

From The Mind of:

Dr. Jeffrey Sonsino O.D., F.A.A.O. A NaturalVue® Multifocal Case Report



Dr. Jeffrey Sonsino O.D., F.A.A.O.
Contact Lens Center at Optique
Nashville, TN

Case Report “Daddy and Daughter Day Out at the Optometrist”

History:

KE is a 49y old physician at an academic medical center. For years, he was wearing monthly replacement, single vision contact lenses with reading glasses for near. He was happy with this strategy, until during his visit, we discussed the possibility of multifocal lenses. He was interested in exploring multifocals.

Visual acuity with habitual contact lenses was 20/25- OD, 20/30-2 OS.

Habitual lenses:

Air Optix -6.00/ 8.6/14.2 OD, Air Optix /-5.50/8.6/14.2 OS.

Subjective refraction:

OD -5.75 -0.50 x135 +1.75D add OD 20/20

OS -5.25 -1.00x015 +1.75D Add OS 20/20

Dominance testing showed that the right eye was dominant.

Initial trial lenses:

NaturalVue Multifocal -5.75 OD

NaturalVue Multifocal -5.75 OS

After a 10-minute adaptation phase, KE complained that vision was variable and was "coming and going." This is generally a sign that the patient is overminused. In order to check acuity and over-refract, a +1.00D trial lenses was used to fog the contralateral eye. This technique is used in order to maintain binocularity during the test. Acuity in the right was 20/20 at distance. We dipped +0.25D and -0.25D trial lenses over the right eye. There was a mild improvement with the +0.25D over-refraction. Acuity in the left eye was 20/25-2. Changing both diagnostic lens powers by +0.25D lens showed a large visual improvement, much larger than anticipated from the mild response to the over-refraction.

Second trial lenses:

NaturalVue Multifocal -5.50 OD

NaturalVue Multifocal -5.50 OS

After a shorter 5-minute adaptation, KE noticed a large improvement in both distance and near vision. In fact, when we returned to check on him, he was reading on his phone. At this point, we let him take 10 lenses for each eye and were going to await his response after a week of wear. After one week, he ended up purchasing the NaturalVue Multifocal Daily Disposable contact lenses. He also has repurchased multiple times since his initial visit and continues doing very well with the NaturalVue Multifocal lenses.

At his initial visit, KE also brought his 13y daughter, GE, for her annual visit. We saw her for the first time the year prior. Refraction at that time was -2.00DS OD, -2.25DS OS. She was corrected with single vision daily disposable contact lenses. In addition to her father, her mother, also a physician, was highly myopic (-9.75-1.00x015 OD, -6.75- 2.50x170 OS).

Visual acuity with her current Dailies Total One (Alcon, Ft. Worth, TX):

-2.00 OD, -2.25 OS were 20/25+2 OD, 20/40+1 OS.

Subjective refraction was:

-2.25-0.25x180 OD 20/20

-2.75-0.25x160 OS 20/20

We sat down with father and daughter and discussed the options. From one year to the next there was very mild myopic progression. However, given the strong family history of high myopia we can somewhat predict that she would continue to progress in myopia. Michaud, et al, recently pointed out the results of a 2006 American Journal of Ophthalmology paper that showed that for every 0.25D of myopia progression, the lifetime risk of complication from high myopia increases 17%.^{1,2}So, myopia progression is no longer considered safe or inevitable.

There is evidence in the literature that center distance multifocal soft lenses have the potential to slow the progression of myopia.³⁻⁵However, the only available center distance multifocal lens design up to this point (and the lens studied in the listed references) has been a monthly replacement lens. It is well established that the risk of vision loss with microbial keratitis is much less in daily disposable lens wearers.⁶Also, daily disposable contact lenses have been shown to have a 12.5X less risk of an inflammatory event than lenses that are reused.⁷

Further, the available center distance monthly replacement multifocal contact lens design only has +2.50 add power in the periphery, an amount that is generally regarded as on the low side for meaningful myopia prevention and control. That lens also has a central 2.3 mm spherical zone through which the potential risk factor of peripheral hyperopia for myopic progression may not be fully corrected.

More recently launched, NaturalVue Multifocal is a center-distance daily disposable multifocal contact lens with up to 14D of relative plus in the periphery of the lens. Although long-term studies have not been completed, the theory of using this lens for myopia prevention and control is sound. Published data has shown in both animal and human clinical studies that the NaturalVue Multifocal lens design corrects peripheral hyperopia, increases the amplitude of accommodation, and reduces the lag of

accommodation, three potential risk factors for the development of myopia.⁸⁻¹³ The NaturalVue Multifocal lens has a cleared indication for the correction of myopia but not for the control nor treatment of myopia, so patients and parents should be advised accordingly.

GE and her father decided that they would try this strategy.

GE was fit with:

NaturalVue Multifocal -2.25 OD

NaturalVue Multifocal -2.75 OS

Vision was clear with 20/20 OD, 20/20 OS, 20/20 OU. Follow-up is scheduled for 6 months, but so far she is very happy with her vision with the NaturalVue Multifocal Daily Disposable Contact Lenses.

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Jeffrey Sonsino trained at the New England College of Optometry with a residency in cornea and contact lenses at Illinois Eye Institute in Chicago. He moved to Nashville where he was associate professor and division chief of optometry at Vanderbilt Eye Institute for 12 years. While there, he founded the Center for Sight Enhancement, was the director of the Scleral Lens Clinic, authored 9 patents on vision-related medical devices, authored multiple papers, and lectured internationally on contact lens technology. Dr. Sonsino is now in private practice at The Contact Lens Center at Optique in Nashville, Tn. He is a diplomate in Cornea, Contact Lenses, and Refractive Technology of the American Academy of Optometry. He is on the American Optometric Association's Council on Cornea and Contact Lenses. Dr. Sonsino consults for Visioneering Technologies, Inc., Alcon, Inc., Allergan, plc, Contamac Ltd., Johnson & Johnson Vision Care, Inc., Optovue, Inc., SynergEyes, Inc., and Visionary Optics.

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