

Myopia Management

What, why and how



Why is myopia management important

Myopia on the rise

2020

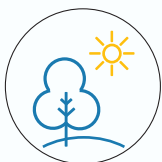
Myopia affects about
30% of the global population

2050

Myopia will affect about
50% of the global population

And high myopia about
10% of the global population

Risk factors



Less than 80 minutes a day outside.

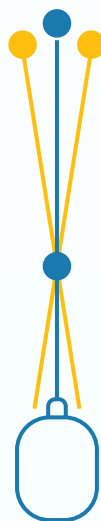


Higher education and/or increased near work



Parental myopia and East Asian ethnicity.

Binocular vision

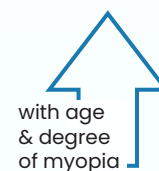


The link with myopia development is unclear

Important to optimize BV to provide single clear vision

Myopia and risk of pathology

Pathologic myopia affects: 50 - 70% of people with high myopia



Every diopter of myopia or millimeter of axial length progression matters.

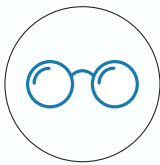
The increased odds of a 60yo myope developing one of the following ocular disease versus an emmetrope:

Eye Disease	>-3.00	>-6.00	≤-6.00
Myopia Maculopathy	13.6	72.7	845.1
Retinal Detachment	3.2	8.7	12.6
PSC Cataract	1.6	2.6	4.6
Glaucoma	1.6	2.9	-

Management options

Basics

Don't under-correct



Has no benefit / increase myopia progression.

Increase time outdoors



At least 80 to 120 minutes outside daily.

Limit continuous near time



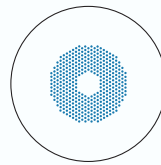
Encourage frequent breaks: 20-20-20 rule.

Ensure good lighting



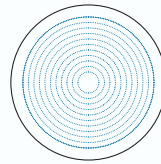
Maximize both indoor and natural lighting.

Spectacle lenses



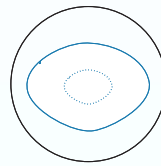
DIMS

Δ SE: 0.44 D (52%)
 Δ AL: 0.34 mm (62%)
Duration: 2 yrs



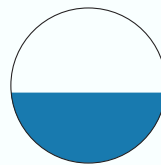
HAL

Δ SE: 0.80 D (55%)
 Δ AL: 0.35 mm (51%)
Duration: 2 yrs



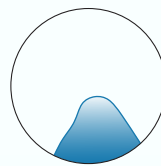
Peripheral Defocus

Δ SE: 0.04 D (3%)
 Δ AL: 0.04 mm (5%)
Duration: 2 yrs



Prism Bifocal

Δ SE: 1.05 D (51%)
 Δ AL: 0.28 mm (34%)
Duration: 3 yrs

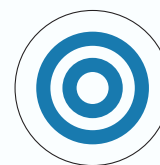


Progressive Addition

Δ SE: 0.14 D (24%)
 Δ AL: 0.04 mm (28%)
Duration: 2 yrs

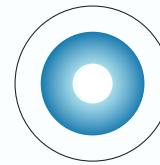
Contact lenses

Soft Contact Lenses



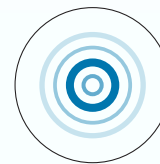
Dual Focus

Δ SE: 0.73 D (59%)
 Δ AL: 0.32 mm (52%)
Duration: 3 yrs



Center Distance

Δ SE: 0.46 D (44%)
 Δ AL: 0.23 mm (35%)
Duration: 3 yrs



Extended DOF

Δ SE: 0.37 D (32%)
 Δ AL: 0.15 mm (25%)
Duration: 2 yrs

Overnight Contact Lenses



Orthokeratology

Δ AL: 0.27 mm (45%)
Duration: 2 yrs

Pharmaceuticals

Atropine (LAMP Study)



Atropine 0.01%

Δ SE: 1.12 D
 Δ AL: 0.59 mm
Duration: 2 yrs



Atropine 0.025%

Δ SE: 0.85 D
 Δ AL: 0.50 mm
Duration: 2 yrs



Atropine 0.05%

Δ SE: 0.55 D
 Δ AL: 0.39 mm
Duration: 2 yrs

For the second year of this study, all the participants in the control group where switched to also receive 0.05% atropine. Therefore, no control-compared efficacy data are available.

Δ = total average progression in SE and AL over the full duration of the study
SE = spherical equivalent
AL = axial length