately begin myopia management with the AL-Scan M and the MV-1 Myopia Viewer software.

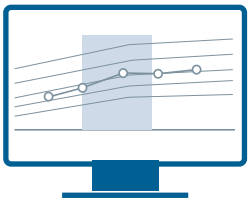
What differentiates the AL-Scan M + MV-1?



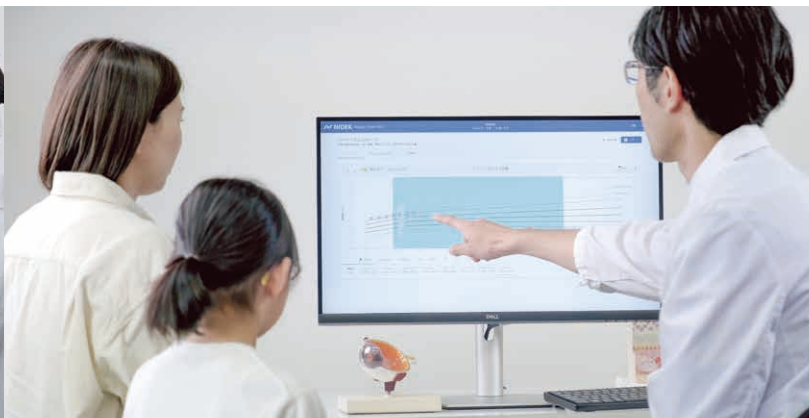
Simply add it to your practice and your platform is ready for Myopia Management.



Easy. Quick. Accurate.



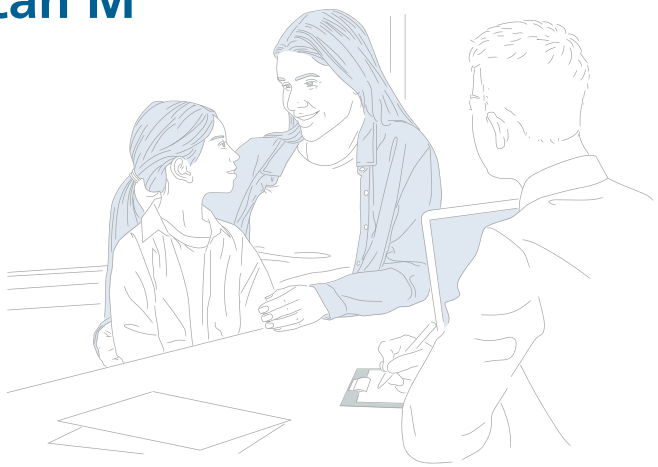
Visualize progression and treatment outcomes.



Operation flow with the AL-Scan M

1 Patient and parent history taking

An operator can create a patient card with the MV-1 Myopia Viewer software by entering items such as presence of parental myopia as it can be a risk factor for myopia in children.

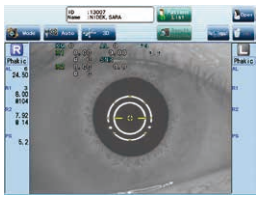


2 Measurement with the AL-Scan M

A simple 3-step process:

I Rough alignment with the joystick

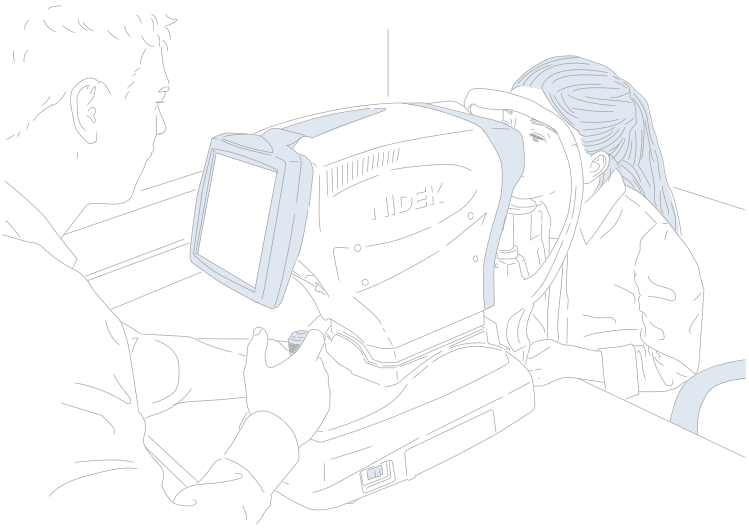
II 3D auto tracking and auto shot



✓ Non-contact and quick measurement

III Measurement result display and check

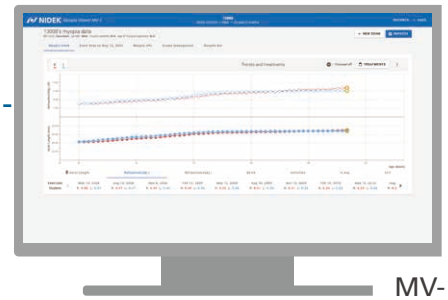
The operator can save and transfer the result into the MV-1 by clicking one button.



Check out the easy and quick measurement procedure with the AL-Scan M.

3 Data integration with the MV-1

Data integration between the AL-Scan M and the MV-1 is simple:
After measurement, the operator can integrate the result with the patient list on the MV-1.
If a NIDEK auto refractometer and refractor are connected, the MV-1 can receive the objective and subjective refraction data seamlessly.
Alternatively, refraction data can be manually entered.

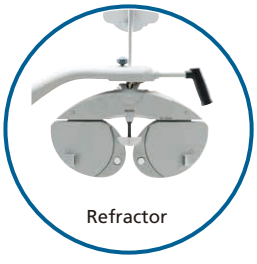


MV-1

Auto Refractometer

Ref (Obj.)

BCVA



Refractor

Ref (Subj.)

BCVA

AL-Scan M

AL

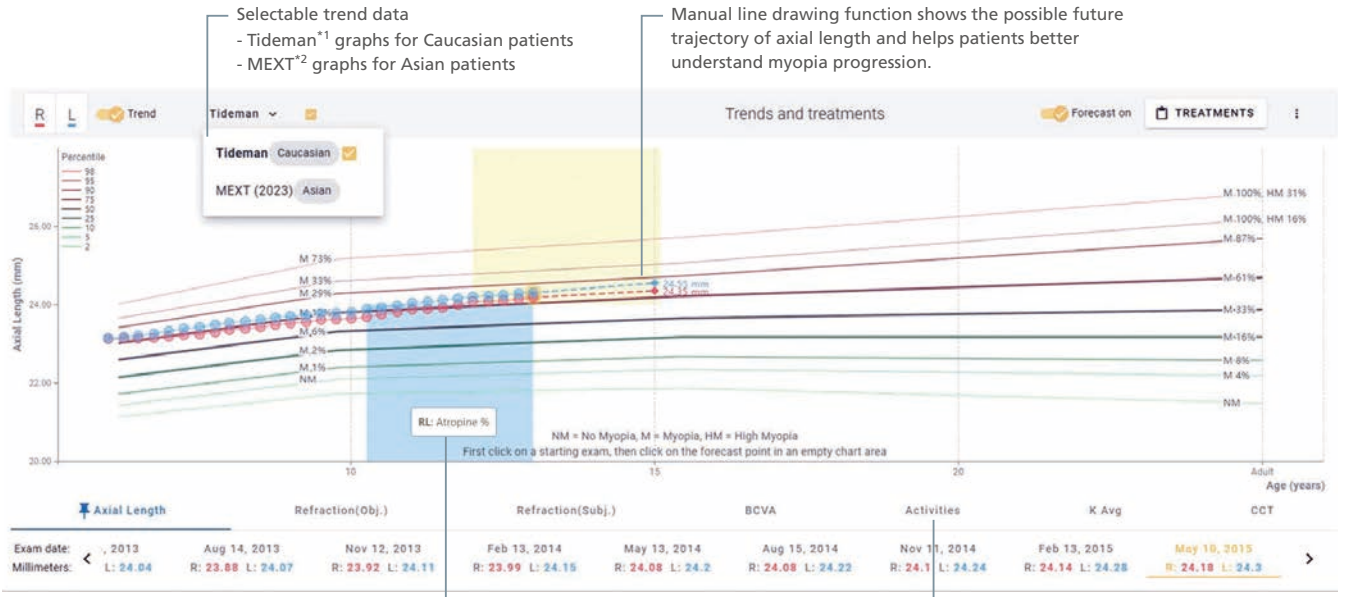
K

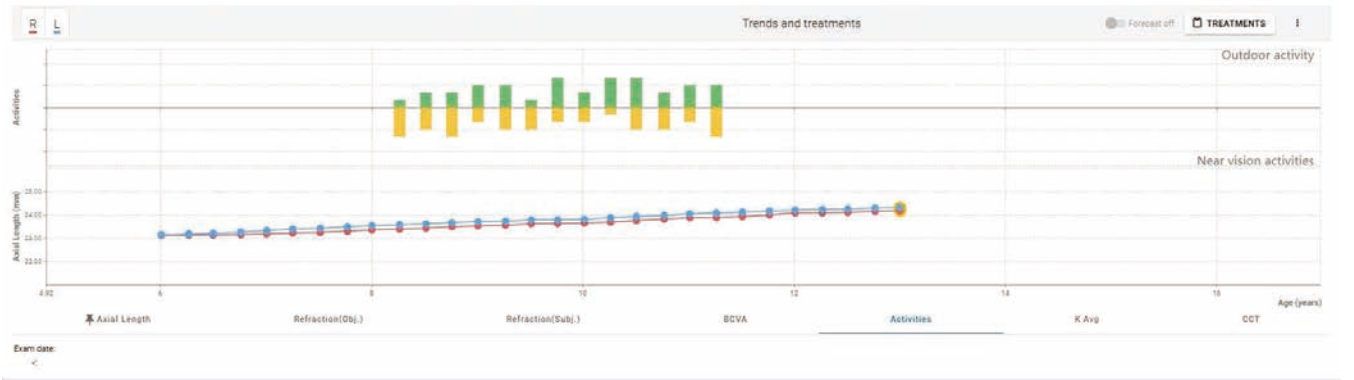
PS

4 Patient education

The MV-1 visualizes the progression and treatment outcomes by combining axial length data with other key metrics such as refraction and the amount of outdoor and near vision activities. It helps clinicians educate patients and their parents about the level of myopia and facilitates discussions on treatment options for myopia management.

Key features of the MV-1
- Monitoring the progression of axial length
- Comparison with age-based growth curves
- Manual line drawing function
- Treatment record
- Refraction data
- The amount of outdoor/near vision activities

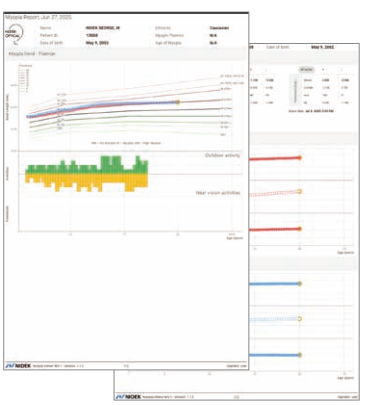




Activities + axial length display

5 Follow up

A take-home Myopia Report can allow patients to follow their results over time. This report will facilitate a better understanding of why they need treatments and to make lifestyle changes as necessary.



Myopia Report

*1 Tideman JWL, Polling JR, Vingerling JR, et al. Axial length growth and the risk of developing myopia in European children. *Acta Ophthalmol.* 2018;96(3):301-309. doi:10.1111/aos.13603
*2 Ministry of Education, Culture, Sports, Science, and Technology (MEXT) in Japan

AL-Scan M Specifications

Optical measurement		
Axial length	Measurement range	14 to 40 mm
	Display increments	0.01 mm
	Measurement accuracy	±0.05 mm
	Measurement method	Low-coherence interferometry (LCI)
Corneal curvature radius	Measurement range	5.00 to 13.00 mm
	Display increments	0.01 mm
	Measurement accuracy	±0.05 mm
Pupil size	Measurement range	1 to 10 mm
	Display increments	0.1 mm
	Measurement accuracy	±0.2 mm
Auto tracking	X-Y-Z directions	
Auto shot	Available	
Display	Tiltable 8.4-inch color LCD touch screen	
Printer	Thermal line printer with automatic paper cutter	
Interface	LAN, USB	
Power supply	100 to 240 V AC, 50/60 Hz	
Power consumption	100 VA	
Dimensions/mass	283 (W) x 504 (D) x 457 (H) mm / 21 kg 11.1 (W) x 19.8 (D) x 18.0 (H)" / 46 lbs.	

Myopia Viewer MV-1[*1]

System requirements	
Operating system	Windows 10 Pro 1607 or later (64 bit) Windows 11 Pro Windows Server 2016 Standard (64 bit) Windows Server 2019 Standard (64 bit) Windows Server 2022 (64 bit)
Display	1,280 x 768 or higher
Connectable devices that transmit refraction data and BCVA[*2]	TONOREF III, TONOREF II ARK-1s, ARK-1a, ARK-1, ARK-F AR-1s, AR-1a, AR-1, AR-F ARK-560A, ARK-530A, ARK-510A AR-360A, AR-330A, AR-310A HandyRef-K, HandyRef RT-6100, RT-5100[*3], RT-3100[*3] TS-610, TS-310[*3]

*1 A license is required for use of the MV-1. A license is included with the AL-Scan M.
*2 Available for the ARK-1s, AR-1s, ARK-560A, AR-360A, RT-6100, RT-5100, RT-3100, TS-610, and TS-310
*3 The MEM-200 Memory Box is required to connect the MV-1 with the RT-5100, RT-3100, and/or TS-310.

Product/model name: OPTICAL BIOMETER AL-Scan
Brochure and listed features of the device are intended for non-US practitioners.
The availability of products differs from country to country depending on the status of approval.
Specifications may vary depending on circumstances in each country.
Specifications and design are subject to change without notice.

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