

Customizing Multifocal Scleral Lenses into a Myopia Treatment Option

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Introduction

A 14 year old female started myopia management treatment at the clinic when she was 7 years old.

Baseline refraction

OD: -2.25-1.00x175

OS: -2.75-0.75x10

Over the years she has tried multifocal soft lenses, orthokeratology, and multifocal RGP lenses all designed to slow the progression of her myopia. However, she has struggled to wear the different lens options due to either discomfort and reduced vision.

Earlier this year, the patient was successfully fit into multifocal scleral lenses in an effort to continue to reduce her myopia progression. She reports optimal distance vision and comfort.

At the most recent encounter, the patient showed an increase in her axial length progression, leading us to evaluate what more could be tried to slow the progression down.



Case History and Exam

Starting earlier this year in February, she was fitted into a distance centered multifocal scleral lens design with a 2.0 mm center zone and +2.00 add. Patient was satisfied with the comfort and vision in her scleral lenses. In addition to the scleral lenses, she was also on 0.05% atropine qhs OU.

At her myopia management follow-up in September, her axial length has increased 0.08 mm in the right eye and 0.35 mm in the left eye over the course of 7 months, even though she was seeing 20/20 OU.

Refraction

OD: -4.50-4.00x008 20/20-2

OS: -5.25-3.50x005 20/20-2

Management

Since her axial lengths were progressing rapidly, scleral lenses were ordered with an add power of +3.00 and an increase in the atropine concentration to 0.1%.

Patient is being monitored closely to check vision, axial lengths, and her adaptation to the increase in peripheral plus and pupillary dilation.

Date	OD	OS
2/23	24.37	24.27
9/23	24.45	24.62
11/23	24.51	24.63
12/23	24.51	24.64

Conclusion

There are several advantages of using scleral lenses over the other treatment options for myopia management. Scleral lenses can be more comfortable, have good optics, protect the cornea, and may better compensate for high corneal astigmatism. In addition to improving the comfort and distance vision for the patient, fitting her in scleral lenses allows her to be monitored for keratoconus.

For patients who have failed the other myopia management treatment options because of vision and comfort, multifocal scleral lenses can be the next best option. It is important that the patient receives proper training on scleral lenses and consistent monitoring for myopia management. Scleral lenses are customizable lenses that can be modified to achieve myopia treatment and for better myopia control effect.

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