

# **Minus Soft Contact Lens Power Progression in Young Myopes: A Retrospective Chart Review**

Habitual

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## INTRODUCTION

• The purpose of this secondary analysis is to describe predictive factors associated with myopic progression in soft contact lens (SCL) power in a young population who presented for routine clinical eye care.

• Post-market survey of the original CLAY database

### **METHODS**

- Review of a myopic soft contact lens (SCL) cohort from the original CLAY retrospective chart review of 3,549 SCL patients
  - 912 SCL patients with a total of 1,843 years of CL wear and 4.341 visits.
  - 551 myopes progressed at least 0.25 D during the observation period.
- Inclusion criteria
  - Ages between 8 to 22 years at initial visit
  - Hydrogel or Silicone Hydrogel wearer (Spherical, Toric or Multifocal) • Hydrogel 37%, Silicone hydrogel 63%
  - Spherical SCL power of -0.50 and -12.00 D in the less myopic eye
  - Less than 1.00 DC in the most astigmatic eve
  - At least 6 months of follow-up
- Analysis
  - Amount of myopia progression was defined as an increase of -0.50 D SCL power in at least one eye
  - Multivariate regression modeling was used to identify factors associated with amount of progression adjusted for the length of follow-up.

### Race by Age Group

Age at 1 <sup>st</sup> Visit	Caucasian	Hispanic	Black	Asian	Other	Total - Known Race	Unknown/ Not Collected
8-10	11	3	0	3	1	18	11
11-13	56	17	11	7	1	92	35
14-16	137	56	35	21	6	255	64
17-19	93	24	19	16	8	160	71
20-22	95	15	20	17	11	158	48
Total	392	115	85	64	27	683	229
	57.4%	16.8%	12.4%	9.4%	4.0%		



Predictor	Group	Beta
Age at 1 <sup>st</sup> visit	(Years)	
	8 to 13	0.329
	14 to 16	0.079
	17 to 19	0.033
	20 to 22	REF
Rx at 1 <sup>st</sup> Visit (SEQ)		-0.029
CL Material		
	Hydrogel - Reusable	-0.105
	SiHy	-0.144
	Hydrogel – Daily Disposable	REF
Time to 1 <sup>st</sup> Change (months)		-0.0097

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### **RESULTS**





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### DISCUSSION

• Using a retrospective chart review, we found a similar rate of myopic progression as in prospective studies in this age group.<sup>1-4</sup> • Changes in SCL power may have the advantage of capturing a clinically meaningful increase in refractive error.

• This was a conservative estimation of myopic progression.

• The cohort was majority Caucasian but we found results similar to estimates in the young Asian patient population. <sup>1,5</sup>

• Highest rate of power change was among 8-13 year olds. Entry into clinical trials should start at the young end of that age range.

### **CONCLUSIONS**

• Age is a predictive factor for increases in minus SCL power, with ages 8 to 13 showing the most increase.

• Higher myopia at the first visit was predictive of higher amounts

• Each month of delay in SCL power change reduced the total amount of progression observed.

• There was less progression in silicone hydrogel wearers after controlling for age when compared with daily disposable hydrogel

• Change in SCL power during the 1<sup>st</sup> visit (active myopia progression) was not predictive of future myopic progression. • Use of these predictive factors, young age, degree of myopia, time to first change in power, may be helpful in designing longitudinal trials to optimize the ability to identify subjects who are likely to experience myopia progression.

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