

# Comparison of silicone hydrogel versus hydrogel daily disposables in an astigmatic population

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# Purpose & background

- There are now more options to correct astigmatism with daily disposable (DD) silicone hydrogel (SH) lenses.
- SH typically have higher modulus than their hydrogel (H) counterparts and it is of particular interest how they compare with regard to
  - Comfort
  - Lens Fit
- **DDSH: MyDay toric (MDT)** : modulus 0.4 MPa  
(stenfilcon A; Optimised Toric Lens Geometry™, CooperVision)
- **DDH: 1-Day Acuvue® Moist for Astigmatism (AMA)** : modulus 0.2 MPa  
(etafilcon A; Blink Stabilized® design, Johnson & Johnson)



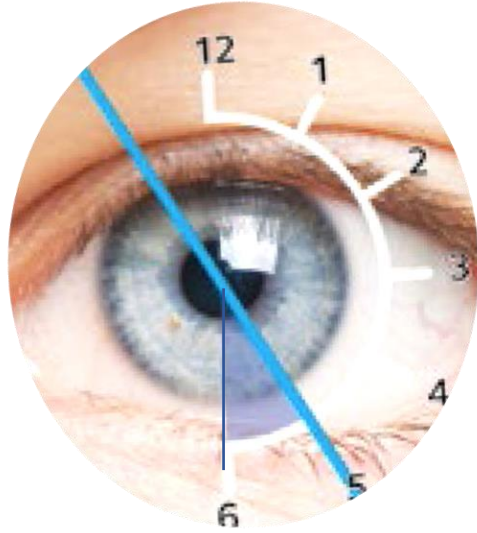
# Methods

- 2-sites: CORE & CRC Berkeley , 44 subjects
- 1-week cross-over, randomized lens order, open label
- At the final 1-week visit, key outcomes :
  - subjective comfort: insertion, during day, end of day (0-100)
  - lens movement (mm),
  - tightness (push-up 0-100; 50=optimum),
  - lens orientation,
  - rotational recovery after 30° forced mislocation.

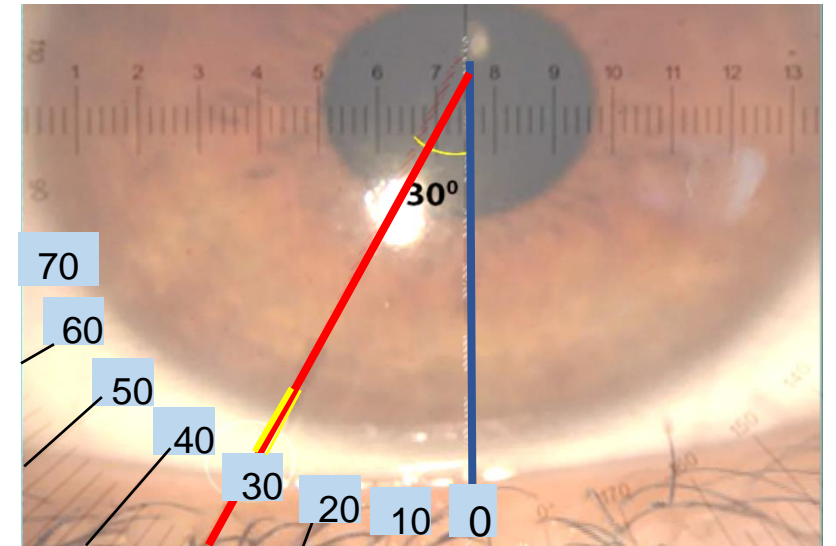


# Methods

## ROTATIONAL RECOVERY



- Rotate lens 30° from habitual position
- After 10 normal blinks, measure degrees recovered.
- Best recovery = 30°, returned to habitual position
- Worst recovery = 0°



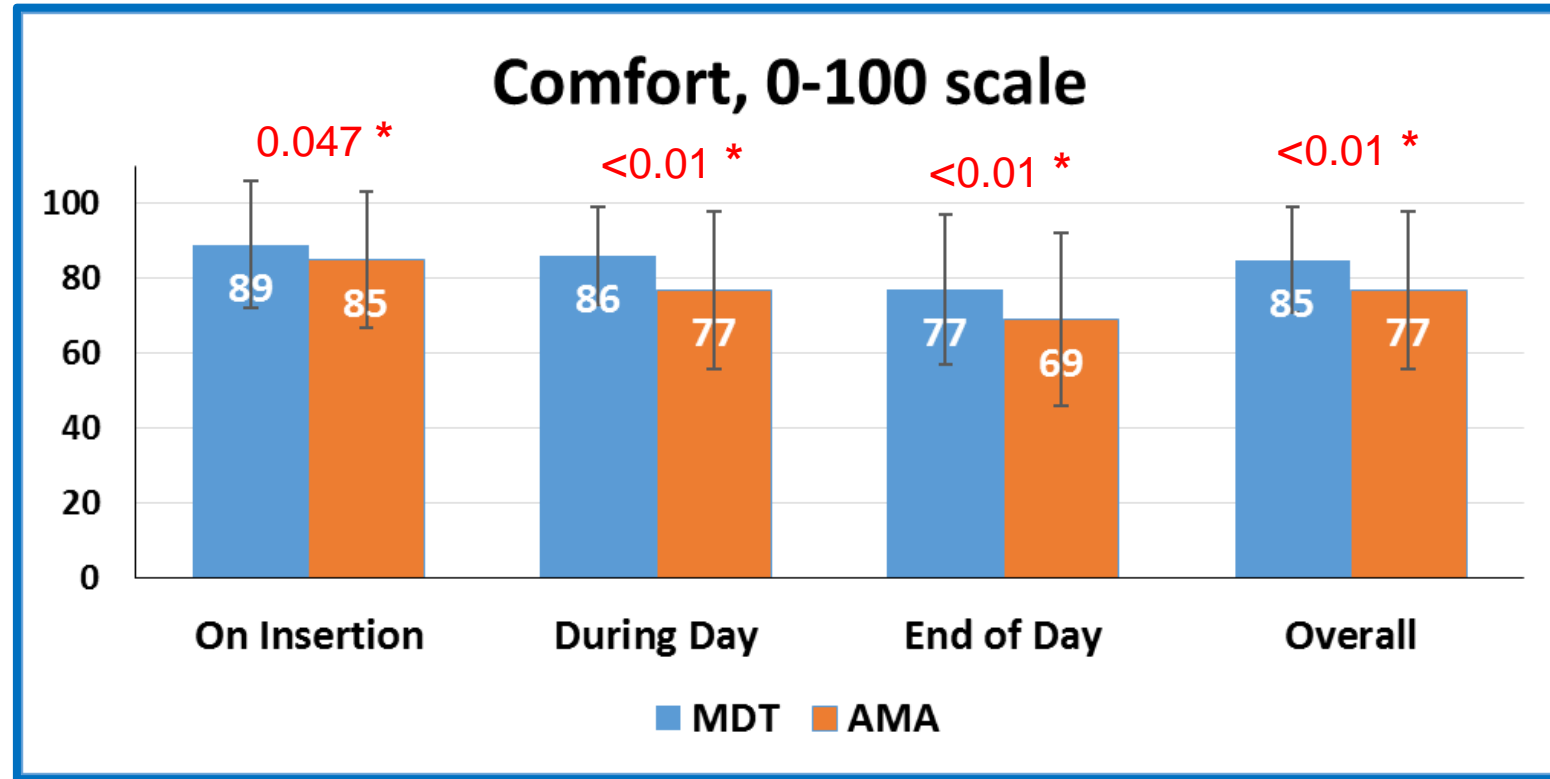
Lens has been rotated from habitual position (vertical blue line) so toric mark (yellow) aligns 30° nasal (red line) before starting the 10 blink recovery period.



**CORE**



# Results: COMFORT & VISION (mean $\pm$ SD)



Vision	MDT	AMA	p value
High contrast LogMAR	-0.09 $\pm$ 0.07	-0.09 $\pm$ 0.07	0.78
Low contrast LogMAR	-0.07 $\pm$ 0.07	-0.07 $\pm$ 0.07	0.54
Visual stability rating, 0-100	86 $\pm$ 14	80 $\pm$ 21	<0.01 *



# Results: LENS FIT (mean ± SD)

At 1-week visit	MDT	AMA	Paired p value
Movement on blink, mm	0.24 ± 0.13	0.29 ± 0.16	<0.01*
Tightness (0/falls - 50/optimal - 100/immobile)	47 ± 9	54 ± 11	<0.01*
Orientation % lenses stabilizing ≤5° from 6 o'clock:	68%	55%	0.09
Rotational recovery, degrees rotated back in 10 blinks (full recovery = 30°)	N: 17° ± 9 T: 17° ± 8	N: 12° ± 10 T: 11° ± 11	<0.01*
Overall stability (graded 0-4, 4=most stable)	3.4 ± 0.42	3.0 ± 0.40	<0.01*
Fit acceptance (graded 0-4, 4=optimal)	3.5 ± 0.4	3.3 ± 0.4	<0.01*



# Conclusions

- Despite having a higher modulus, MyDay Toric was rated more comfortable than Acuvue Moist for Astigmatism at all time points.
- MyDay Toric exhibited less movement on blink, better rotational recovery
- MyDay Toric lens fit was graded as more stable by investigators and subjects reported better visual stability

