# A clear look at your child's vision: today and in the future



BRILLIANT OF FUTURES



# What is myopia?

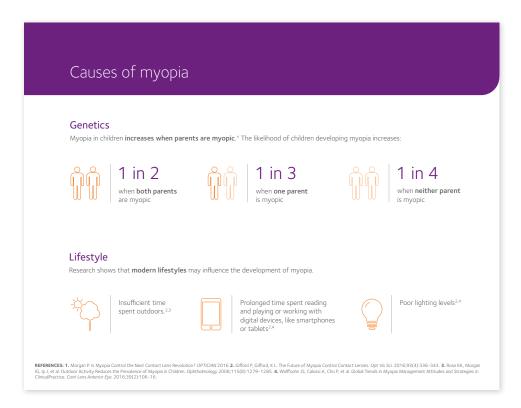


- Myopia is the common eye condition often referred to as nearsightedness. It causes distance vision to become blurry.
- Myopia typically occurs during childhood when eyeballs are growing, meaning the distance between the front of the eye and the lightsensitive part at the back of the eye called the retina becomes longer.
- Blurry vision due to myopia is the result of light rays focusing at a point in front of the retina rather than directly on the surface.<sup>1</sup>
- Myopia can worsen over time and/or worsen if appropriate interventions are delayed.<sup>2</sup>

Research on reducing the progression of myopia has been promising in recent years.<sup>3</sup>

**REFERENCES: 1.** Mayo Clinic. Nearsightedness. Retrieved October 30, 2019 from: https://www.mayoclinic.org/diseases-conditions/nearsightedness/symptoms-causes/syc-20375556. **2.** Ocular Surgery News: Concern for Myopia Progression Increases with Alarming Rise in Global Prevalence. Retrieved October 29, 2019 from https://www.healio.com/ophthalmology/ refractive-surgery/news/print/ocular-surgery-news/%7B29f338a6-0029-4b91-95cd-b7918481de79%7D/concern-for-myopia-progression-increases-with-alarming-rise-in-global-prevalence. **3.** Chamberlain P, et al. A 3-year Randomized Clinical Trial of MiSight Lenses for Myopia Control. *Optom Vis Sci.* 2019;96(8):556–567.

# Causes of myopia



Myopia is becoming more common and can be attributed to genetic and/or lifestyle factors.<sup>1</sup>

### Genetics

- · Family history affects a child's risk of myopia.
- If neither parent is myopic, the chance the child will develop myopia is about 1 out of 4.<sup>2</sup>
- If one parent is myopic, it increases the child's chance of developing myopia by 3x.<sup>2</sup>
- If both parents are myopic, the risk doubles to  $6x.^2$

### Lifestyle

- Reduced time spent outdoors, vitamin D intake, and dopamine levels increase the likelihood of being myopic.<sup>2,3</sup>
- Increased amount of time spent on computer screens, phones, video games, and other electronic devices may also increase the risk of myopia.<sup>2,4</sup>
- Time spent in poor lighting can also increase the risk of developing myopia.<sup>2,4</sup>

**REFERENCES: 1.** Holden BA, Fricke TR, Wilson DA, et al. Global Prevalence of Myopia and High Myopia and Temporal Trends from 2000 through 2050. *Ophthalmology*. 2016;123:1036-42. **2.** Gifford P, Gifford, KL. The Future of Myopia Control Contact Lenses. *Opt Vis Sci*. 2016;93(4):336-343. **3.** Rose KA, Morgan IG, Ip J, et al. Outdoor Activity Reduces the Prevalence of Myopia in Children. *Ophthalmology*. 2008;115(8):1279-1285. **4.** Wolffsohn JS, Calossi A, Cho P, et al. Global Trends in Myopia Management Attitudes and Strategies in ClinicalPractice. *Cont Lens Anterior Eye*. 2016;39(2):106-16.

# Myopia is becoming more widespread and more severe than ever<sup>1,2</sup>

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- In the early 1970s, only 25% of Americans were nearsighted.<sup>3</sup>
- Today, more than 40% of Americans are myopic, and that number is increasing at an alarming rate, especially among school-age children.<sup>1,3</sup>
- By 2050, 58% of the North American population is predicted to be myopic.<sup>2</sup>
- The prevalence of high myopia is also on the rise, indicating that myopia is becoming more severe.<sup>2</sup>
- One in four parents have a child with myopia, and about three-quarters of children with myopia were diagnosed between the ages of 3 and 12.<sup>4</sup>
- As children grow, their myopia may progress, resulting in a stronger prescription to see distant objects clearly. Myopic progression generally stabilizes when the child reaches early adulthood.
- Among some populations, such as Asian and Indian children, the incidence is likely to be even higher, in line with the incidence in those countries.<sup>2</sup>

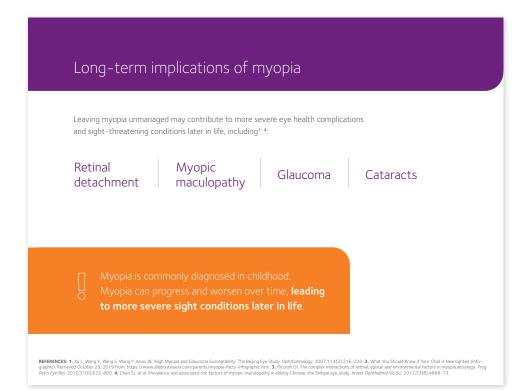
**REFERENCES: 1.** Cooper, Y. (2019, May 1). With Childhood Myopia Rates on the Rise, the American Optometric Association Highlights the Importance of Early Intervention through Annual Eye Exams. Retrieved from https:// www.aoa.org/newsroom/myopia-rates-on-the-rise-syvm. **2.** Holden BA, Fricke TR, Wilson DA, Jong M, Naidoo KS, Sankaridurg P, Wong TY, Naduvilath TJ, Resnikoff S, Global Prevalence of Myopia and High Myopia and Temporal Trends from 2000 through 2050, *Ophthalmology*, 2016 123(5):1036-1042. **3.** What You Should Know if Your Child is Nearsighted (Infographic). Retrieved October 29, 2019 from: https://www.allaboutvision.com/parents/ myopia-facts-infographic.htm. **4.** Myopia: 2018 American Eye-Q Research. (2018, December 20). Retrieved October 2, 2019, from https://www.aoa.org/patients-and-public/eye-and-vision-problems/glossary-of-eye-and-vision-conditions/myopia/myopia-research.

# 01

# Introduction to myopia management



### Long-term implications of myopia



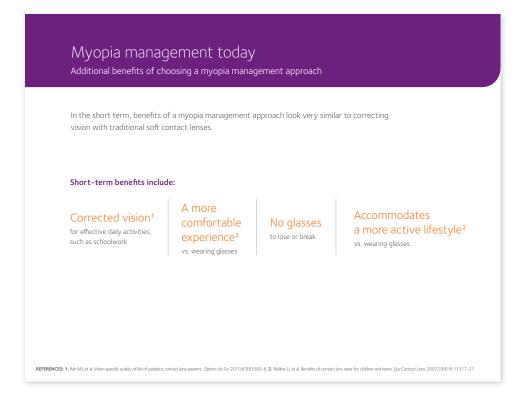
Leaving myopia unaddressed may contribute to more severe sight-threatening complications later in life, including<sup>1</sup>:

- Retinal detachment The risk of retinal detachment is anywhere from 3–20x greater compared to people without myopia, depending on the level of myopia.<sup>2</sup>
- Myopic maculopathy Myopic maculopathy can result in vision loss earlier in life than glaucoma or retinopathies.<sup>3</sup>
- Glaucoma Studies show myopic people have a 2-3x greater risk of developing glaucoma than nonmyopics.<sup>4</sup> Glaucoma can lead to permanent loss of vision in the affected eye(s).<sup>4</sup>
- Cataracts Though cataracts can affect anyone as they age, they often develop sooner in those who are myopic.<sup>4</sup>

**REFERENCES: 1.** Xu L, Wang Y, Wang S, Wang Y Jonas JB. 'High Myopia and Glaucoma Susceptibility: The Beijing Eye Study. *Ophthalmology*, 2007;114(2):216-220. **2.** Flitcroft DI. The complex interactions of retinal, optical and environmental factors in myopia aetiology. *Prog Retin Eye Res.* 2012;31(6):622-660. **3.** Chen SJ, et al. Prevalence and associated risk factors of myopic maculopathy in elderly Chinese: the Shihpai eye study. *Invest Ophthalmol Vis Sci.* 2012;53(8):4868-73. **4.** What You Should Know if Your Child is Nearsighted (Infographic). Retrieved October 29, 2019 from: https://www.allaboutvision.com/parents/myopia-facts-infographic.htm.

### Myopia management today

Additional benefits of choosing a myopia management approach



- Myopia management with contact lenses provides the opportunity for clear vision and the potential to slow progression of the axial length of the eye.<sup>1</sup>
- This method is easy to adopt and has been clinically proven to slow the progression of myopia<sup>\*</sup> and improve quality of life.<sup>1,2</sup>
- We have a small window of opportunity to help minimize some of these changes.
- Starting myopia management early is important to help keep prescription strength (and importantly, axial length) more steady, which helps to reduce future risks.<sup>1</sup>
- In the short term, the benefits are much the same as with traditional contact lenses, such as:
  - Immediate vision correction
  - A more comfortable appearance vs. wearing glasses
  - No glasses to lose or break
  - No peripheral vision impediment (from frames) vs. wearing glasses

\*Children aged 8-12 at the initiation of treatment.

**REFERENCES: 1.** Chamberlain P, et al. A 3-year Randomized Clinical Trial of MiSight Lenses for Myopia Control. *Optom Vis Sci.* 2019;96(8):556–567. **2.** Rah MJ, et al. Vision specific quality of life of pediatric contact lens wearers. *Optom Vis Sci.* 2010;87(8):560–6.

### Myopia management today – for the future

Long-term benefits of choosing a myopia management approach

Myopia management today – for the future Long-term benefits of choosing a myopia management approach

For children who begin a myopia management program between 8 and 12 years of age, their vision will not only be corrected today, but **the progression of myopia over the child's growing years may be slowed, potentially minimizing the long-term impact of myopia**.

### Benefits include all of the short-term advantages, plus:

Impact

over eyeball development and elongation<sup>1</sup> Slowing

of worsening nearsightedness<sup>1</sup>

### Potential reduction

in the complications that are more frequent in nearsighted patients, like retinal detachment, glaucoma, and cataracts<sup>2-5</sup>

REFERENCES: 1. Chamberlain P. et al. A 3-year. Randomized Clinical Trial of MSight Lenses for Myopia Control. Optom Vis Sci 2019;96(8):556–567. 2. Xu I, Viking Y, Wang S, Wang Y, Jonss IB. High Myopia and Glaucoma Succeptibility: The Beijing Eye Study. Ophthalmology. 2007;114(2):216–220. 3. Macular Society. Myopia. Parthological Myopia and Sci 2017;32(3):488–567. 2. Xu I, Viking Y, Wang S, Wang Y, Jonss IB. High Myopia and Glaucoma Gray/stee, (Metal, Mielerscource/Mucadard/Society/Ki/Ophical/Stoches/Ki/Ophical/Datageration/Stoches/Wice/Clinical/Sci 4. Ricercho IT. Hoe complex interactions of entimal ortical and environmental factors in myopia aetology. Prog Retin Eye Res. 2012;31(6):622–660. 5. Chen SI, et al. Prevalence and associated risk factors of myopic maculopathy in elderly Cliniese: the Shihpai eye study. Invest Ophthalmol Vis Sci 2012;53(8):4686–73.

- While the short-term benefits of a myopia management program are similar to correcting vision with a traditional contact lens, the long-term benefits are where the program really shines.
- It is important to begin a myopia management program early to see maximum long-term benefits.<sup>1</sup>
- For those who begin during this window and follow the protocol, the program may help to influence the way the eye develops.<sup>1</sup> We have more control over how the length of the eye changes – and that can mean lower prescriptions than the patient would otherwise have later in life.
- This could even mean that the risk of some of the long-term implications such as retinal detachment, glaucoma, and cataracts are reduced, since these risks are higher when myopia is more severe.<sup>2-5</sup>

**REFERENCES: 1.** Chamberlain P, et al. A 3-year Randomized Clinical Trial of MiSight Lenses for Myopia Control. *Optom Vis Sci.* 2019;96(8):556–567. **2.** Xu L, Wang Y, Wang S, Wang Y, Jonas JB, High Myopia and Glaucoma Susceptibility: The Beijing Eye Study *Ophthalmology*, 2007;114(2):216-20. **3.** Macular Society. Myopia, Pathological Myopia and Myopic Macular Degeneration. Retrieved October 29, 2019 from: https://www.macularsociety.org/sites/default/files/ resource/Macular%20Society%20Factsheet%20-%20Myopic%20Macular%20Degeneration%202017%20-%20ACCESS.pdf. **4.** Flitcroft DI. The complex interactions of retinal, optical and environmental factors in myopia aetiology. *Prog Retin Eye Res.* 2012;31(6):622-660. **5.** Chen SJ, et al. Prevalence and associated risk factors of myopic maculopathy in elderly Chinese: the Shihpai eye study. *Invest Ophthalmol Vis Sci.* 2012;53(8):4868-73.

# 02

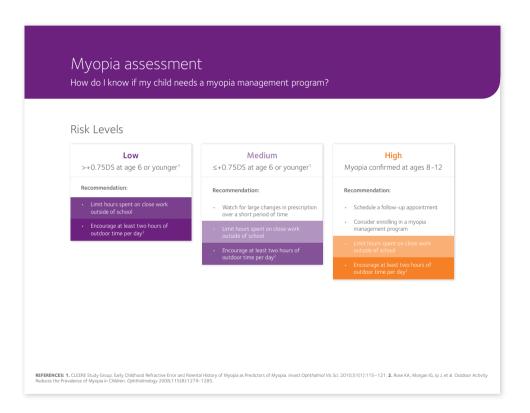
# Myopia assessment chart



ASSESSMENT CHART

### Myopia assessment

How do I know if my child needs a myopia management program?



### Low

· Monitor as required

### Medium

- Monitor frequently
- Watch out for large myopic changes over a short span of time (e.g.,+1.25DS to +0.50DS in 6 months)<sup>2</sup>

### High

- Provide supporting information
- Prescribe glasses with full correction<sup>2</sup>
- Discuss all myopia management options
- Follow up and book myopia management consultation

# 03

# Brilliant Futures™ Myopia Management Program



BRILLIANT FUTURES™ MYOPIA MANAGEMENT PROGRAM

### More than vision correction



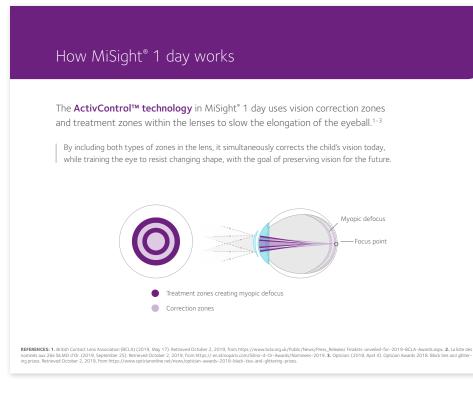
- MiSight<sup>®</sup> 1 day is the first and only FDA-approved<sup>\*</sup> contact lens to slow the progression of myopia in children age 8-12 at the initiation of treatment.<sup>1\*\*</sup>
- Children who have used MiSight<sup>®</sup> 1 day have shown that they were able to achieve full-time wear, were able to handle the lenses confidently, and had a positive response to contact lens wear.<sup>1,2</sup>
- With the right support, the Brilliant Futures<sup>™</sup> Myopia Management Program is easy for children to adopt and comply with. Parents and children found MiSight<sup>®</sup> 1 day to be child-friendly.<sup>1-3</sup>
- Program is priced as a comprehensive annual fee.

\*Indications for use: MiSight® 1 day (omafilcon A) soft (hydrophilic) contact lenses for daily wear are indicated for the correction of myopic ametropia and for slowing the progression of myopia in children with non-diseased eyes, who at the initiation of treatment are 8-12 years of age and have a refraction of -0.75 to -4.00 diopters (spherical equivalent) with  $\leq 0.75$  diopters of astigmatism. The lens is to be discarded after each removal.

\*\*Compared to a single vision 1 day lens over a 3 year period.

**REFERENCES: 1.** Chamberlain P, et al. A 3-year randomized clinical trial of MiSight<sup>®</sup> lenses for myopia control. *Optom Vis Sci.* 2019; 96(8):556-567. **2.** Chamberlain P et al. Parental perspectives on their child wearing daily disposable soft contact lenses in a multicentre clinical study. AAO 2016 Poster Presentation. **3.** Sulley A et al, Wearer experience and subjective responses with dual focus compared to spherical, single vision soft contact lenses in children during a 3-year clinical trial. AAO 2019 Poster Presentation.

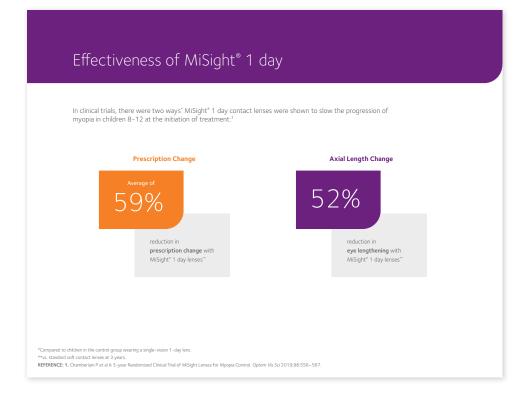
### How MiSight<sup>®</sup> 1 day works



- MiSight<sup>®</sup> 1 day is an award-winning dual-focus soft contact lens that uses ActivControl<sup>™</sup> technology to slow the elongation of the eyeball.<sup>1-3</sup>
- The ActivControl<sup>™</sup> technology in MiSight<sup>®</sup>
  1 day uses alternating vision correction zones and treatment zones, represented by the two different shades of purple in the diagram.
- The lighter purple vision correction zones contain the power of the contact lens to correct the vision and the darker purple treatment zones are the defocus areas to slow the progression of myopia.
- This design allows the child to see clearly, with potential long-term benefits.

**REFERENCES: 1.** British Contact Lens Association (BCLA) (2019, May 17). Retrieved October 2, 2019, from https://www.bcla.org.uk/Public/News/Press\_Release/ Finalists-unveiled-for-2019-BCLA-Awards.aspx. **2.** La liste des nominés aux 26e SILMO d'Or. (2019, September 25). Retrieved October 2, 2019, from https:// en.silmoparis.com/Silmo-d-Or-Awards/Nominees-2019. **3.** Optician. (2018, April 4). Optician Awards 2018: Black ties and glitter-ing prizes. Retrieved October 2, 2019, from https://en.silmoparis.com/Silmo-d-Or-Awards/Nominees-2019. **3.** Optician. (2018, April 4). Optician Awards 2018: Black ties and glitter-ing prizes. Retrieved October 2, 2019, from https://en.silmoparis.com/Silmo-d-Or-Awards/Nominees-2019. **3.** Optician. (2018, April 4). Optician Awards 2018: Black ties and glitter-ing prizes. Retrieved October 2, 2019, from https://en.silmoparis.com/Silmo-d-Or-Awards/Nominees-2019. **3.** Optician. (2018, April 4). Optician Awards 2018: Black ties and glitter-ing prizes. Retrieved October 2, 2019, from https://www.optician-awards-2018-black-ties-and-glittering-prizes.

### Effectiveness of MiSight<sup>®</sup> 1 day



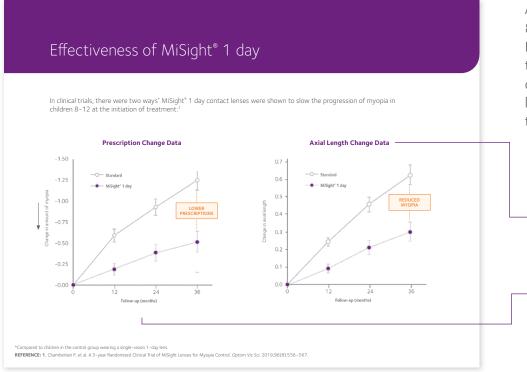
A three-year clinical study was conducted in kids 8-12 years of age at initiation of treatment. Half of the kids wore MiSight<sup>®</sup> 1 day therapeutic soft contact lenses and the other half of the kids wore the same type of soft contact lenses with regular correction rather than the therapeutic rings.

\*Compared to a single vision 1 day lens over a 3-year period.

+Compared to children in the control group wearing a single-vision 1-day lens.

REFERENCE: 1. Chamberlain P et al A 3-year Randomized Clinical Trial of MiSight Lenses for Myopia Control. Optom Vis Sci 2019;96:556–567.

### Effectiveness of MiSight<sup>®</sup> 1 day



A three-year clinical study was conducted in kids 8-12 years of age at the initiation of treatment. Half of the kids wore MiSight<sup>®</sup> 1 day therapeutic soft contact lenses and the other half of the kids wore the same type of soft contact lenses with regular correction rather than the therapeutic rings.

> For children aged 8-12 at the initiation of treatment, MiSight<sup>\*</sup> 1 day contact lenses reduced eyeball elongation by 52% on average over 3 years.<sup>1\*</sup>

For children aged 8-12 at the initiation of treatment, MiSight<sup>®</sup> 1 day contact lenses reduced the rate of myopia progression by 59% on average over 3 years.<sup>1\*</sup>

\*Compared to a single vision 1 day lens.

REFERENCE: 1. Chamberlain P, et al. A 3-year randomized clinical trial of MiSight® lenses for myopia control. Optom Vis Sci. 2019; 96(8):556-567.

# Children who tried MiSight<sup>®</sup> 1 day loved their lenses

Children who began treatment between the ages of 8 and 12 participated.



### Easy for children to handle

- Children preferred wearing their MiSight<sup>®</sup> 1 day lenses to their glasses.<sup>1,2\*</sup>
- Children could apply and remove the lenses on their own.<sup>1\*\*</sup>
- Parents reported that their children were happy wearing contact lenses, noting comfort, vision, ease of use, and freedom from glasses.<sup>2†</sup>

### Made to help them focus on what matters

 Children report excellent vision performance with MiSight<sup>®</sup> 1 day lenses while playing outside, watching TV, doing schoolwork, reading, looking at the computer, and playing video games.<sup>1‡</sup>

\*95% - 100% of children expressed a preference for contact lenses over glasses at each visit over 36 months.

\*\*Children new to contact lens wear aged 8–12; 97% found lens removal easy at 1 week improving to 100% by 1 month.

+ Overall experience as defined as children's comfort, vision, lens handling, and freedom from spectacles. Children aged 8-15 years. 3- year study report.

**‡** From 1 week through 3 year visits.

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**REFERENCES: 1.** Sulley A et al, Wearer experience and subjective responses with dual focus compared to spherical, single vision soft contact lenses in children during a 3-year clinical trial. AAO 2019 Poster Presentation. **2.** CooperVision data on file 2019. Children aged 8-12. BCLA paper presentation, NCC March 2020.