

Astigmatism Correction in Myopes: Key Insights from a New Clinical Study on NaturalVue Multifocal Lenses

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March 17, 2025

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Astigmatism correction in myopic patients has long been a challenge, but recent clinical findings offer promising solutions. *Review of Myopia Management* sat down with Dr. Ashley Tuan, Chief Medical Officer of **Visioneering Technologies Inc.** (VTI), to discuss groundbreaking insights from a clinical trial conducted by **Professor Gonzalo Carracedo of the Universidad Complutense de Madrid**. The study evaluated the effectiveness of VTI's NaturalVue Multifocal contact lenses in correcting astigmatism, revealing impressive results across a wide range of prescriptions. In this Q&A, Dr. Tuan shares key takeaways from the research and explains how NaturalVue's innovative design supports clear vision for patients with astigmatism.

Read the full discussion below:

Review of Myopia Management (RMM): Professor Gonzalo Carracedo of the Universidad Complutense de Madrid conducted a clinical trial led on astigmatism correction in myopes. Can you provide some of the highlights of the study?

Dr. Ashley Tuan: Dr. Carracedo evaluated subjects with refractive astigmatism between -0.75D to -3.00D. He found that NaturalVue Multifocals (NVMF) provided 100% 20/15 or better binocular vision for subjects with astigmatism up to -1.00D, and 100% 20/20 or better

binocular vision for subjects with up to -2.00D astigmatism. In addition, 83% of subjects had 20/20 binocular vision with astigmatism between -2.25 to -3.00D. There was no difference in performance based on the axis of astigmatism or the ratio between sphere and cylinder.

RMM: Is there a range of astigmatism that VTI's NaturalVue Multifocal is particularly suited for?

Dr. Tuan: NaturalVue Multifocals are suited for a wide range of astigmatism. This study shows that all subjects with 2.00D or less of astigmatism had 20/20 binocular vision with NVMF regardless of their astigmatism axis. However, subjects with more than 2.00D of astigmatism may also enjoy clear vision.

RMM: Does pupil size have any impact on efficacy?

Dr. Tuan: This study did not find performance differences within the range of pupil sizes (2.5 to 4.8mm) in their subjects.

RMM: Does NaturalVue's catenary curve design have any influence on its ability to correct astigmatism?

Dr. Tuan: The catenary curve power profile (Neurofocus Optics) is highly aspheric, in the shape of a free-hanging chain, such as a chain necklace. The center of the optic corrects refractive error. As the eccentricity increases, the power progressively increases in a rapid and smooth fashion. This highly aspheric optic creates continuously progressing focal points in the image space, effectively extending the contact lens' depth of focus channel. This extended depth of focus can address astigmatism correction, just as it does presbyopia correction.

RMM: What makes NaturalVue's Extended Depth of Focus Optics correct astigmatism?

Dr. Tuan: NaturalVue Multifocals are center-distance lenses that have an elongated depth of focus channel that are rotationally symmetrical. Astigmatism is the refractive difference between two principal meridians of an ocular system. The NaturalVue Multifocal fits like a single vision lens. When a patient's refractive astigmatism falls within the range of the extended depth of focus channel, both focal points can be corrected simultaneously, regardless of the axis.

These findings highlight the NaturalVue Multifocal lenses' potential for astigmatism correction and myopia management without compromising safety or efficacy. The Carracedo study shows exceptional visual acuity, with 100% of patients achieving 20/20 binocular vision at -2.00D or less and strong results in higher astigmatic ranges. Research, including Sanfilippo (2015), indicates that the lens covers most astigmatic cases. Its unique optical design may

also benefit those transitioning from progressive myopia to presbyopia. As clinical data grows, the NaturalVue Multifocal remains a compelling choice for eye care professionals seeking innovative solutions.

Learn more about NaturalVue Multifocals [here](#).

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