



Struggle with Hydrogel CL Wear Increases with Age in Young Adults

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Purpose

- To report the symptoms and experiences associated with habitual hydrogel (Hyd) and silicone hydrogel (SiHy) contact lenses (CLs) among young adults presenting for participation in CL clinical trials
- To measure the association of these symptoms and experiences with age from 18 to 35 years

Methods

- Questionnaire responses from 699 Hyd and 183 SiHy wearers presenting for CL clinical trials were analyzed to test the association of lens type and age with items indicating struggle with CL wear
- Prevalence by age was compared between groups with Pearson's χ^2
- Prevalence within groups was compared with Spearman's correlation coefficient.

Table 1. Habitual Lens Brands

Hydrogel	N (%)	Silicone Hydrogel	N(%)
Acuvue/Acuve 2	305 (44)	Acuvue Advance	108 (59)
Focus Dailies	39 (6)	Night & Day	44 (24)
Freshlook	42 (6)	O2Optix	26 (14)
Biomedics 55	31 (4)	PureVision	5 (3)
Proclear Compatibles	29 (4)		
Optima FW	21 (2)		
1 Day Acuvue	17 (2)		
Focus Monthly	10 (1)		
B&L 2 Week	11 (2)		
Frequency 55	15 (2)		
Focus 1-2 Week	12 (2)		
Frequency 55 Aspheric	12 (2)		
Other Brands	100 (14)		
Don't Know	56 (8)		

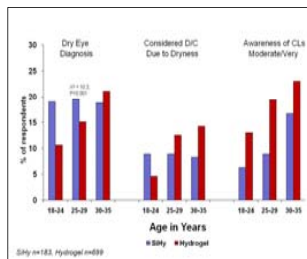
Table 2. Demographics

Age Group	18-24	25-29	30-35	p-value
SiHy	79 (43%)	56 (31%)	48 (26%)	0.62
Hyd	303 (43%)	192 (27%)	204 (29%)	
	% Male			
SiHy	29 (37%)	18 (32%)	14 (34%)	0.58
Hyd	97 (32%)	49 (26%)	58 (35%)	

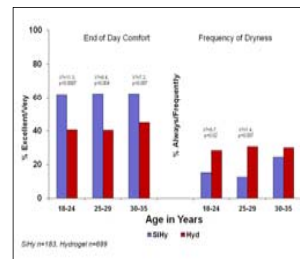
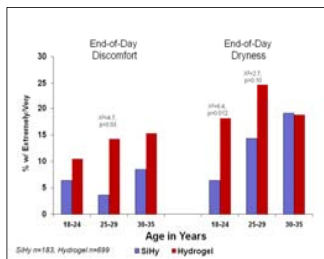
Results

- Dry Eye Diagnosis increased with age in the Hyd wearers from 10.6% (18-24 yrs) to 21.1% (30-35 yrs), but was 19% in the SiHy wearers across age.
- Adverse environments caused more discomfort with Hyd than SiHy lenses and Hyd wearers' discomfort increased with age: smoky (p=0.0001), dry air environments (p=0.002), after napping or sleeping (p=0.004)
- More Hyd wearers considered discontinuation of CL wear with age, from 4.6% (18-24 yrs) to 14.2% (30-35 yrs, p<0.04), but the proportion remained steady at 9% across age for SiHy wearers (p=0.46).

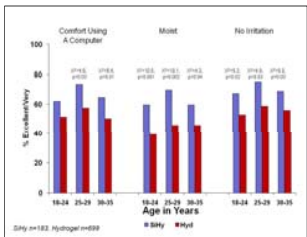
Global Aspects of Lens Wear



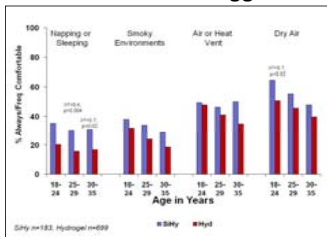
Symptoms



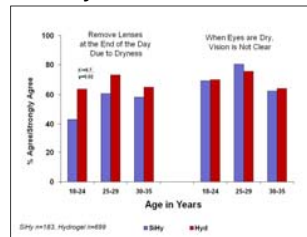
Lens Attributes



Comfort with Environmental Triggers



Coping Strategy & Dryness and Vision



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Analysis

Table 3. Prevalence of Response by Lens Type – All Ages

Question	Response	Hydrogel (%)	Silicone Hydrogel (%)	χ^2	p-value
Dry Eye Diagnosis	Yes	11.0	19.3	8.6	0.003
Considered Discontinuing	Agree Strongly or Somewhat	10.0	9.1	0.13	0.72
	Moderate or Very	17.9	9.1	8.0	0.005
Lens Awareness		13.0	6.3	5.9	0.015
End-of-day Discomfort	Extremely or Very	20.8	12.1	6.8	0.009
End-of-day Dryness		41.2	63.1	26.8	0.0001
Frequency of Dryness	Always or Frequently	25.3	16.5	11.7	0.0006
Comfort Using a Computer		52.4	67.6	12.9	0.0003
Moist	Excellent or Very	42.3	63.4	24.7	0.0001
No Irritation		54.7	71.0	15.2	0.0001
Comfort After Nap/Sleep		20.3	35.7	16.2	0.0001
Smoky Environments		28.4	37.4	5.0	0.026
Under Heat or Air Conditioning	Always or Frequently	44.4	49.4	1.3	0.25
Dry Air Environment		49.3	62.3	8.8	0.003
Need to Remove from Dryness	Agree Strongly or Somewhat	67.3	52.6	13.0	0.0003
When Dry, Vision not Clear		70.5	72.7	0.34	0.56

Bold = p<0.05, Pearson's χ^2

Table 4. Correlation with Age 18-35 Years

	Question	Hydrogel (r)	p-value	Silicone Hydrogel (r)	p-value
Global Aspects	Dry Eye Diagnosis	0.13	0.0005	-0.01	0.94
	Considered Discontinuing	0.08	0.038	-0.05	0.46
Symptoms	Lens Awareness	-0.08	0.047	-0.21	0.005
	End-of-day Discomfort	0.01	0.84	-0.02	0.77
	End-of-day Dryness	-0.02	0.52	-0.08	0.29
	End-of-day Comfort	0.04	0.35	-0.05	0.46
Environmental Triggers	Comfort After Nap/Sleep	-0.11	0.004	-0.05	0.04
	Smoky Environments	-0.18	0.0001	-0.07	0.37
	Under Heat or Air Conditioning	-0.13	0.0009	0.02	0.77
Coping Strategy	Dry Air Environment	-0.12	0.002	-0.13	0.08
	Need to Remove for Dryness	0.03	0.35	-0.12	0.10
Impact on Vision	When Dry, Vision not Clear	-0.01	0.88	-0.01	0.88

Bold = p<0.05, Spearman's correlation

Conclusions

- From age 18 to 35 years, hydrogel CL wearers reported increasing struggle with CL wear compared to SiHy wearers.
- Older Hyd wearers were more likely to consider discontinuing CL wear

Young adult CL wearers should be asked directly about struggle with CL wear in order to determine if different lens types should be prescribed to avoid abandonment of CLs.