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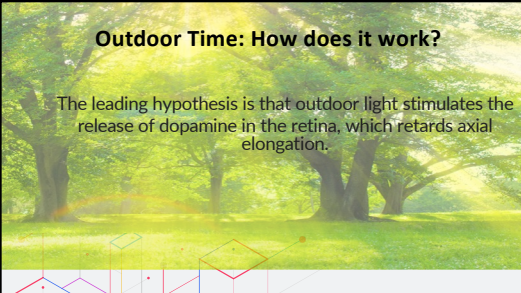
Outdoor Time: What do we know?



- Strong and consistently observed causal association between time outdoors and less myopia
- Only protective factor to have been translated into a "proven preventative intervention," with clinical trials showing significant reductions in incident myopia
- Increased outdoor time can also "offset" the impact of parental myopia and high levels of near work

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Outdoor Time: How does it work?




The leading hypothesis is that outdoor light stimulates the release of dopamine in the retina, which retards axial elongation.

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Outdoor time: How much time is enough?


- The odds of incident myopia are significantly higher for individuals who spend ≤ 13 hours per week (less than 2 hours/day) when compared to individuals who spend >22.5 hours per week (greater than 3.2 hours/day) outdoors.



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Recommendation:

- More Green Time, Less Screen Time!
- At least **2 hours/day** but the **MORE** the better!



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Screen Time Recommendations by Age Chart		
Age Group	Amount of Screen Time	Type of Screen Time
Babies (0-18 Months)	No screen time	Only video chatting is allowed.
Toddlers (18-24 Months)	1 hour or less	Educational content only is recommended.
Children (2-5 Years)	1 hour or less per weekday and 3 hours per weekend day	Educational and interactive content is preferred, but non-educational content is allowed.
Children (6-15 Years)	Less than 2 hours	Recreational content is allowed but healthy habits should also be encouraged.
Source: American Academy of Child and Adolescent Psychiatry (AACAP)		

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Outdoor time: What exactly is it?

Unclear...traditionally outdoor light intensity is considered 1,000 lux.

Light intensities between 2,000 and 5,000 lux MAY be sufficient.

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For Perspective...



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Recommendation

Spend time outdoors even on cloudy days!

Being outdoors during the day is better than spending time indoors.

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Recommendation

- Any activity - not just sports - that involves far viewing distances is preferred.
- Proper UV protection - sunglasses, hats, and sunscreen - are also important.



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Just to be clear...

Increased outdoor time is effective in preventing or delaying myopia onset but has not been proven to be effective in slowing myopia progression.

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Could there be a shortcut?

Repeated Low Level Red Light (RLRL) Therapy

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RLRL Therapy: What is it?

- Visible light with a wavelength of 600-700nm
- Stimulates production of dopamine
- Two 3-minute sessions separated by at least 4 hours
- MAY reduce myopia progression and axial elongation without significant AEs
- **BOTTOMLINE:** Long-term, more rigorous studies needed.



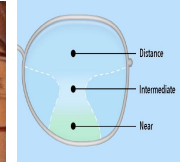
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New & Emerging Spectacle Options

OPTOMETRIC
Management
SYMPOSIUM
Self-Education for Patient Care and Business Improvement

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Current Options



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Facts about Bifocals/PALs

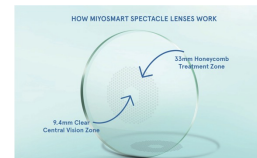
- Better option than single vision
- Executive bifocal MAY be the most effective option
- PALs show minimal myopia control – may not be warranted over SV due to significantly increased cost



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MiyoSmart (HOYA)

- Defocus Incorporated Multiple Segments (D.I.M.S.)
- Considered a dual focus design
- Consists of a central optical zone for distance correction with approximately 400 plus powered (+3.50) lenslets equally distributed in a honeycomb pattern throughout the midperipheral zone
- Now also available in photochromics



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MiyoSmart (Hoya)

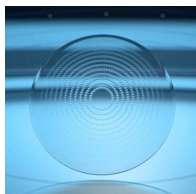
- The two-year data:
 - On average, a 59% reduction in myopia progression and a 60% reduction in axial elongation when compared to single vision lenses
- The 6-year data:
 - Maintenance of the myopia control effect throughout the duration of the study
 - Suggests no significant rebound effect after cessation of treatment



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Stellest (Essilor)

- Highly Aspherical Lenslet Target (HALT) technology
- Consists of a single vision optical zone surrounded by 1021 aspherical lenslets arranged in 11 strategically placed rings
- Lenslets are of varying powers creating a **volume** of myopic defocus



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Stellest (Essilor)

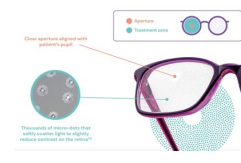
- The two-year clinical trial data showed a reduction in myopia progression and axial elongation by approximately 67% and 60%, respectively when compared to single vision.



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SightGloss (CooperVision)

- Diffusion Optics Technology (DOT)
- Based on the theory that high levels of contrast on the retina especially when created from computers and digital devices overstimulates the retina and causes axial elongation
- Low level contrast more similar to natural environments slows elongation
- Consists of a clear central aperture surrounded by thousands of light scattering microdots reducing peripheral retina contrast by at least 30% when compared to central contrast



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SightGloss (CooperVision)

- Initial results of two test lenses with varying dot density:
 - 59% and 74% reduction in myopia progression and 33% and 50% reduction in axial elongation over a 2-year period when compared to single vision.



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Presenting Spectacle Options

OPTOMETRIC
Management
SYMPOSIUM
Self-Education for Patient Care and Business Management

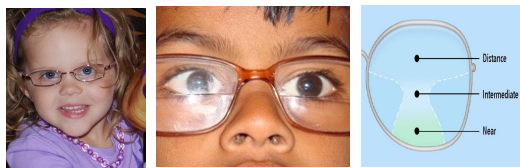
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Currently, there are no spectacles available to ODs in



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Current Options:



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Keep in mind...

Although not as effective as other options, still BETTER than SINGLE VISION!

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Potential Strategy for Spectacle Wearers:

First line therapy.

↓
Monitor closely.

↓
Transition to drops or contact lenses ASAP.

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Best Candidates for Spectacles

- Younger patients
- Contact lens averse patients
- Drop averse patients
- Hesitant/cautious parents



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	Low accom lag	High accom lag	Esophoria	Orthophoria	Exophoria
PALs	✗	✓	✓	✗	✗
Bifocals	✗	✓	✓	✓	✓
Prismatic bifocals	✓	✓	✓	✓	✓

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References: Gwiazda et al 2003, Yang et al 2009, Berntsen et al 2011, Cheng et al 2010, Cheng et al 2014

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Remember:

- All contact lens wearers need back-up spectacles!
 - Soft Lens wearers
 - Ortho-K
- What about atropine users?
 - May be helpful due to mild cycloplegia
 - Photochromics
 - Combo therapy



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Fitting Considerations: Add Power

- The highest ADD power the patient can tolerate.
- If the patient cannot tolerate the ADD power, compliance will diminish.
- Shorter corridor for PALs



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Fitting Considerations: Fitting Height

- Modified to encourage patient to use ADD for near viewing distances
- Cannot compromise distance vision
- General recommendations:
 - Executive – segment bisects pupil
 - PALs – fitting height 1mm above pupil



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Follow-Up Care

- Quarterly vs. Biannual?
 - Assess adaptation
 - Fast progressors
 - Attempt to transition into more effective modality



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Presenting Contact Lens Options

OPTOMETRIC
Management
SYMPOSIUM
Self-Education for Patient Care and Business Management

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General Considerations

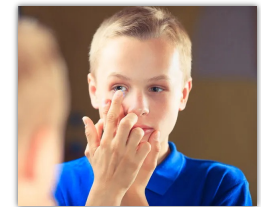
- Age
- Maturity
- Lifestyle
- Affinity for spectacles
- Parental contact lens history
- Budget



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Options

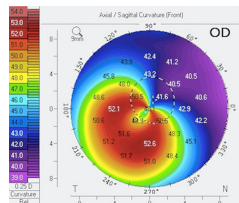
- Orthokeratology (Off label)
- Soft Contact Lens Options
 - Dual Focus (FDA approved)
 - Soft Multi-Focals (Off label)



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Orthokeratology Candidates

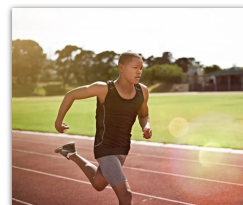
- Refractive Error
 - Up to -6.00 sphere and -1.75 astigmatism
- Topography
 - Active/athletic children
 - Younger children
 - Highly involved parents



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Soft Contact Lenses

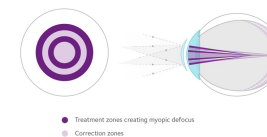
- Older Kids
- Mature kids of all ages
- Active lifestyle
- Hands-off parents



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FDA Approved Option

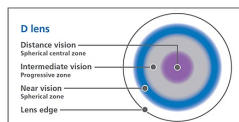
- MiSight 1 Day
 - Daily Disposable
 - Up to -7.00D
- 7-year clinical trial backing efficacy



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Soft Multi-focals

- Center Distance, monthly disposable
 - Variety of adds
 - Available in toric design
 - Up to -20.00D sphere, -5.75D cyl
- EDOF daily disposable
 - Up to -12.25D sphere



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Fitting Tips for Multi-Focals

- Results of BLINK trial supports prescribing the highest add the patient can tolerate
- Must be **Center Distance** design
- Try to avoid fitting patient in a single vision design first
- Hybrid lenses could be an option for patients with inconsistent vision in soft toric



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Billing

- Insurance does NOT cover myopia management
- FSA/HSA can be used
- Some brands have rebates
- May consider letting patients use their insurance allowance



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Billing Options

Global Fee

- Collect all money up front
- Trickier at time of renewal
- Need to be careful with setting price – be sure it covers all services/follow-ups/materials

Subscription Model

- More palatable
- Better for families with multiple children
- Riskier
- May be more time consuming for staff

Neither??

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Final thoughts..

- Remember the GOAL: 50% reduction in myopia progression
- NEVER overpromise
- Consider which billing option will be best if switching or adding modalities



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