

# The performance of a novel daily disposable multifocal toric contact lens compared to an existing multifocal contact lens

Eugene Osae OD PhD <sup>1</sup>, Ross Franklin BAppScOptom <sup>1</sup>, Giovanna Olivares OD FAAO <sup>1</sup>,  
Jessica Cannon-Hill MSc <sup>1</sup>, Thomas Karkkainen OD MS FAAO <sup>1</sup>

<sup>1</sup>Johnson & Johnson MedTech (Vision), Jacksonville, Florida, USA

## Purpose

The goal was to compare the results from a study on the performance of a novel multifocal toric contact lens design for a population with -1.00 to -1.75 D of astigmatism to the results from another study on the performance of a non-toric multifocal contact lens for a population with 0.00 to -0.75 D of astigmatism.

## Methods

In the multifocal toric lens study, a total of 171 subjects with refractive astigmatism of -1.00 to -1.75 D with axes 90±15 or 180±15 degrees were fit with a novel multifocal toric lens in a multi-site prospective single-arm clinical trial. In the other study, which was also a multi-site prospective single-arm clinical trial, a total of 136 participants were fit with the non-toric multifocal lens. Both the non-toric multifocal and multifocal toric lens share the same senofilcon A material and the ACUVUE® PUPIL OPTIMIZED Design with 3 near Add options, while the multifocal toric design also has the BLINK STABILIZED® Design and a 1.00 D cylinder correction.

The multifocal toric soft contact lens had sphere powers of -1.00D to -4.00 D and +1.00 D to +4.50 D, and a single cylinder power of 1.00 D with axes 90±10 and 180±10 degrees. The non-toric multifocal contact lens had sphere powers from -1.00 D to -6.00 D and +0.50 to +3.50 D. Both studies had 3 scheduled visits: baseline/dispense, first follow-up (3 days for non-toric multifocal, 1 week for multifocal toric), and second follow-up 1 week later. Up to 2 power modifications for each eye were allowed at Visit 1 and at Visit 2.

Outcome measures included logMAR Visual Acuity (VA), subjective assessments of vision, and fit success metric, defined as the number of lenses needed to achieve optimized vision correction.

Table 1: Demographic Profile Similarities Between Non-toric Multifocal and Multifocal Toric Studies

Demographic Factor	Non-toric Multifocal Study	Multifocal Toric Study
Sample Size	136	171
Gender	Female: 79.4% Male: 20.6%	Female: 69.6% Male: 30.4%
Age (SD)	51.8 (±6.78) years	53.5 (±7.97) years
Ethnicity	98.5% Non-Hispanic/Latino	93.6% Non-Hispanic/Latino
Refractive Status	Hyperopes: 36.0% Myopes: 64.0%	Hyperopes: 38.6% Myopes: 61.4%

## Results

### ❖ Patient Demographics

The demographic profiles of the two studies were similar, with both populations predominantly female, non-Hispanic/Latino, and from the United States. The non-toric multifocal study involved participants across 11 sites, while the multifocal toric study was conducted at 15 sites, both within the US. The age and refractive status distributions were also comparable between the studies (Table 1).

### ❖ Objective Vision

After 1-week of optimized lens wear, the mean binocular high luminance high contrast (HLHC) logMAR VAs for the non-toric multifocal and multifocal toric were within one letter (less than 0.02 logMAR difference) for distance (4m), intermediate (64cm), and near (40cm) (Figure 1).

### ❖ Subjective Vision

The top-two-box (T2B) most favorable responses on a five-point scale for the two lenses differed by no more than 10% for patient reported (subjective) vision outcomes on satisfaction with their near and distance vision, and overall quality of vision (Figure 2).

### ❖ Lens Fitting

Regarding ease of fitting, the multifocal toric lens was fit in 2 pairs or less for 96.6% of subjects (99% credible interval (CrI): 92.4 to 99.1%), compared to 98.5% (99% CrI: 95.9 to 99.7%) for the non-toric multifocal lens (Figure 3).

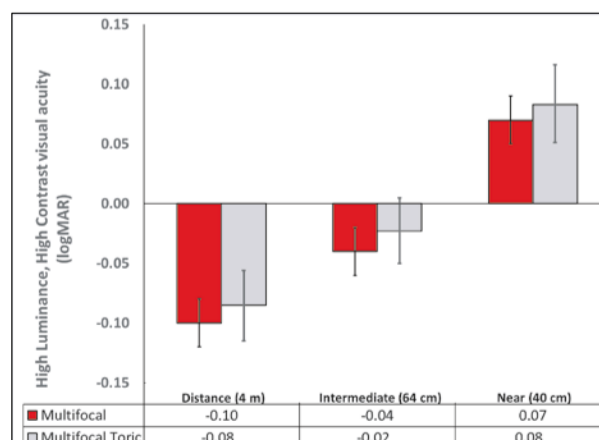


Figure 1. High luminance, high contrast logMAR visual acuity.

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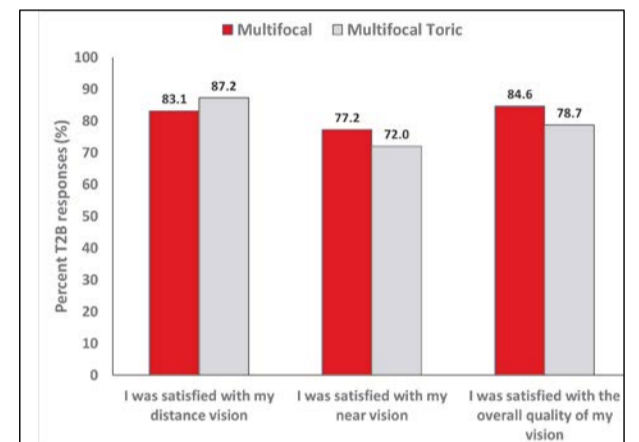


Figure 2. Proportion of favorable (top-two-box responses) to subjective vision outcomes.

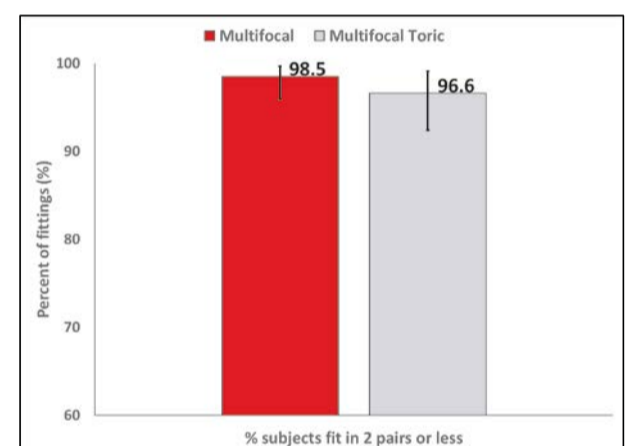


Figure 3. Proportion of subjects fit in 2 pair of lenses or less.

## Conclusions

The multifocal toric contact lens with 1.00 D cylinder correction was evaluated on a population with -1.00 to -1.75 D refractive astigmatism and found to provide visual quality and ease of fit similar to that of a non-toric multifocal contact lens on a population with 0.00 to -0.75 D astigmatism. The new multifocal toric therefore extends the coverage by daily disposable multifocal contact lenses to a new population of presbyopic wearers.

## Acknowledgement

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## References

JJV Data on file, 2025  
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