

49th

ECLSO

European Contact Lens and
Ocular Surface Congress

EUROPEAN CONGRESS
ON MYOPIA CONTROL

2 - 3
September
2022

Novotel Tour Eiffel

Paris - France



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OPHTHALMOLOGISTS

Effectiveness of Soft Contact Lenses for Myopia Management

Keith Tempany

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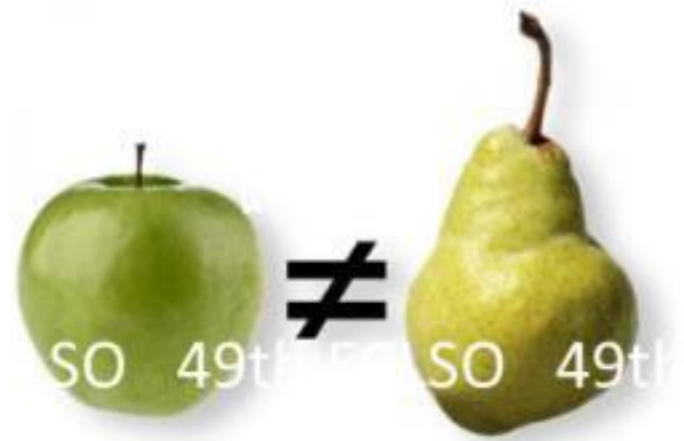
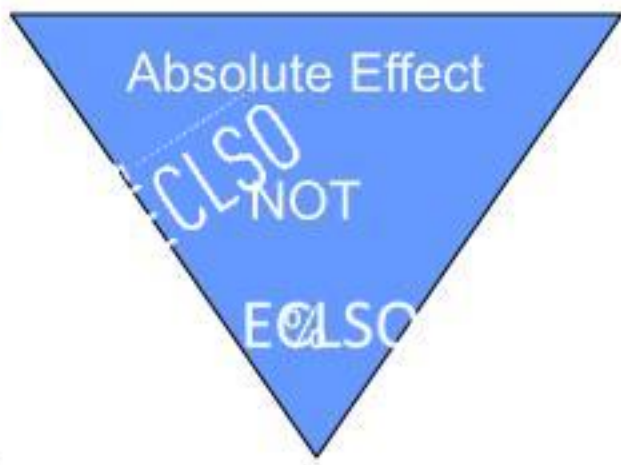
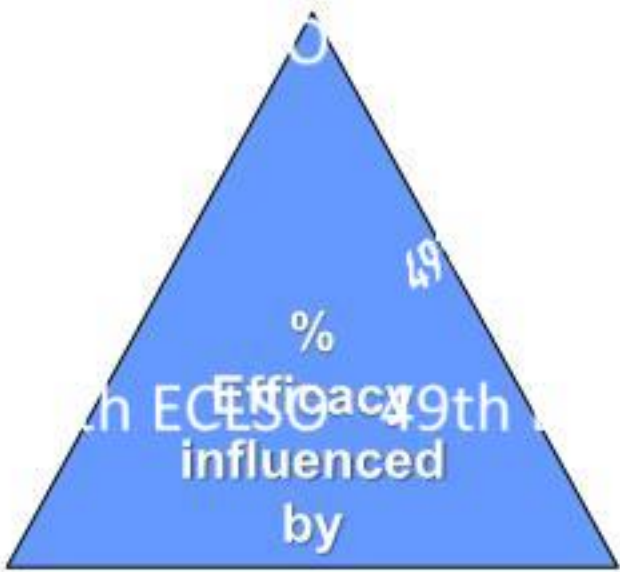
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Speaker's name : Keith TEMPANY, Poole, Dorset

I have the following potential conflicts of interest to report:

Honoraria: ALCON, BAUSCH+LOMB, COOPERVISION

Myopia Control Efficacy reporting



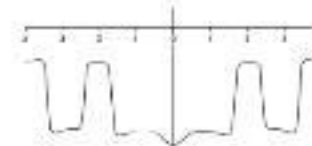
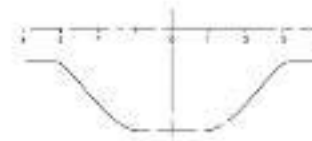
Single Vision SCLs

	Design	Sample size	Age range	Duration
Andreo 1990	Retrospective		14 - 19	13 months
Horner et al 1999	Prospective	175	11 - 14	3 years
Walline et al 2008	Prospective	484	8 - 11	3 years

- There was no statistically significant difference in the rate of myopia progression between those who wore contact lenses full-time and those wearing spectacles
- No difference in mean spherical equivalent refractive errors, between spectacle and soft contact lens wearers after 3 years.
- "Soft contact lens wear by children does not cause a clinically relevant increase in AL, corneal curvature, or myopia relative to spectacle lens wear."

Lens Designs: -concentric power profiles

- Peripheral Progressive Add Multifocal
- Concentric Ring Dual focus



IMI Report: Volume one

Interventions for controlling myopia onset and progression

Similar boundary conditions for recruited subjects in 9 RCTs

Age Range 7-18

Average SE -2.00
Range -0.50 to -6.00

- 3 Concentric Rings
- 6 Progressive power
- 3 used commercially available CLs

38%

slowing of

SE progression

37.9%

slowing of

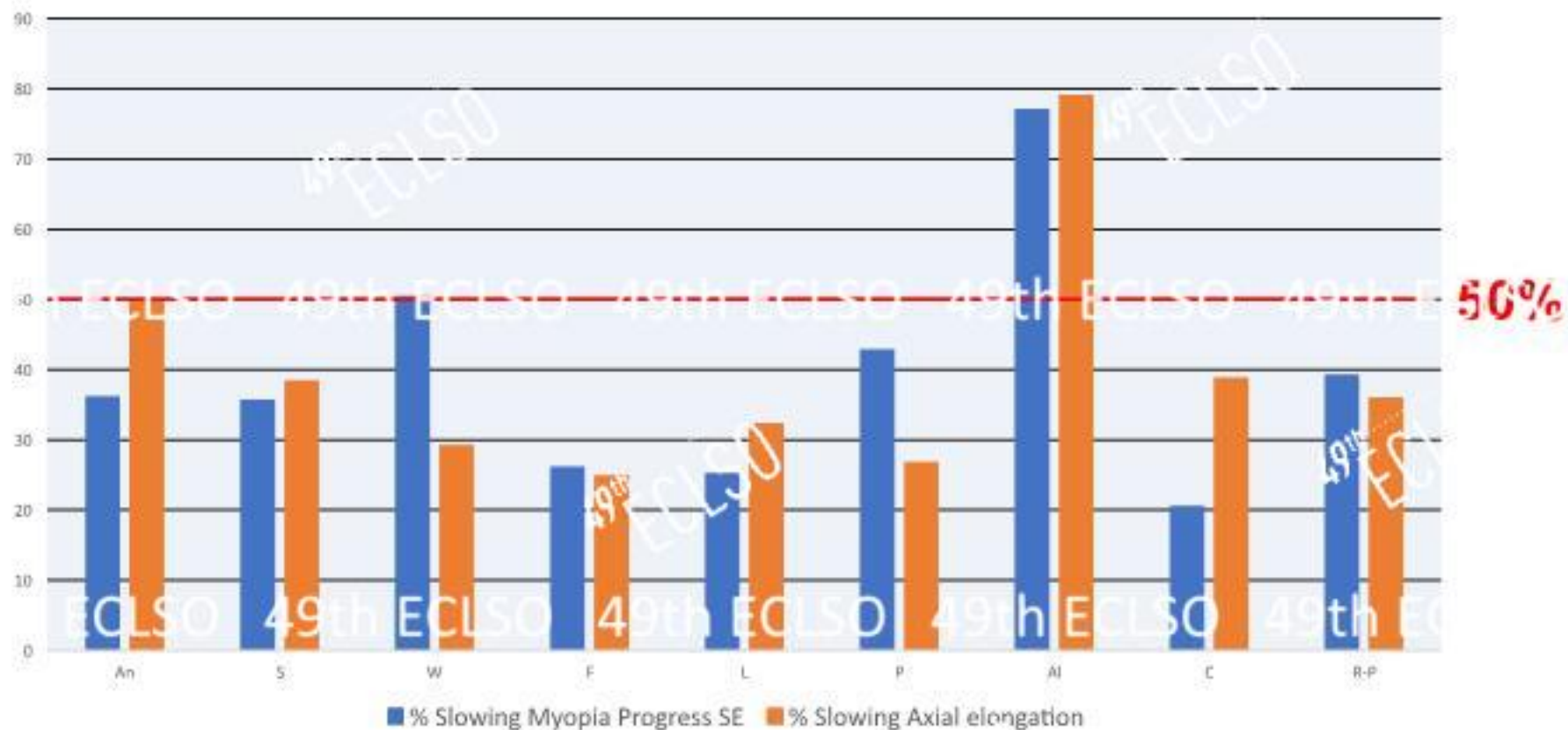
axial elongation

Concentric rings
Better Axial elongation
Control

31.6%

IMI report: Interventions

Efficacy of studies listed in IMI White Paper



Anstice & Phillips 2011



Effect of dual-focus soft contact lens wear on axial myopia progression in children
Anstice NS, Phillips JR. *Optom*. 2011 Jun;92(6):49-54. doi: 10.1016/j.optbase.2010.10.005. Epub 2011 Jun 23.

Effect of dual-focus soft contact lens wear on axial myopia progression in children

Nicola S Anstice¹, John R Phillips

Affiliations: + expand

PMID: 21276616 DOI: 10.1016/j.optbase.2010.10.005

Abstract

Purpose: To test the efficacy of an experimental Dual-Focus (DF) soft contact lens in reducing myopia progression.

Design: Prospective, randomized, paired-eye control, investigator-masked trial with cross-over.

FULL TEXT LINKS

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PAGE ANALYTICS

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40%
SO kids 9th

Dual
Focus

One
SO Ey 49th

SO 4
10/12

36%
SO M 49th

SO 4
50%
ALE

Sankaridurg et al 2011

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Randomized Controlled Trial Invest Ophthalmol Vis Sci. 2011 Dec 9;52(13):9362-7.
doi: 10.1167/iov.11-7260

Decrease in rate of myopia progression with a contact lens designed to reduce relative peripheral hyperopia: one-year results

Padmaja Sankaridurg¹, Brian Holden, Earl Smith 3rd, Thomas Naduvilath, Xiang Chen, Percy Lazon de la Jara, Aldo Martinez, Judy Kwan, Arthur Ho, Kevin Frick, Jian Ge

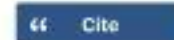
Affiliations + expand

PMID: 22039230 DOI: 10.1167/iov.11-7260

FULL TEXT LINKS



ACTIONS



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45
SO kids 9th

7-14

SV
SO pet 49th

1 year

34%
SO MP 49th

33%
ALE

Lam et al 2014



Randomized Controlled Trial > Br J Ophthalmol. 2014 Jan;98(1):40-5.
doi:10.1136/bjophthalmol-2013-303914. Epub 2013 Oct 29.

Defocus Incorporated Soft Contact (DISC) lens slows myopia progression in Hong Kong Chinese schoolchildren: a 2-year randomised clinical trial

Carly Siu Yin Lam¹, Wing Chun Tang, Dennis Yan-Yin Tse, Ying Yung Tang, Chi Ho To

Affiliations + expand

PMID: 24169657 PMCID: PMC3888618 DOI: 10.1136/bjophthalmol-2013-303914

[Free PMC article](#)

Abstract

Objective: To determine if 'Defocus Incorporated Soft Contact' (DISC) lens wear slows childhood myopia progression.

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ACTIONS



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PDF NAVIGATION

128
SO kids 9th

+2.50
v
SVCL

8-13
SO yr 49th

250 4
2 yrs

25%
SO MP 49th

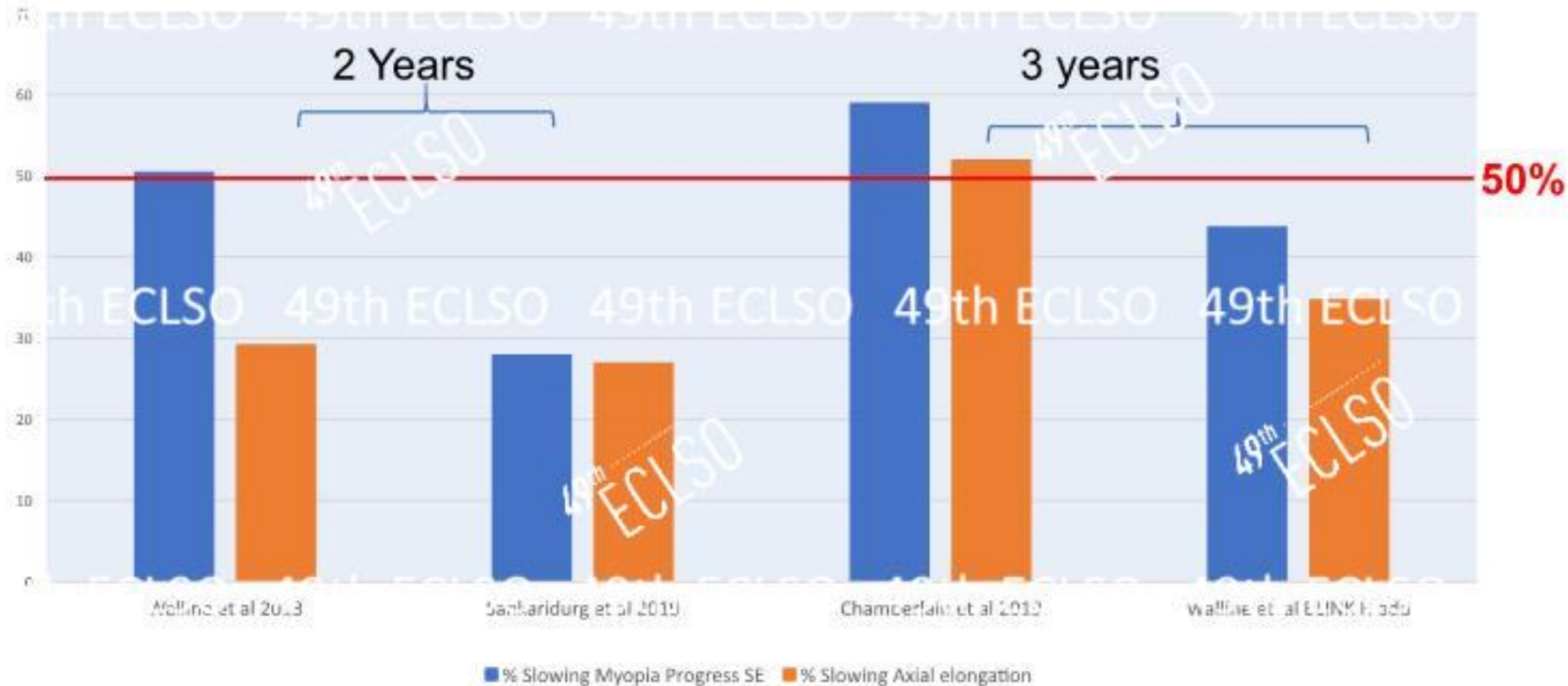
46%
5hrs+

IMI report

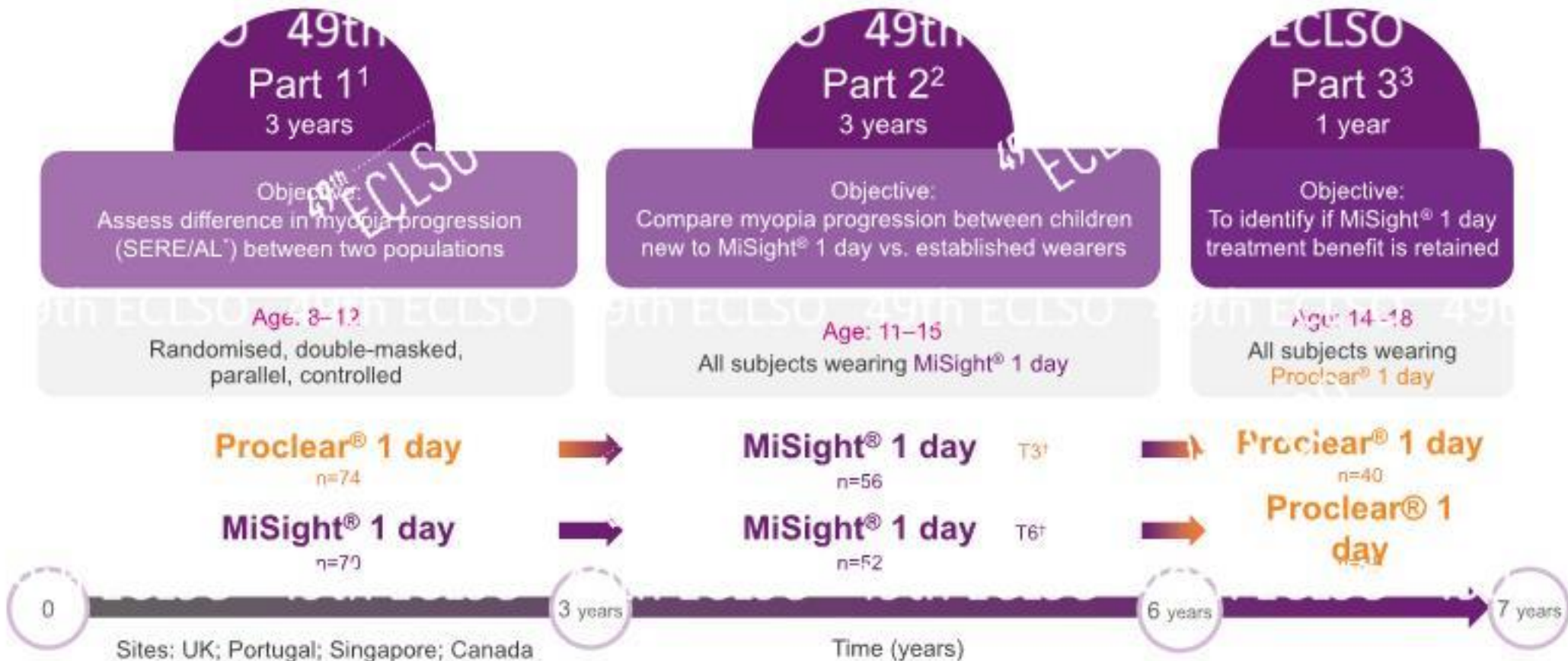
Clinical myopia control trials and Instrumentation report

- Myopia control interventions tend to be less effective after the first year
- Clinical trials should evaluate efficacy over a long period to avoid incorrect conclusions
- 3 years recommended minimum including 1 year of no treatment

RCTs of 2 years+ commercially available



MiSight® 1 day clinical trial design



*Spherical equivalent refractive error (Ax, V) length.

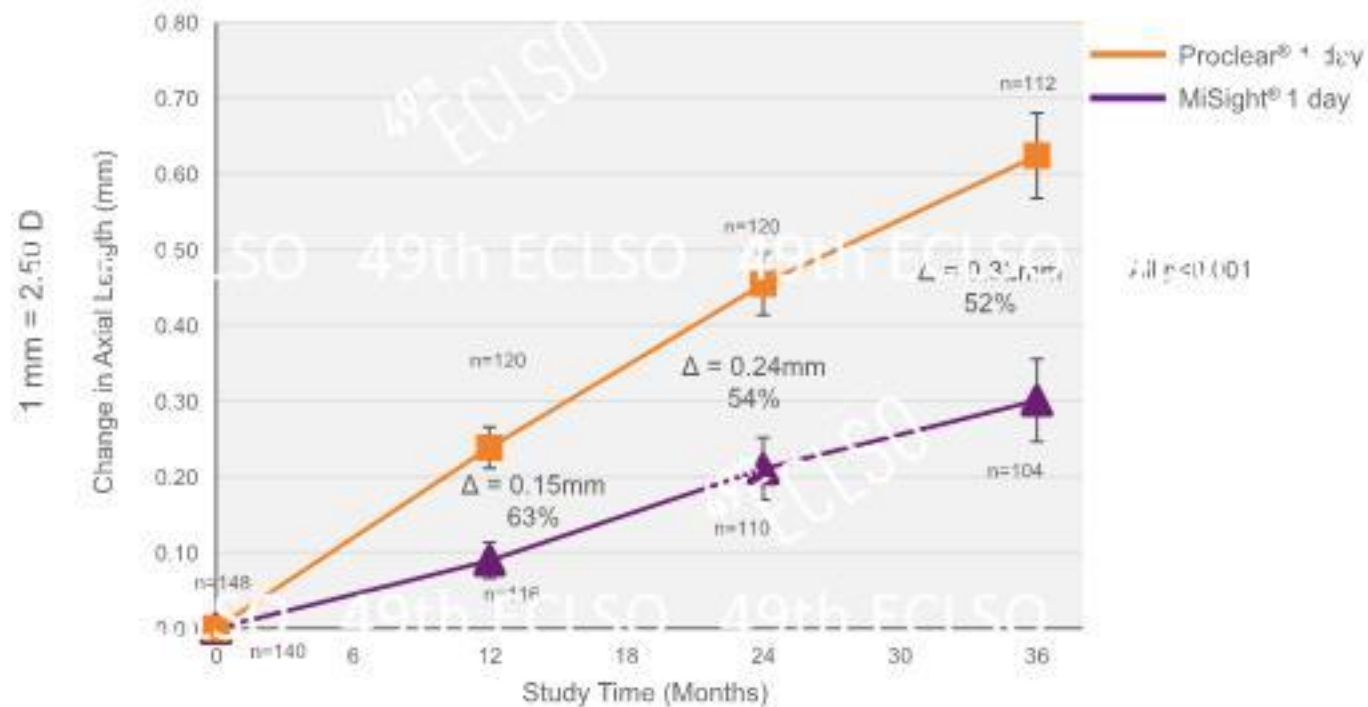
1. Chamberlain P et al. A 3-year Randomized Clinical Trial of MiSight Lenses for Myopia Control. *Optom Vis Sci*. 2019; 96(8): 556-557.
2. Chamberlain P et al. Long-Term Effect of Dual-Focus Contact Lenses on Myopia Progression in Children: A 6-year Multicenter Clinical Trial. *Optom Vis Sci*. 2022.
3. Chamberlain P et al. Myopia progression on cessation of Dual-Focus contact lens wear: MiSight 1 day 7-year findings. *Optom Vis Sci*. 2021; 98(E-abstract): 2100.

Slide Courtesy of CooperVision

Part 1: How effective is MiSight® 1 day?

52% reduction in axial length growth^{1*}

Change in axial length (mm) from baseline^b



With 95% confidence intervals. Includes all available subjects.
*Compared to a single-vision 1 day lens.

1. Chamberlain P et al. A 3-year Randomized Clinical Trial of MiSight Lenses for Myopia Control. Optom Vis Sci. 2019; 96(7): 556-567.

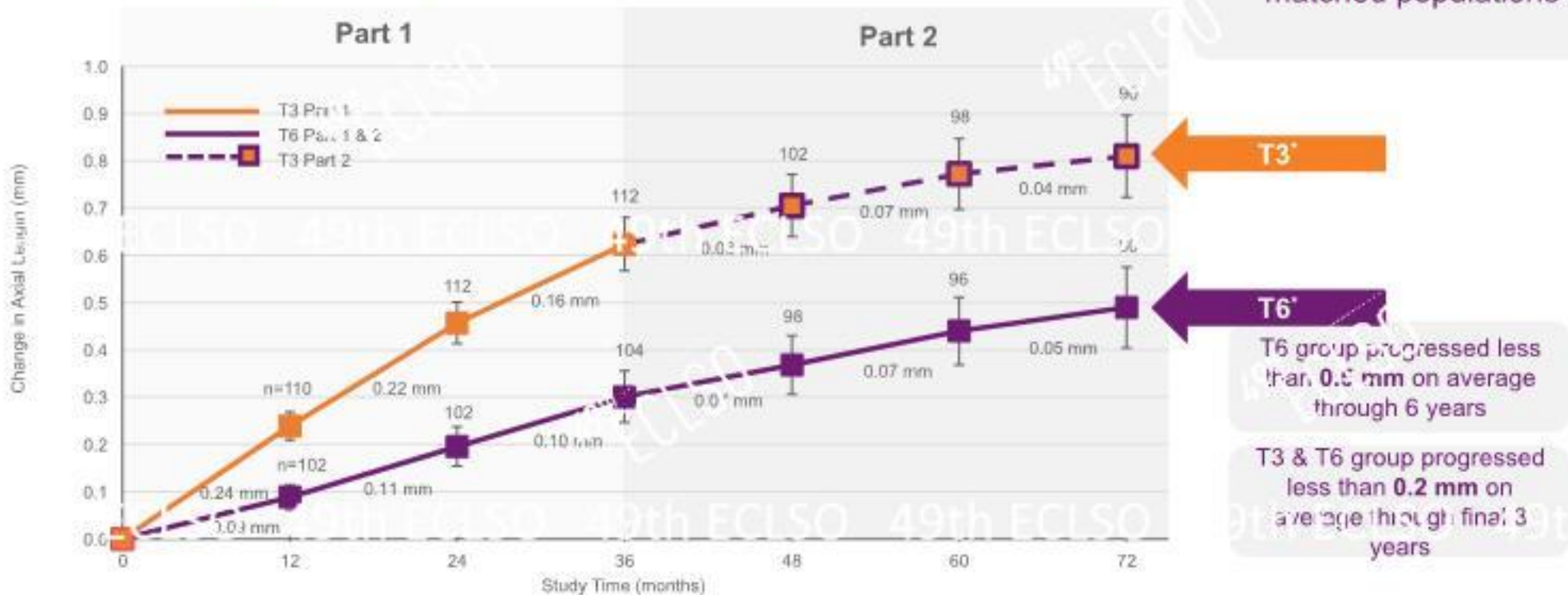
Slide Courtesy of CooperVision

Part 2: When should you start treatment with MiSight® 1 day?

Change in axial length¹

0 to 72 months (Parts 1 & 2)

Two groups demographically matched populations



¹T3 and T6 had worn MiSight® 1 day lenses for 6 years respectively at the end of Part 2.

1. Chamberlain P, et al. Long-Term Effect of Dual-Focus Contact Lenses on Myopia Progression in Children: A 3-year follow-up Clinical Trial. *Optom Vis Sci*. 2021



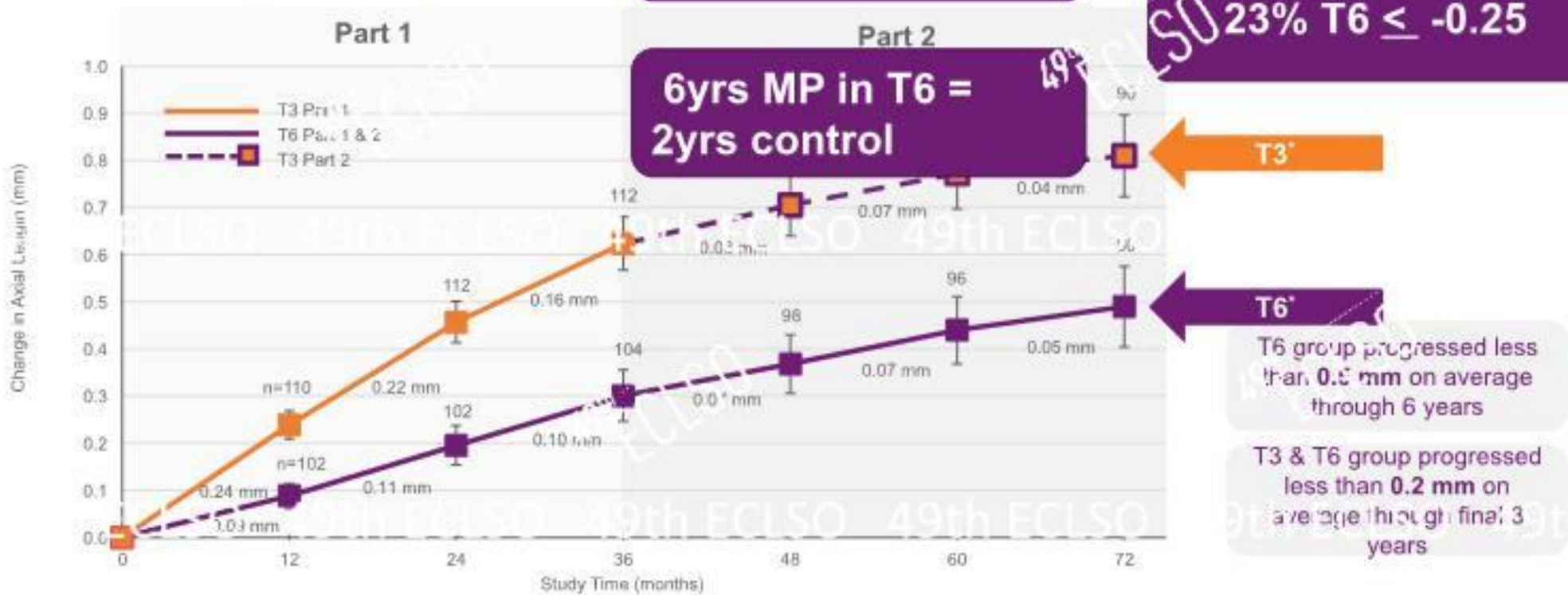
Part 2: When should you start treatment with MiSight® 1 day?

Change in axial length¹

0 to 72 months (Parts 1 & 2)

9th ECLSO over 4 years

23% T6 ≤ -0.25



6yrs MP in T6 = 2yrs control

T6 group progressed less than 0.5 mm on average through 6 years

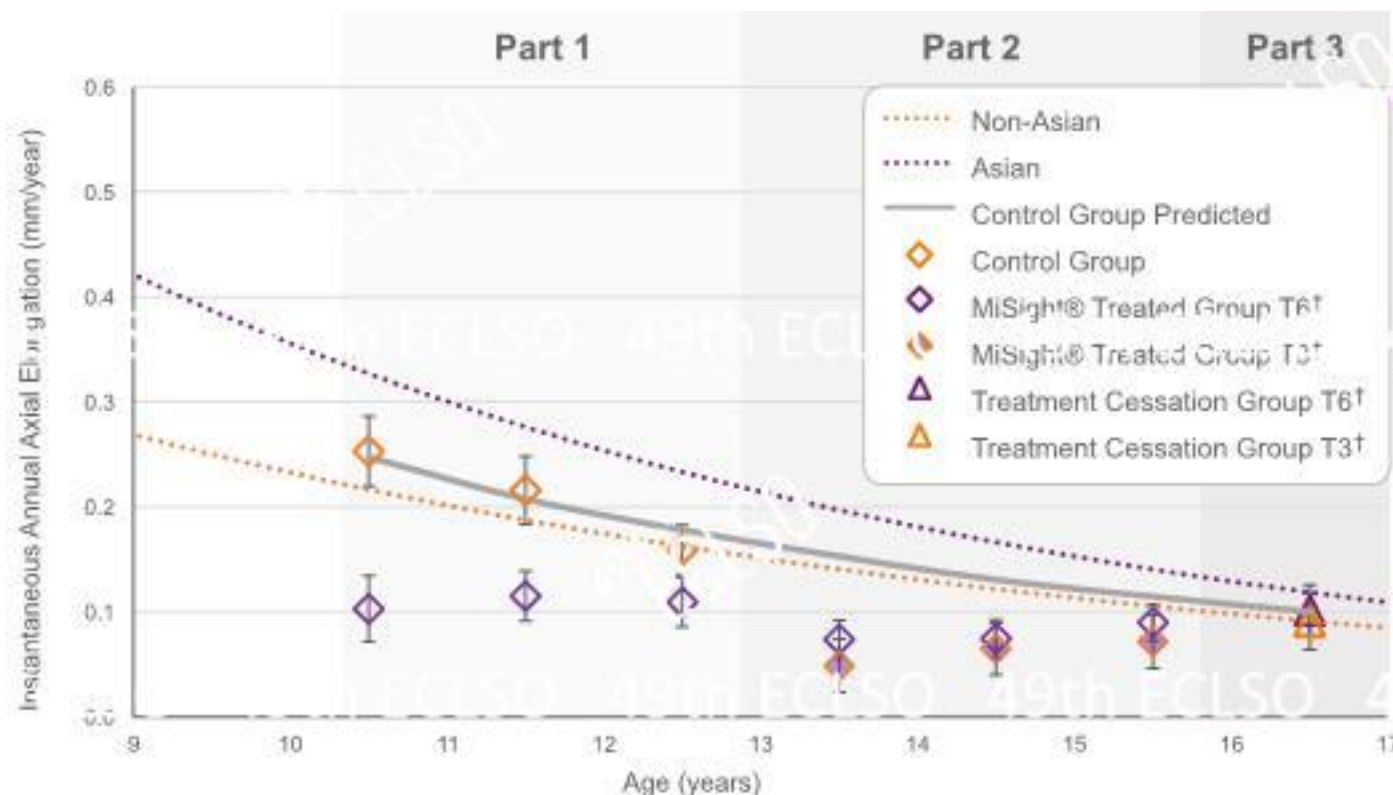
T3 & T6 group progressed less than 0.2 mm on average through final 3 years



¹T3 and T6 had worn MiSight® 1 day lenses for 6 years respectively at the end of Part 2.

1. Chamberlain P, et al. Long-Term Effect of Dual-Focus Contact Lenses on Myopia Progression in Children: A 3-Year Multicenter Clinical Trial. *Optom Vis Sci*. 2021

Part 3: What happens when children stop wearing MiSight® 1 day? Eye growth model for treatment cessation^{1,2*}



MiSight® 1 day **slowed axial length change** in Parts 1 and 2

Following treatment cessation, eyes grew at **age-expected annual rates** for untreated eyes^{1,2†}

*12 months post-treatment, evidence indicates that no accumulated myopia control benefits were lost following 3 or 6-years of MiSight® 1 day wear (on average, for children aged 8-15 at start of wear). Instead, eye growth reverted to expected, age-normal rates.
†T3 and T6 had worn MiSight® 1 day for 3 and 6 years respectively at the end of Part 2.

1. Chamberlain P et al. Myopia progression on cessation of Dual-Focus contact lens wear: MiSight 1 day 7-year clinical trial. *Optom Vis Sci*. 2021; 98(E-abstract): 211
2. Hammond D et al. Myopia Control Treatment Gains are Retained after Termination of Dual-focus Contact Lens Wear with no Evidence of a Rebound Effect. *Optom Vis Sci*. 2021; 98(E-abstract):

Licensed and available in Europe

Name	Manufacturer	Sph power range	Cyl power range	Axis steps	Modality
Esencia (customizable)	Tiada	0.00 -20.00	0.25 to -6.00	5°	90 days
Misight	Coopervision	-0.25 to -10.00	- N/A	N/A	Daily
Mylo (customizable)	Mark'ennovy	-0.25 to 15.00	- N/A	N/A	Monthly
Naturalvue/ Bloom Day	VTI/ Meridian	0.25 to 12.25	- N/A	N/A	Daily
Relax (customizable)	SwissLens	-0.25 to 40.00	To -8.00	1°	90 days

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Name	Manufacturer	Study Design	Duration/ Population	Age at start	Slowing of SER	Slowing of ALE
Esencia (customizable)	Tiendra	Prospective RCT	1 year/ 70	7-15	41%	51%
Misight	Coopervision	Prospective RCT	3 yrs/ 144	8-12	59%	52%
Mylo (customizable)	Mark'ennovy	Prospective RCT	2yrs/ 508	8-13	?	?
Naturalvue/ Bloom Day	VTI/ Mericon	Retrospective case series.				
Relax (customizable)	SwissLens	No RCT.				

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Thank You