



Eyes on Myopia Control Management

BCOA Gold Coast 2026

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Financial Disclosures

- Dr. Brianna Rhue, in the past 24 months has:
 - Ocumetra- Advisory Board
 - Sydnexis- PAC
 - Coppervision- PAC
 - Johnson and Johnson- MAB
 - Visionary Optics- Co Founder
 - Dr. Contact Lens- Co Founder

All of the relevant financial relationships listed for this individual have been mitigated.

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4:00pm on a Friday



Goals

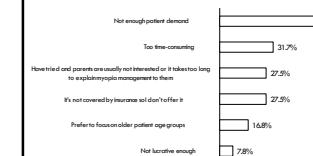
- Understand the treatment options available and what is coming
- How to stand up your clinic for success
- Which treatment to choose in which case
- Treat your patients how we would treat our own kids
- Start talking about it with your patients

Are you practicing myopia management?

- A. Yes- I am all the way in
- B. No-
- C. Dabbling-
- D. I want to learn more

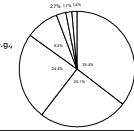
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WHY ARE YOU NOT DOING MYOPIA MANAGEMENT

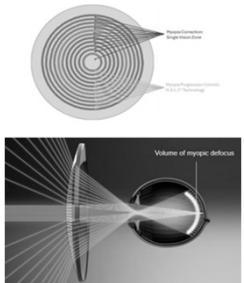


BARRIERS FOR PARENTS SAYING "YES"

- Treatments not covered by vision or medical insurance
- Cost to parents
- Parent never heard of treatments for progressive myopia
- Parent not convinced of long-term eye health issues associated with myopia
- Most treatments not FDA approved
- Not recommended by a medical doctor, e.g., pediatrician, GP, ophthalmologist



Recent News – 09.25.2025



Recent News PDUFA Date 10.2025



Exclusive-Licensing Partner Santen Will Commercialize SYD-101 Under the Brand Name Ryjuna® in the European Union

SydneXis's low-dose atropine eye drop, SYD-101 (marketed as Ryjuna® by Santen), is approved in the European Union (EU) and the United Kingdom (UK), making it available in about 28 European countries, with licenses for the Europe, Middle East, and Africa (EMEA) regions, but it is not yet approved in the U.S. The approval in Europe and the UK serves as a major step for the treatment of childhood myopia progression outside the United States. [\[Read More\]](#)

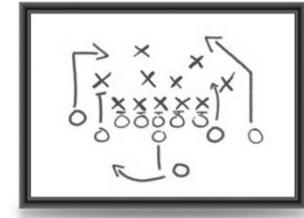
Jan 5, 2025 10:00 AM Eastern Daylight Time
SydneXis Receives Complete Response Letter from FDA for SYD-101 to Slow Pediatric Myopia Progression

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A little about me...



Thank You... 2015

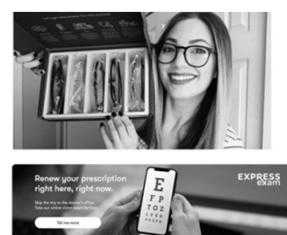


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My Myopic Passion



The Disruptees can become the Disruptors



How many ODs, ethically, have stopped fitting single vision soft lenses on kids who are progressing myopes? No judgement. Even if not doing myopia control, would you fit a multifocal just to get some plus on the eye?

This is almost as ridiculous as saying you'd refuse to give a myopic child glasses because they're likely to progress.

I'm all for advocating myopia control but there is not an ethical conflict here.

Like Reply 2d

Dear Lord... Myopia is not the plague!! Enough of this fear mongering. Thank God I'm a -3, my daughter a -5.50, and my wife a -6!! It helps immensely with our CI at 12, 16, 20 XP respectively.

Like Reply 2d

1800 contacts*

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CURIOSITY



Ask why 5 times!

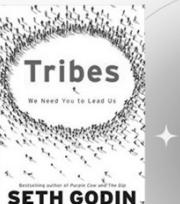
?

Who is it up to decide if it is important or not to treat...
You or the Parent/Patient?

“

The cost of being wrong is less than the cost of doing nothing.

— Seth Godin, Tribes



MYOPIA



A progressive disease that causes eyeball growth.

Which results in:
Higher Co-Morbidity Disease Risk
Blurry Vision & Changing Prescriptions

Is Pediatric Myopia Progression Considered a Disease?

YES, it is a disease; not just a refractive condition (October 2024)

NATIONAL ACADEMIES
Engineering
Medicine

This PDF is available at: <http://nap.nationalacademies.org/27734>

CONTRIBUTORS
Committee on Focus on Myopia: Pathogenesis and Rising Incidence; Board on Behavioral, Cognitive, and Sensory Sciences; Division of Behavioral and Social Sciences and Education; National Academies of Sciences, Engineering, and Medicine

SUGGESTED CITATION
National Academies of Sciences, Engineering, and Medicine. 2024. Myopia: Causes, Prevention, and Treatment of an Increasingly Common Disease. Washington, DC: The National Academies Press. <https://doi.org/10.31236/27734>.

Committee on Focus on Myopia: Pathogenesis and Rising Incidence
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DOI: 10.31236/27734
ISBN 978-0-309-59049-4 (PDF) 978-0-309-59048-7 (EPUB)

This congressionally funded organization was created in partnership with numerous key organizations, including AAO and AOA



The NASEM Consensus Study Report: Myopia is a Disease

>1,000 studies were referenced in the 375-page published Consensus Study Report

Conclusion: Treatment options for myopia progression have increased in the last 20 years and include multifocal optical corrections and the sole pharmacological treatment: atropine eye drops (Conclusions 7.1–7.3). There is a need for daily applications and a treatment strategy, especially in younger years (Conclusion 7.4). Further research is needed to understand the mechanisms in action of the current treatments that have limited effects and can cause rapid eye growth after cessation of treatment (Conclusions 7.4–7.5). Safety of myopia treatments is paramount due to the probable need for daily applications (e.g. of atropine) for a decade or more of life (Conclusion 7.8). The current state of knowledge of treatment options reflects our limited understanding of both the fundamental mechanisms of eye length regulation and how treatments act to alter the progression—and perhaps even the onset—of the disease (Conclusion 7.9).

Myopia is a disease with increasing worldwide prevalence and severity—recognition of the impact of its downstream complications needs to be taken seriously. Importantly, the committee recommends that the Centers for Medicare & Medicaid Services classify myopia as a disease and therefore a medical diagnosis (Recommendation 8.5). This reclassification is to ensure efforts are undertaken not only to treat blurry vision resulting from uncorrected or under-corrected refractive error but also to ensure that stakeholders such as federal and state agencies, providers, and other partners are involved in the development of a comprehensive management of myopia. Funding agencies should support innovative, multidisciplinary research to identify mechanisms and novel treatments for myopia. Collaborative efforts involving healthcare providers, policymakers, researchers, and funding agencies are essential to tackle this disease effectively.

Societies Recognize the Myopia Epidemic

Global Myopia Task Force

June 2021

- AAO (Ophthalmology)
- AAOpt (Optometry)
- AAFP (Family Physicians)
- AAP (Pediatricians)
- AAPOS (Pediatric Ophthalmology and strabismus)

"Myopia is a growing public health problem that carries significant visual morbidity on an individual- and population-based level."

United Healthcare has joined the board of GMAC (October GMAC meeting)

Global Myopia Awareness Coalition

Is Pediatric Myopia Progression a Disease?

Microsoft-Open AI's Chat GPT Engine categorized myopia as a "disease", not a "condition"

You Recent experience with a prominent AI response system (Microsoft Copilot, powered by Open AI's Chat GPT), why is myopia not a disease when it impairs normal functioning and is characterized by specific signs and symptoms that lead to severe sight threatening co-morbidities and blindness?

Copilot The answer in the past was: Myopia, also known as nearsightedness, is a common eye condition where distant objects appear blurry while close objects can be seen clearly. This occurs because the light entering the eye is focused in front of the retina instead of directly on it.

Q **Open** The answer now: Myopia is a disease. Myopia is a refractive error where the eye does not bend light correctly, resulting in blurred vision. It is classified as a refractive error, which is a type of disease where the eye does not bend light correctly, resulting in blurred vision. ¹

Myopia is a disease. It is a refractive error where the eye does not bend light correctly, resulting in blurred vision. ¹

What is Myopia? Myopia is a refractive error where the eye does not bend light correctly, resulting in blurred vision. ¹

Causes of Myopia Myopia is a refractive error where the eye does not bend light correctly, resulting in blurred vision. ¹

Diagnosis of Myopia Myopia is a refractive error where the eye does not bend light correctly, resulting in blurred vision. ¹

Treatment of Myopia Myopia is a refractive error where the eye does not bend light correctly, resulting in blurred vision. ¹

Management of Myopia Myopia is a refractive error where the eye does not bend light correctly, resulting in blurred vision. ¹

Education

Program

Equipment

Pitch

Parent Questions

Dr. Chat GPT

What should I do for my child who has myopia?

If your child has myopia (nearsightedness), there are several steps you can take to manage their condition and enhance their visual health. Here are some recommendations:

1. Encourage your child to have regular eye exams. Your eye care professional can examine to assess the severity of your child's myopia and provide appropriate treatment options.
2. Monitor your child's vision regularly. Keep track of any changes in your child's vision by scheduling regular eye exams. This will help identify any worsening of their myopia and enable timely treatment.
3. Encourage healthy visual habits to prevent or slow the progression of myopia. Encourage your child to maintain a healthy distance from screens when using digital devices, maintain a proper distance from screens, and ensure adequate lighting when reading.
4. Encourage your child to engage in outdoor activities and limit screen time. Encourage your child to engage in outdoor activities and limit screen time to reduce the risk of myopia progression.
5. Provide proper lighting. Ensure that your child has adequate lighting while reading or studying. Good lighting reduces eye strain and can help alleviate some of the symptoms associated with myopia.
6. Consider specialized eyewear. Your eye care professional may prescribe glasses or contact lenses to correct your child's vision. Specialized eyewear, such as progressive lenses, may be recommended to improve their vision and prevent the progression of myopia. This option is particularly useful for children with progressive myopia, but it requires careful monitoring and adjustment.
7. Consult with an eye care professional. In some cases, your eye care professional may recommend myopia control treatments, such as orthokeratology or low-dose atropine eye drops, to help slow the progression of myopia. These treatments are still being researched.

Remember, it's crucial to follow the guidance of an eye care professional who can assess your child's specific needs and provide personalized treatment options. Regular eye exams and open communication with the eye care provider will help ensure the best possible care for your child's eyes.

Standing Up Your Myopia Management Practice

- Education
- Program
- Equipment
- Pitch
- Parent Questions

Myopia Belief Busting

1. Myopia is just a refractive error
2. That kids can't get off devices
3. Be careful and not treating is safer
4. Atropine is bad
5. Myopia spectacles are going to save myopia
6. Kids can't wear contacts
7. Ortho-k is hard or bad
8. Genetics can't be stopped
9. This is hard to implement
10. Parents won't pay for this treatment

Myopia 15 years ago

Myopia Now

Myopia Control vs Myopia Management

Myopia Control

Slows the progression of myopia in age-appropriate children

- MiSight

Myopia Management

Refers to the decision to implement a strategy to slow down the progression of myopia in a child

- Low-dose atropine
- Ortho-k
- Soft multi-focals
- Spectacles

Our Digital Era



The Perfect Storm/Opportunity

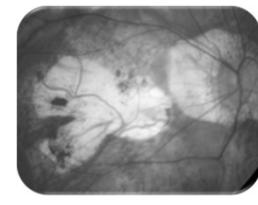
- The perfect storm
 - Genetics
 - Indoor vs outdoor time
 - Near work/computers/phones/tablets
 - Online schooling
- FDA approved treatments
 - MiSight (Approved November 15, 2019)
 - Abiliti ortho-k (Approved May 12, 2021)
 - Essilor Stellest lens (Approved September 25, 2025)
- Off Label
 - Low Dose Atropine
- On the horizon low dose atropine, Abiliti Daily Lens
- Look at each case individually to decide what is best for the child/parent/family



Plant Seeds



Myopia, so What



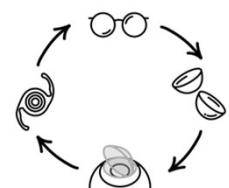
Reframing Myopia



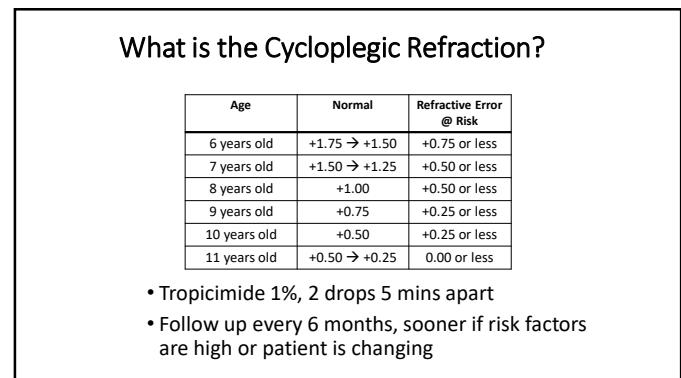
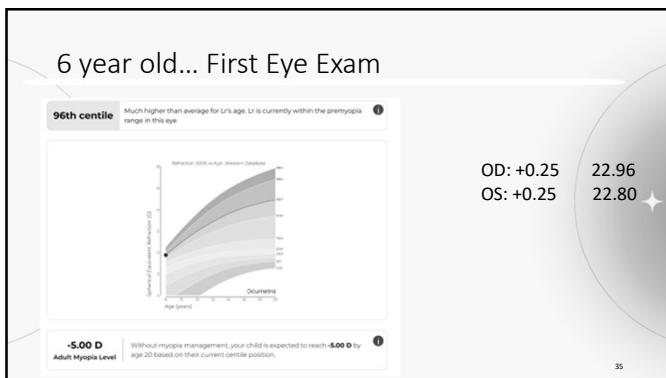
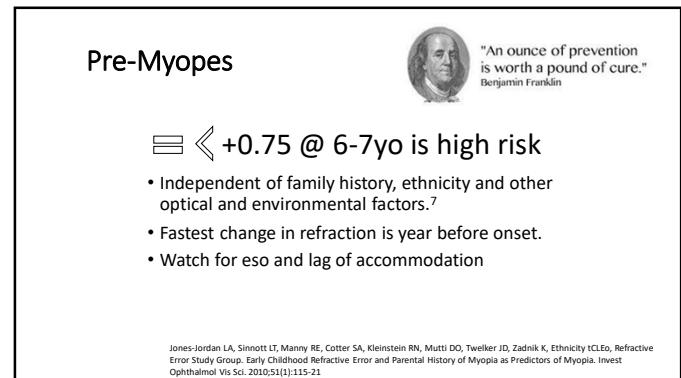
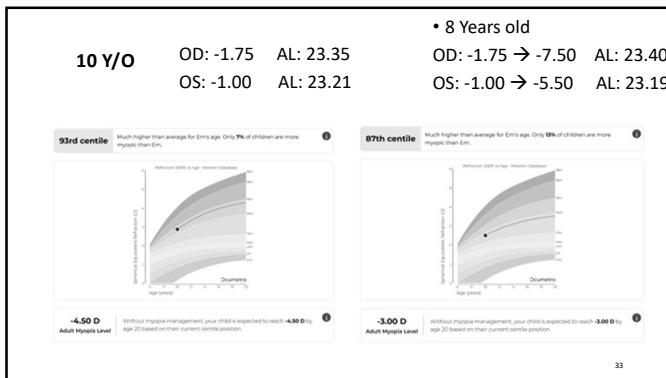
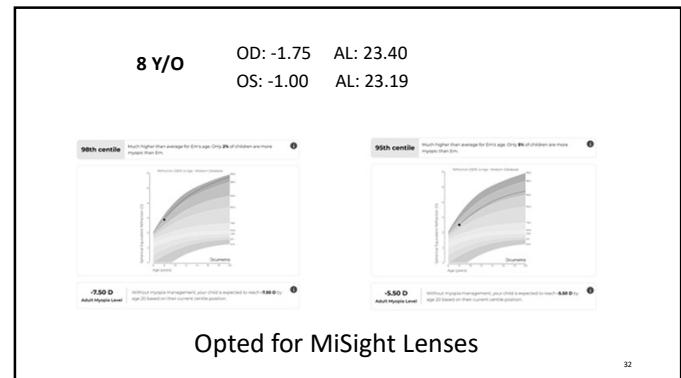
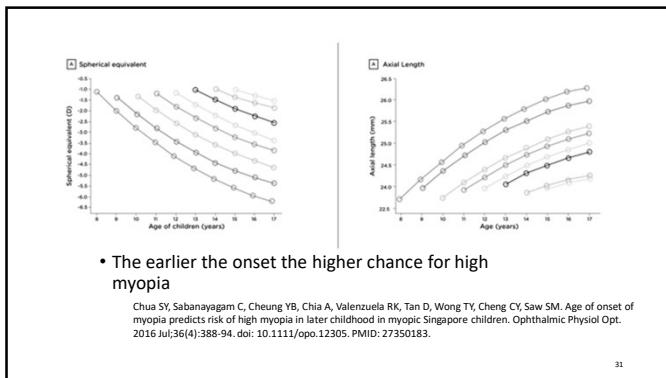
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Lifecycle of Myopia

- Pediatrician
- First pair of glasses
- Fitted with contacts (if right for the child)
- Interested in Refractive Surgery
 - LASIK (SMILE)
 - PRK
 - ICL
- Refractive Cataract Surgery
- Retinal specialist



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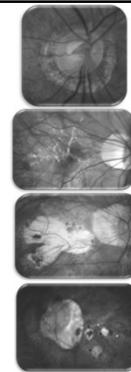


7 Year Old

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Why the Big Deal?

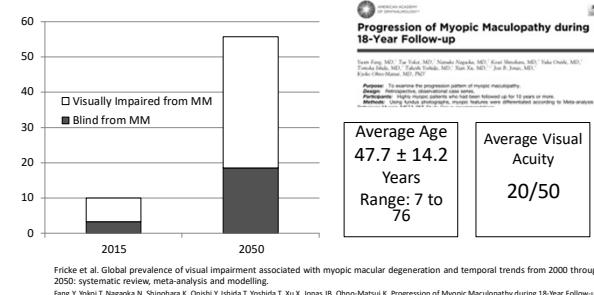
- Myopic Maculopathy
 - Stretched blood vessels
 - Peripapillary atrophy
 - Posterior staphyloma
 - Lacquer cracks
 - Geographic atrophy
 - Subretinal hemorrhages
 - Choroidal neovascularization



Folding Fitted Sheets

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Myopic Maculopathy



HOW SERIOUS ARE THE CLINICAL RISKS OF PROGRESSIVE MYOPIA?

WHO predicts Myopia to be the #1 cause of blindness worldwide in the future (Cataract is presently)

Increasing Risk of Comorbidities with Increasing Myopia¹

Myopia (D)	Cataracts	Glaucoma	Retinal Detachment	Myopic Maculopathy
> -9.00 ~4% myopes	5X	14X	44X	348X
> -6.00 ~10% myopes	3X	4X	22X	41X
-2.00 → -6.00 ~30% myopes	2X	2X	3X	2X
< -2.00 ~60% myopes				

INCREASED RISK

1. "10 million people had visual impairment from myopic maculopathy in 2015, of whom 3.3 million were blind. By 2050, visual impairment will grow to 55.7 million (1 in 75), 18.5 million of whom will be blind. The risk of myopic maculopathy and its impact on public health are not limited to high myopes."

• Myopes of less than 5 diopters contributed 43% of the cases of myopic maculopathy in the Australian Blue Mountains Eye Study."

• Data derived from:
• Blue Mountains Eye Study, 2002 (>3000 patients)
• Beaver Dam Eye Study, 2001 (10,000 patients)
• Collaborative Longitudinal Evaluation of Myopia (CLEM) (unpublished data)
• Authorised to print by Vitreoretinal Society of Australia

The First Step – The Trigger

- History- patient and family
- Refraction
- K readings
- Axial Length
- Calculator
- Discussion
- Treatment Selected
- Evaluation Visits Scheduled

Simple scales
Complex fails

LEAVE NO ONE BEHIND!

Myopia Kids

- ALL kids in your office Get evaluated
- They fatigue on free follow ups

The phrase: "we can see what will happen" no longer applies.

ALERT: We know what is going to happen!



The Myopia Equation

Patient Data

- Current Age
- Ethnicity
- Age of onset
- Indoor/Outdoor time
- K Readings
- Refraction
- Axial Length

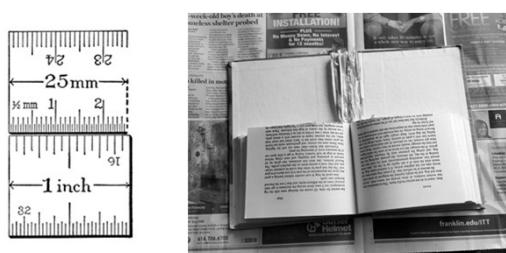
VS.

Patient Data

- Child willingness
- Parent willingness
- Cleanliness
- Able to sit still

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Move from diopters → millimeters



Equipment

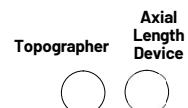


Photo Courtesy Joshua Pasol, MD

Axial Length

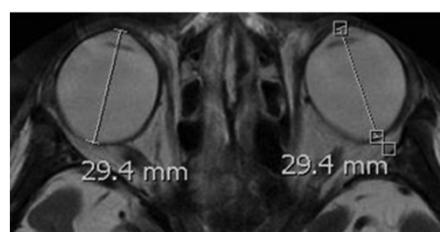
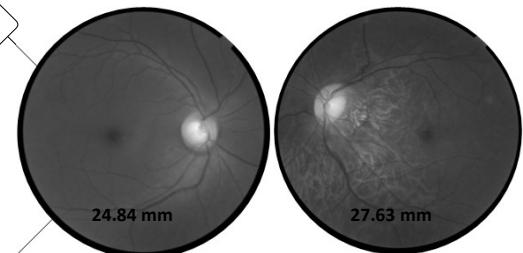


Photo Courtesy of Joshua Pasol, MD

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Axial Length & Myopic Disease



24.84 mm 27.63 mm

Diopters are easy to measure, but myopia management is about axial length control

Axial Length Devices



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Measuring Axial Length



Dalton
OD: 22.92
OS: 22.94

Myself
OD: 25.11
OS: 25.17

Dalton
OD: +1.00
OS: +1.00

Myself
OD: -5.50
OS: -5.50

50

Axial Length Norms*

Age	Girls	Boys	European	Chinese
6- 7 yo	22.75 mm	23.05 mm	22.33 mm	22.77 mm
8-9 yo	23.29 mm	23.65 mm	23.05 mm	24.02 mm
10-11 yo	23.76 mm	24.09 mm	-	-
12-14 yo	23.80 mm	24.25 mm	23.40 mm	24.69 mm

*Caution must be taken when applying this data clinically, as many confounding factors affect these norms, including but not limited to, gender and racial background.

Fuensanta A. Vera-Diaz, OD, PhD, FAAO. The Importance of Measuring Axial Length. Review of Myopia Management. August 9, 2020 <https://reviewofmm.com/the-importance-of-measuring-axial-length-when-managing-childhood-myopia/>

Axial Length & Refractive Error

	Refractive Error	Axial Length
OD	-4.75-0.75x010	23.91
OS	-5.00-0.75x180	24.11

	Refractive Error	Axial Length
OD	-5.50-0.50x180	27.28
OS	-5.50-0.50x165	27.24

*Refractive error does not correlate with axial length

Axial vs Refractive

- 5 Year old- Parents worried about retina and wanted second opinion on what to do

- Current Spectacle:

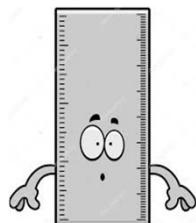
- OD: -8.00-0.75x164 20/100
- OS: -5.00-1.75x178 20/60

- Refraction:

- OD: -10.00-2.00x180 20/60-
- OS: -5.50-2.00x010 20/50

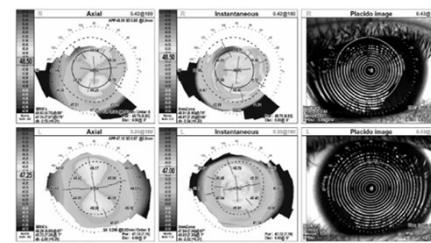
- Cyclo:

- OD: -10.00-2.00x180
- OS: -5.50-2.25x010

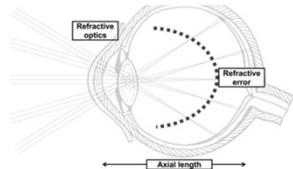


5 Year Old

	Refractive Error	Axial Length	K's
OD	-10.00-2.00x180	25.30	49.93@089/47.74@179
OS	-5.50-2.00x010	24.73	48.28@097/45.73@007



Calculating Axial Length with What You Have



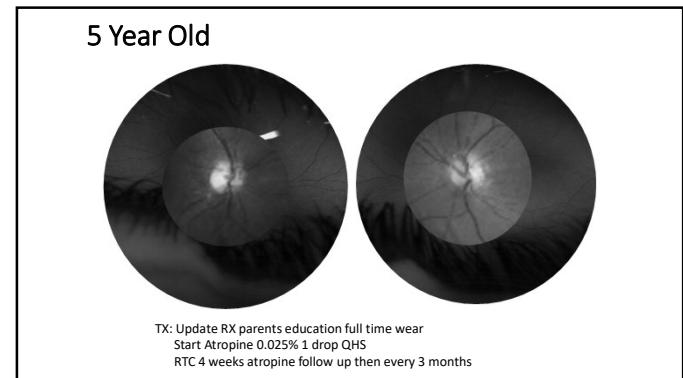
Axial Length Estimator

Axial Length Estimate: 25.30

Right Eye: 25.81 mm Left Eye: 24.83 mm

<https://cooprivision.co.uk/practitioner/clinical-resources/myopia-in-children/axial-length-estimator/calculator>

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Select the treatment that is best appropriate for the patient and the family

Myopia Treatments

- Indoor/Outdoor Time
- Myopia Spectacles
- Low Dose Atropine
- Dual-Focus Soft Lenses
- Orthokeratology

Goal

Keep myopia below -3.00 and Axial length below 26mm



Suggested Interventions

Milton Horn, OD & Brianna Rhue, OD

It is up to the clinician to decide if off label* options are an option for each case.

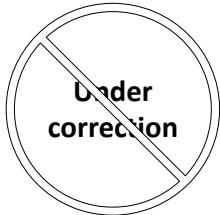
Age	PL to +0.75D	-0.50 to -1.00D	-1.25 to -2.00D	-2.00D+	Cyl < 1.00D	Cyl > 1.00D
<6y	Lifestyle Prophylactic Atropine*	Atropine* Misight Myopia Specs	Atropine* Misight Myopia Specs	Atropine* Misight Myopia Specs	Atropine* Misight Myopia Specs	Atropine* Misight Myopia Specs
	PL to +0.75D	-0.50 to -1.00D	-1.25 to -2.00D	-2.00D+	Cyl < 1.00D	Cyl > 1.00D
6y	Lifestyle Prophylactic Atropine*	Atropine* Misight Myopia Specs	Atropine* Misight Myopia Specs	Atropine* Misight Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs
	PL to +0.50D	-0.50 to -1.00D	-1.25 to -2.00D	-2.00D+	Cyl < 1.00D	Cyl > 1.00D
7-8y	Lifestyle Prophylactic Atropine*	Atropine* Misight Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs
	PL to +0.25D	-0.50 to -1.00D	-1.25 to -2.00D	-2.00D+	Cyl < 1.00D	Cyl > 1.00D
9-10y	Lifestyle Prophylactic Atropine*	Atropine* Misight Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs
	Emmetropia	-0.50 to -1.00D	-1.25 to -2.00D	-2.00D+	Cyl < 1.00D	Cyl > 1.00D
11+y	Lifestyle	Atropine* Misight Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs	Atropine* Misight Ortho-K Myopia Specs

Treatment Goals

- Present the options to the parent and child and decide together what is best
- Set realistic expectations for treatment
- Atropine, MF contacts, Ortho-k, myopia spectacles all have around 50%-70% efficacy *depending on studies
 - Children will still likely progress depending on age of onset
 - Which ever method you choose you are providing evidence based myopia treatment
- Atropine should be reserved for younger children
- Contacts lenses should be fit as soon as patient and parent are ready
- Dual treatments are becoming more common

Single Vision Glasses & Contacts

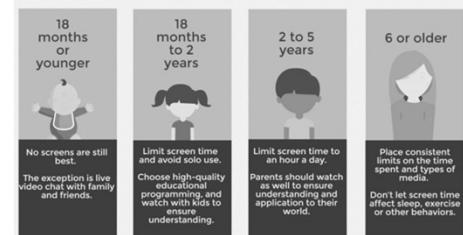
- Single vision glasses & contacts have **NO** effect on slowing progression
 - 80% of practitioners acknowledged this
- 64% of myopic children around the world are treated with a single vision option



James Wolffsohn: Global trends in myopia management attitudes and strategies in clinical practice – 2019 Update

Screen time Recommendations Have the Discussion

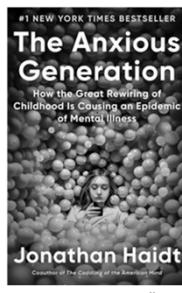
American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN



American Academy of Pediatrics

Pre-Myopes- Hyperopic Reserve

- Discuss indoor/outdoor time
- Re-evaluate in 6 months
- Can prophylactically treat with low dose atropine
 - 0.01%, 0.025%, 0.05%



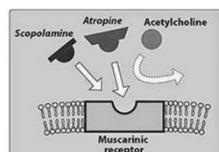
Atropine Treatment Protocol

- 1 drop 0.025% or 0.05% (QHS) daily
- Can start as young as 3 years old
- Slows rate of progression by 30% - 70% concentration & formulation dependent
- In the first 6 months, may still see progression



Atropine MOA Theories

- A non-specific muscarinic receptor antagonist
- Anticholinergic that binds to M1, M2, M4, and M5 receptors
- May act on one or more muscarinic acetylcholine receptors in the retina or directly on scleral fibroblasts to slow eye growth
- May prevent choroidal thinning due to hyperopic defocus¹⁷



Does not work by blocking accommodation⁸

8. McBrien NA, Moghaddam HO & Reeder AP. Atropine reduces experimental myopia and eye enlargement via a nonaccommodative mechanism. Invest Ophthalmol Vis Sci 1993; 34: 205-215
17. Samuel T.-H. Chiang and John R. Phillips, "Effect of Atropine Eye Drops on Choroidal Thinning Induced by Hyperopic Retinal Defocus," Journal of Ophthalmology, vol. 2018.

Atropine Evaluation Schedule

- 4 week follow up (make sure they got their drops and are using them)
- 4 months after starting to ensure no side effects/compliance
- Start assessing treatment efficacy at 6 months
- Assess for progression every 6 months
 - VA
 - Binocular vision
 - A-scan
 - Refraction/Topography
 - If >0.25-0.50 D of change at 1 year consider changing dosage
- If stable for 2 years or past the age of 16 → Taper

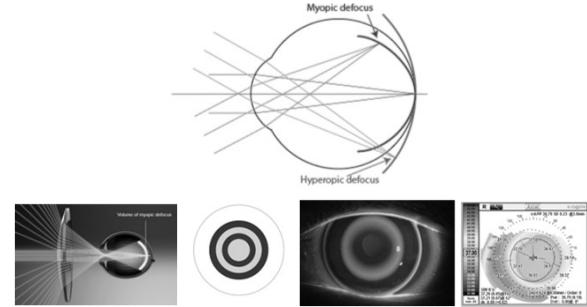
How Long Will They Be On Drops?

- May add in another therapy to taper drops
- May start tapering past the age of 16



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Controlling Peripheral Focus



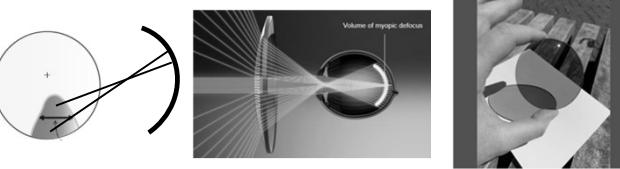
Optical Correction

CooperVision and Essilor Partner to Accelerate Access to SightGlass Vision Technology & Expand Myopia Management Category

January 25, 2021

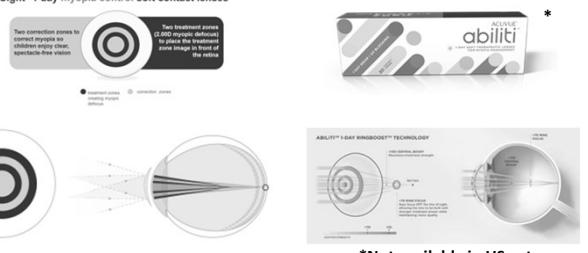


Optical Correction



Soft Contact Lenses

MiSight® 1 day myopia control soft contact lenses



*Not available in US yet

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MiSight Study

- Three-year randomized, controlled clinical trial (4 study sites)
- 135 children ages 8 to 12 at the start of treatment
- MiSight vs. conventional soft contact lens
- Results – (for the full three-year period) progression in myopia of those wearing MiSight lenses was less than those wearing conventional soft contact lenses
- In addition, subjects who used MiSight had less change in the axial length of the eyeball at each annual checkup.
- There were no serious ocular adverse events in either arm of the study

Slowed progression by:

59%
cycloplegic spherical equivalent (SE)
and
52%
mean axial elongation of the eye

<https://www.fda.gov/news-events/press-announcements/fda-approves-first-contact-lens-indicated-slow-progression-nearsightedness-children>

The Future of Soft Contact lenses for Myopia Management

September 8, 2021
Johnson & Johnson Vision Receives Approval in Canada for ACUVUE® Abiliti™ 1-Day Soft Therapeutic Lenses for Myopia Management

Menicon Bloom Day™ Menicon BLOOM™ Benefits

- Soft daily contact lens CE approval for myopia control in Europe
- Myopia control and myopia correction combined
- Lens fitting and progress monitoring via optimized, easy-to-use Easyfit module
- Direct contact and monitoring of patients through the Menicon Bloom app and Menicon Bloom Easyfit
- Clear agreements between eye care specialist and patient through informed consent
- Very hygienic; a new set of lenses every day

ACUVUE® abiliti™ 1-DAY SOFT THERAPEUTIC LENSES FOR MYOPIA MANAGEMENT

Myoptechs™

Dual Focus Soft Contact Lens Evaluation Schedule

• Year 1 Follow up schedule

- 1 week
 - Enroll in the program
- 1 month
 - Can be done in the office (highly preferred or via telemedicine)
 - Then every 4 months for the first year

• Year 2 Follow up schedule

- Annual exam
- Every 6 months if progression has slowed <-0.50D

easy

74

Astigmatism >1.25

- Extended depth of focus
- Center distance
- Can fit empirically with K's and refraction
- Hybrid Lenses
- Ortho-k

ANNOUNCING! SynergEyes Brien Holden VISION INSTITUTE

Ortho-K

- NaFL not visible if tear lens is <20 microns

LASIK vs Ortho-k Anatomically

Flap = 90-110 microns

-5.00 Myope = 75 microns

-9.00 Myope = 135 microns

Epithelial-stromal flap returned to original position

Reshaped cornea

Cornea

Lens

PRK

Central corneal epithelium removed

Stromal surface

50 microns

235 microns

500 microns

8-10 microns = -5.00D

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Designing Ortho-k Lenses

Empirical Method

- Refraction
- HVID
- K's
- Topography

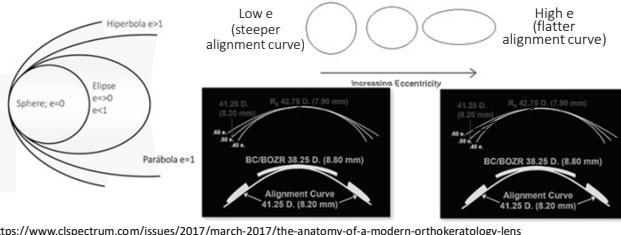
Trial/ Diagnostic Lens Fitting

Topography based software designs

Orthokeratology (Ortho-K)

Corneal Contour

- The human cornea is not spherical or rotationally symmetric
- Asphere



<https://www.clspectrum.com/issues/2017/march-2017/the-anatomy-of-a-modern-orthokeratology-lens>

Topography Maps

Axial Maps (Sagittal) → Power

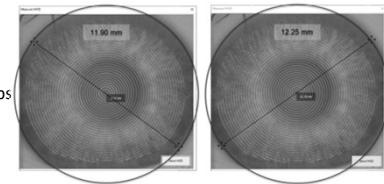
- Describes the surface relative to the optical axis
- General view of the corneal contour
- Highly dependent on patient fixation
- Central information

Tangential Maps (Instantaneous or True Curvature) → Fit

- Describes the corneal surface independent of the optical axis
- Shows small localized changes of the cornea
- Peripheral information

Capturing Best Topography

- 1 Capture 4-6 baseline maps
- 2 Assess maps: delete poor maps
- 3 Identify your best map
- 4 Measure OVID (Oblique Visual Iris Diameter)



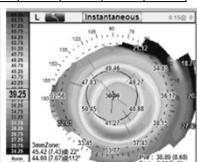
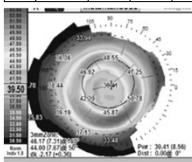
10 Year Old- Mother is a -6.00

OD: -4.75 AL: 25.15
OS: -4.50 AL: 25.46

1 Week Follow up- Difference Maps

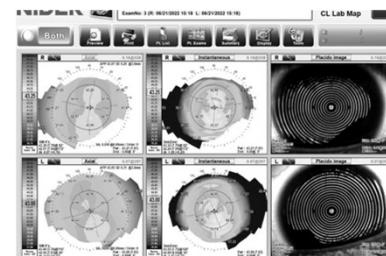
1 year, 2 year, 3 year follow up

	Entering Rx	1 st AL	Year 1	AL	Year 2	AL	Year 3	AL
OD	-4.75	25.19	pl	25.25	pl	25.73	pl	25.62
OS	-4.50	25.46	pl	25.49	pl	25.88	pl	26.10



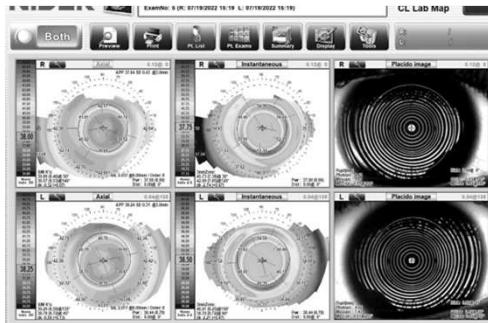
11 year old

- OD: -7.50 AL: 27.20
- OS: -7.50-0.50x060 AL: 27.35



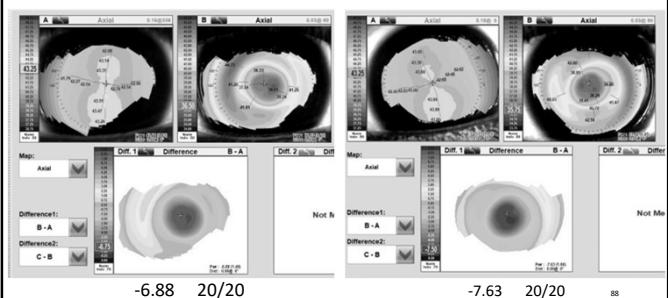
33

1 Week Map



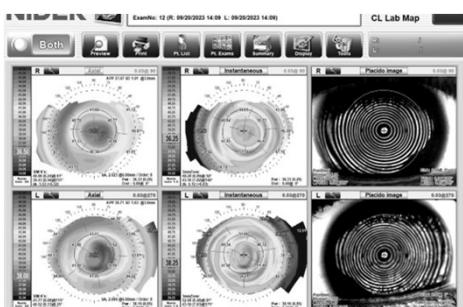
8

Difference Maps



10

1 year map



3

Ortho K Evaluation Schedule

- Year 1 follow up/evaluation schedule
 - 1 day
 - 1 week
 - 1 month
 - Every 4 months
- Year 2 follow up/evaluation schedule
 - Annual visit (we replace lenses every year no questions asked)
 - Every 6 months if progression has slowed to $<-0.50\text{D}$



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When is my child done with treatment?

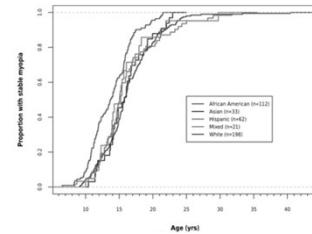
- When they reach ocular maturity or are ready for Refractive Stability
 - No change in MRX of more than -0.50 in approx. 1 year

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At what age does Myopia Stabilize



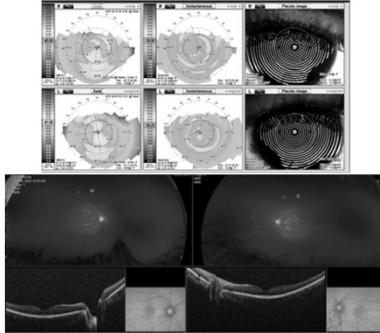
Age 15: 48% Age 21: 90%
 Age 18: 77% Age 24: 96%



Case 1
21 Y/O

OD: -4.00-0.75x180
 40.52@031/39.11@121
 27.31

OS: -4.25-0.75x010
 41.31@113/39.99@023
 27.04

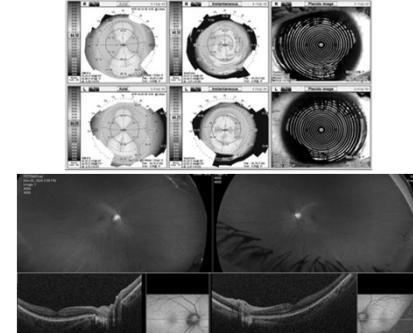


93

Case 2
37 Y/O

OD: -8.25-2.25x180
 45.25@094/42.88@004
 26.89

OS: -8.00-2.75x180
 45.55@087/42.83@177
 26.63

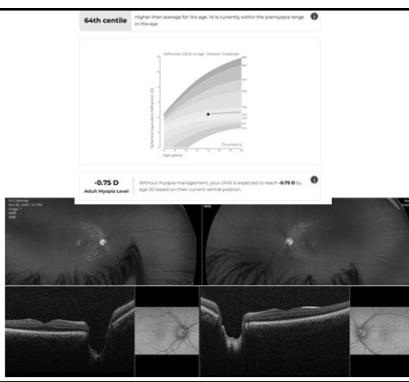


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Case 3
14 Y/O

OD: pl-0.75x180
 41.87@093/40.18@003
 25.06

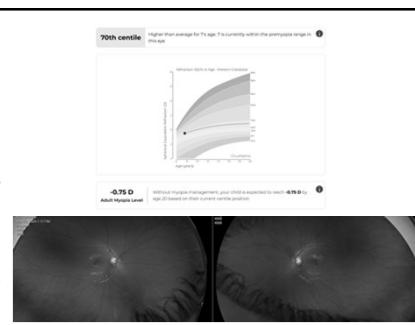
OS: pl-0.75x180
 41.41@095/40.18@005
 24.90



Case 4
7 Y/O

OD: +0.50
 42.88@088/41.98@178
 22.77

OS: +0.50
 43.16@177/42.08@177
 22.77



Re-evaluate in 6 months

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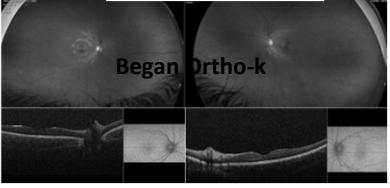
Case 5
8 Y/O

Last year -3.00, 1st Rx @4yo -1.00
Mom: -3.25 Dad: plano

OD: -4.25-0.50x180
45.98@098/44.88@008
24.14

OS: -4.25-0.50x180
46.62@076/45.06@166
23.99

Began Ortho-k



100th centile
Much higher than average for this age. Only 5% of children are more myopic than 8.

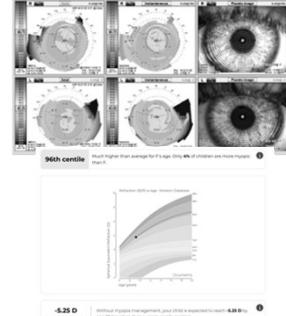
-1.75 D Adult Myopia Level
Without myopia management, your child is expected to reach -1.75 D by age 20 based on their current centile position.

Case 6
8 Y/O

OD: -1.00-0.50x095
44.76@086/44.35@176
23.84

OS: -0.75-0.75x075
45.00@086/44.70@176
23.62

Opted for SV Specs...Re-evaluate in 3 months



96th centile
Much higher than average for this age. Only 4% of children are more myopic than 8.

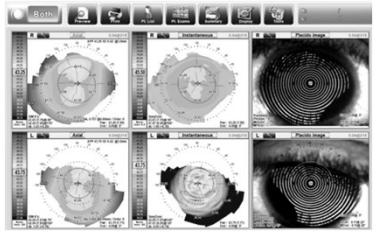
-5.25 D Adult Myopia Level
Without myopia management, your child is expected to reach -5.25 D by age 20 based on their current centile position.

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Case 7
9 Y/O

Can't See the Board

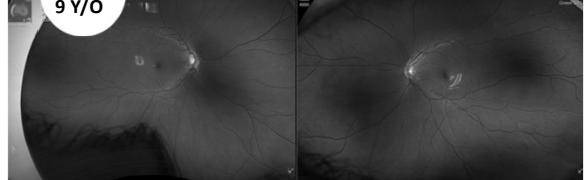
OD: 20/40- OS: -1.00
OS: 20/40- OS: -1.25



OD: 43.83@086/42.40@176
OS: 44.00@079/42.99@169
99

Case 7
9 Y/O

Can't See the Board



OD: 25.01 OS: 24.83

OD: 20/40- OS: -1.00
OS: 20/40- OS: -1.25

100

9 Year Old- Can't See the Board

OD: -1.00
OS: -1.25



92nd centile
Much higher than average for this age. Only 8% of children are more myopic than 9.

-4.00 D Adult Myopia Level
Without myopia management, your child is expected to reach -4.00 D by age 20 based on their current centile position.

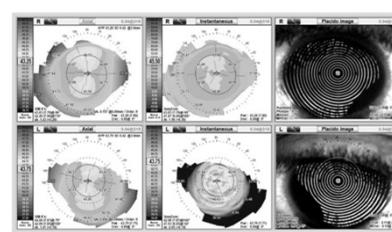
• Parents opted for dual-focus contact lenses and began treatment that day

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Case 8
11 Y/O

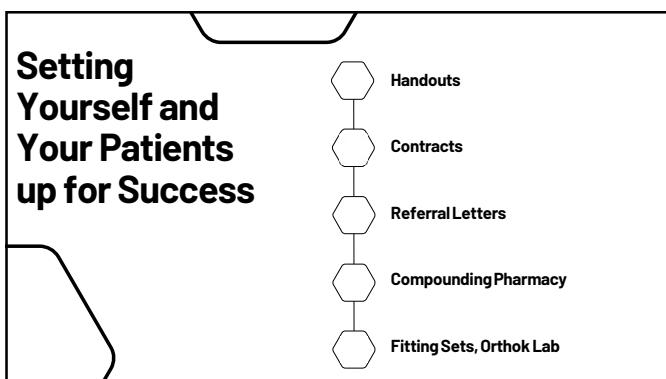
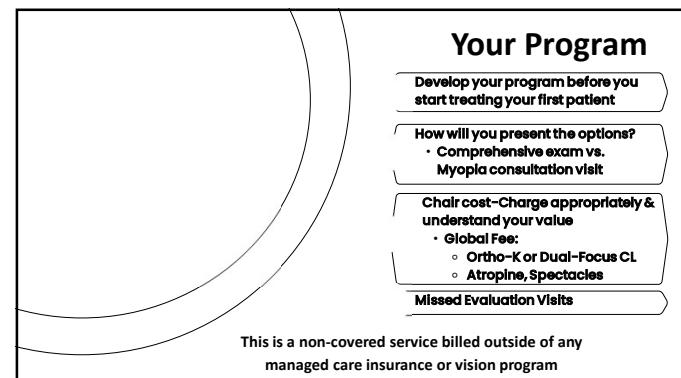
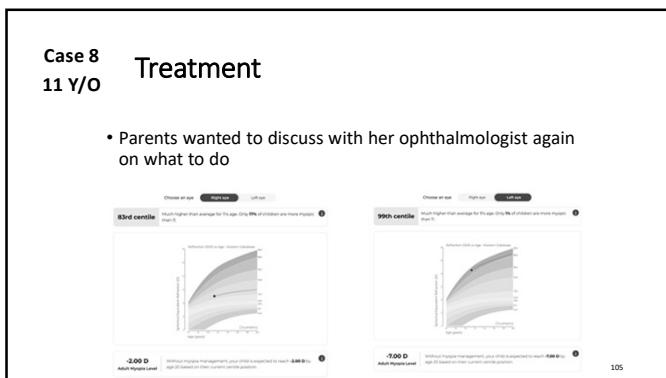
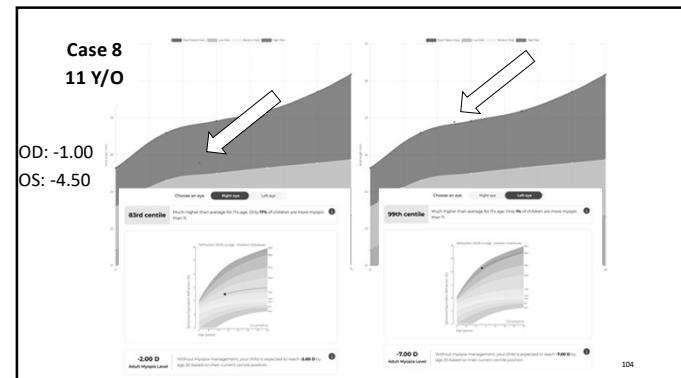
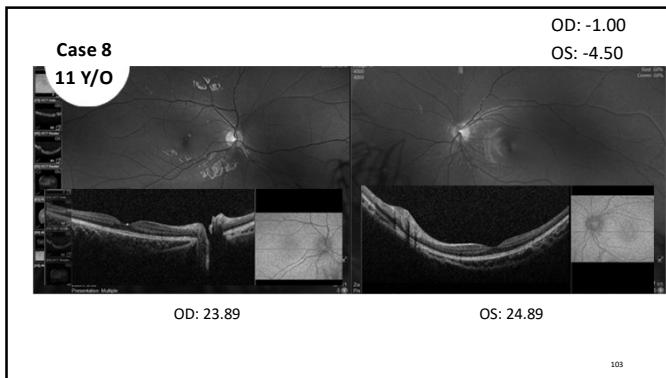
Second Opinion

OD: 20/50- OS: -1.00
OS: 20/400- OS: -4.50



OD: 43.87@086/42.40@176
OS: 44.00@079/42.99@169

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Who is going to be your main referral source?

YOU!

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Letters Back to the Pediatrician

- Once you do have a patient referral ensure you send a nice treatment plan letter back.
- Patient feedback loop



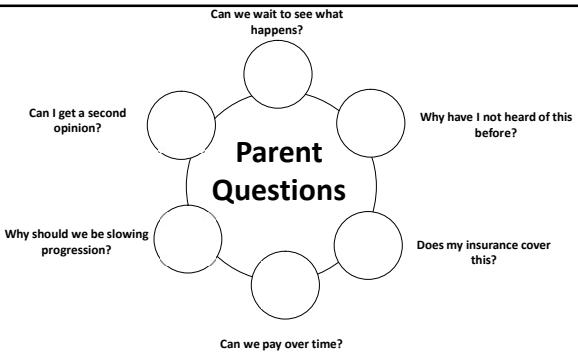
Your Office and Your Team



Phone
YOU
Your Office
Word of Mouth
Website

Your Pitch

- You already have a myopia clinic... Take the time and nurture it
- Discuss pros and cons of treatment
- Don't be discouraged by no
- Have both parents present at consult



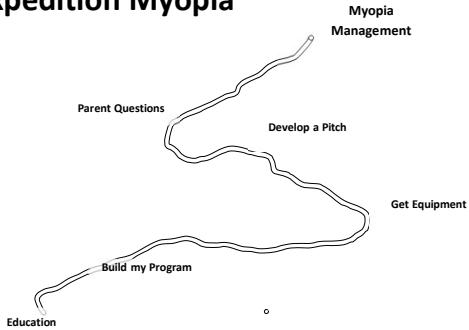
Communication
Connection
Culture
+ Compassion

Patient and Practice Success

Monday Morning... Now What?

- We need to be the ones to own this
- Access the risk factors
- Discuss options
- Ask for help

Expedition Myopia



Other Pearls

- Talk about outdoor time
- Talk about screen time
- Talk about driving

Children who own a smartphone: Average screen time now ranges from 5.5 to 8.5 hours per day

For example, the percentage of kids from 6 to 11 years old who own a smartphone steadily increased from 2013 to 2017, as of 2017, the 8- to 12-year-old child screen media about 5.5 hours per day and the 13- to 18-year-old child spends 8.5 hours per day (see Figure 5-4; Common Sense, 2021). Among households with children younger than age 8, smartphone ownership increased from 41% to 77% and tablet ownership increased from 8% to 75% from 2013 to 2017 (Common Sense, 2021). As children are spending more time in front of screens instead of smart devices, the recent surge in electronic device usage has been argued to further add to the already high rates of myopia (Dirani et al., 2019; Foreman et al., 2021; Lince & Sew, 2020). Gaining a better understanding of the effects of electronic device use on myopia is crucial for shaping public health policies, educational strategies, clinical practice guidelines, and parenting approaches.

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Providing Solutions Over Sales



The trick to forgetting the big picture is to look at everything close-up

Chuck Palahniuk

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Generations to
Come...

