

Clinical & Refractive Optometry is pleased to present this continuing education (CE) article by Dr. Langis Michaud entitled **A New Tool for the Fitting of Presbyopic Patients**. In order to obtain a 1-hour Council of Optometric Practitioner Education (COPE) approved CE credit, please refer to page 250 for complete instructions.

A New Tool for the Fitting of Presbyopic Patients

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INTRODUCTION

There are numerous ways to fit contact lenses for presbyopic patients. Currently, multifocal lenses are accurate and provide good vision at all distances for most patients. They should be the first approach to consider for the presbyopic correction in contact lenses. However, they do not have a 100% success rate and other strategies should be implemented to fulfill the needs of some wearers with particular visual demand. That is why monovision is still a popular approach to use in fitting presbyopic patients, especially if the patient shows a refractive astigmatism ≥ 0.75 D.

A mid-step between these two approaches is defined by the use of a spherical lens on the dominant eye and a multifocal lens on the non-dominant eye. This is called modified monovision. From a clinical perspective, it is efficient and is preferable to a true monovision system since the multifocal lens provides an intermediate vision and keeps a certain amount of binocularity. Considering that many presbyopic patients use computers, and that intermediate vision is needed in many other activities (to see a car dashboard, or to consult a list or price on a shelf), it is truly important to not forget this element in the selection of the appropriate mode of contact lens correction. In fact, most of the presbyopic patients use their intermediate vision more than their near vision. Therefore, it makes no sense to not consider intermediate vision as a significant part of the success of presbyopic fitting in contact lenses.

Hopefully, a new tool on the market will help the clinician to address this issue. CooperVision's Proclear

EP is a multifocal lens, designed as the Proclear Multifocal D lens, meaning that the central part of the lens is devoted to far vision and the outer periphery provides approximately +1.25 to +1.50 add. The lens was introduced for the correction of early presbyopes (EP) as its name tells us. However, I find in my practice that the most useful way to proceed is to fit under a modified monovision strategy. The following case illustrates how this lens can team-up well with a multifocal lens for a successful fit.

SUBJECTIVE

G.F. is a Caucasian 62-year-old male seen for the first time in March 2007. His case history revealed that he is a white-collar professional, working primarily on computers, and he plays golf regularly during the summer. His visual demands are mainly at intermediate distance and he complains that, with his progressive glasses, it is difficult to see the computer screen well without tilting his head, which results in discomfort and fatigue. He also reports that he faces many difficulties wearing his glasses during his golf game, although he does so in order to see the targets and his score card well. This is why he is interested in trying contact lenses. His general health is good, except for hyperlipidemia that is well controlled by medication. Family history is negative for either ocular or general health.

OBJECTIVE

Preliminary tests showed a normal binocularity with the presence of three degrees of fusion, a stereoscopy of 50 seconds. Ocular movements were full and non-restricted and pupillary reflexes were noted R2+ Lt Mg- OU.

Refractive findings were:

- OD: +1.00 -0.50 x 95 20/20 (6/6)
- OS: +0.50 -0.50 x 70 20/20 (6/6)
- Add: +2.25 0.37M
- Induced phoria at far: 1 eso x/14/8 BI
- Induced phoria at near: 6 exo x/28/14 BE

Slit-lamp examination revealed a trace of seborrheic blepharitis on each side but a normal NiBUT (12 seconds OU). There is no bulbar hyperemia, and the cornea is clear OD and shows a Hudson-Stahli line OS.

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Table I Summary of trials		
OD: Dominant	OS: Non-dominant	Comments
PureVision Multifocal lens +0.75 high add	PureVision Multifocal lens +1.00 high add	Visual acuity reduced under bright light conditions
PureVision Multifocal lens +0.75 low add	PureVision Multifocal lens +1.00 high add	No change in far vision
PureVision Multifocal lens +0.25 high add	PureVision Multifocal lens +1.00 high add	No major improvement in far vision/Reduced visual acuity at near
PureVision Multifocal lens +1.00 spherical	PureVision Multifocal lens +1.00 high add	Loss of intermediate vision
Proclear D lens +1.00 add +1.50	Proclear N lens +1.00 add +2.00	Loss of intermediate vision
Proclear EP lens +1.25	PureVision Multifocal lens +1.00 high add	Winning combination

Fundus examination was done under dilation and revealed normal structures with optic nerve head of 0.2 x 0.2 each side. Intraocular pressure was measured using a Goldmann tonometer and revealed 17 mm Hg OD and 16 mm Hg OS which compensated for a corneal thickness of 540 μ m.

ASSESSMENT

This patient has hyperopia, astigmatism, and hyperopia without any ocular abnormality. A trace of blepharitis was found without causing symptoms or dryness of the ocular surface.

PLAN

The first attempt in contact lenses was made with two multifocal lenses. Rationally, there is a high rate of success for these lenses with hyperopic patients and we wanted to maintain at the most the patient's binocular vision. Topography maps did not demonstrate any corneal abnormality and k readings were OD 44.50 x 45.00 @ 92 and OS 44.00 x 45.00 @ 90.

PureVision Multifocal (Bausch & Lomb) lenses constitute the lenses of choice since they are the only silicone hydrogel lenses available providing good ocular health with positive (thicker) lenses, and they have been used with success on many similar patients.

The right eye, being dominant, was fitted with +0.75 (spherical equivalent) with a high add; the left eye was also fitted with +1.00 high add. This combination gave an initial visual acuity of 6/6 (20/20) at far and at near and it seemed that the intermediate vision was fully corrected, as well. The patient was provided trial lenses. The care regimen prescribed was Clear Care (CIBA Vision), the most appropriate for silicone hydrogel materials.

One month later, the patient was seen for a follow-up. He was 75% satisfied but wanted to improve his far

vision, especially on sunny days. His intermediate and near vision were excellent and he was happy both at work (indoors) and doing sports activities.

The important thing to consider here is that the patient felt his vision was reduced when the sun was present or when he was exposed to bright light conditions. The pupil diameter is reduced under such situations and vision mainly goes through the center part of the lens which, for the PureVision Multifocal, is designed as near-centered. This explains the patient's major complaint. Considering that his pupil diameter (4 mm under dim illumination) cannot be changed, and that the use of sunglasses is not always practical, there are a limited number of options we have to consider. One of them is to reduce the power of the addition of the dominant eye, or to increase the minus power of the sphere of the multifocal lens in order to compensate for the decrease in the far vision. We tried both options without any major improvement in the far vision, especially when we tested the visual acuity under bright conditions.

Another option is to fit the patient in monovision, providing the dominant eye a spherical lens to correct the distance vision only. We tried therefore this option using PureVision 8.6 +1.00 lens on the right eye. This combination improved the far vision almost immediately, but looking at the panels on the wall, the patient noticed a fair reduction of the vision at intermediate distance, which is not compatible with his day-to-day duties.

The other option available to us was to rely on a different type of multifocal lens, with a center-distance design on the dominant eye. One of the lenses available on the market with such a design is the Proclear multifocal lens. This lens is available in two different designs. The D lens is designed with a central zone for far vision surrounded by an addition from +1.00 to +2.50 (+0.50 step). The N lens is designed to be fitted on the

non-dominant eye since this is the contrary to the D lens, the center zone being devoted to the near vision and the peripheral zone for the far vision. With these two lenses, as for the other multifocal systems, it is normally recommended to keep the addition lower than the glasses prescription, and to balance the sphere according to the visual demand of the patient.

We therefore tried a Proclear D lens on the right eye (+1.00 add +1.50) and a Proclear N lens (+1.00 add +2.00) on the left one. We reached good visual acuity at far and acceptable vision at near, but again lost the intermediate vision.

Another lens available with the same design is the Proclear EP. As we mentioned, its design is very similar to the D lens but with a larger central zone for distance and a limited power for the near vision. There is no option to increase or decrease this near power; the fitting should therefore be made by adjusting the sphere power to reach optimal visual acuity.

We decided to fit the Proclear EP lens on the right eye (+1.25) and to use a PureVision Multifocal lens on the left side (+1.00, high add). We felt that the power distribution of the PureVision Multifocal lens was particularly effective in addressing the intermediate vision problem. We were delighted to see our patient with a big smile on his face as soon as we put the lenses in place. His vision was sharp and clear at far, at near, at intermediate distance, and in all lighting conditions.

We let the patient go with that lens combination for three weeks and with the same care regimen we had previously prescribed.

At the last control visit, the patient was very happy with the outcome. His vision remained as sharp as it was in the exam room and he was able to use the lenses during all his activities without discomfort or problems (Table I).

CONCLUSION

This case illustrates that there is no magic solution in the presbyopic fitting with contact lenses. The only rational is to follow a logical procedure, step by step, and let the patient give provide clues to improve the outcome of the fitting. The key point is to change just one thing at a time. Undertaking many changes simultaneously can mislead the clinician in terms of understanding the case and can negatively affect the troubleshooting process.

Another clinical pearl is to work on the dominant eye if the complaint concerns the far vision and on the non-dominant eye if the patient complains about the near vision.

In this case, the first complaint was disturbed visual acuity under bright light conditions. This refers to the near-centered design of the multifocal lenses. The options to address this issue are limited and were tried, first while maintaining the same type of lens and second, using a different design approach for the dominant eye.

This logical, stepwise approach led us to a winning final solution. □