

Diagnosing Dysphotopsia With Multifocal IOLs

With patience and persistence, surgeons can help patients overcome this postoperative problem.

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Resolving complications associated with multifocal IOLs begins preoperatively by ensuring that patients' expectations are realistic. If patients are dissatisfied with their vision postoperatively despite excellent UCVA or BSCVA, surgeons need to be prepared to acknowledge the concerns and to offer solutions.

Using case examples, this article describes strategies for correcting dysphotopsia after the implantation of multifocal IOLs.

CASE EXAMPLES

No. 1

During a refractive surgery consultation, a 53-year-old white female expressed interest in undergoing refractive lens exchange with presbyopia-correcting IOLs. Her preoperative refraction was $-5.00 +0.75 \times 78$ OD and $-4.00 +0.50 \times 81$ OS. Her central corneal thickness measured $496 \mu\text{m}$ OD and $490 \mu\text{m}$ OS.

After uneventful bilateral refractive lens exchange with ReZoom multifocal IOLs (Advanced Medical Optics, Inc., Santa Ana, CA), the patient's BCVA measured $-1.00 +0.50 \times 90 = 20/20$ OD and $-0.50 +0.50 \times 88 = 20/20$ OS. She complained of severe dysphotopsia, night glare, and halos, which were present during the day with fluorescent lights and exacerbated at night, especially when driving. The patient was reassured that her problems would improve with time and neuroadaptation, but she was still unhappy with her vision and underwent PRK in her right eye 5 months postoperatively to correct her residual refractive error. It was hoped that this procedure would mitigate her dysphotopsia. Although her spherical error was reduced to -0.25 D OD, she continued to complain of dysphotopsia and subsequently underwent a YAG capsulotomy in her right eye 6 months after PRK. The patient's visual acuity and dysphotopsia remained

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unchanged after this procedure, and they improved only slightly after the implantation of a piggyback IOL in her right eye 11 months after PRK.

Fourteen months after the initial refractive lens exchange, the surgeon replaced the ReZoom IOL in her left eye with a Tecnis IOL (Advanced Medical Optics, Inc.). She immediately noted a dramatic reduction in her dysphotopsia bilaterally (greater in the left vs the right eye) and stated that she was happy with her vision.

No. 2

A 51-year-old diabetic female who presented with a BCVA of 20/40 OU due to bilateral nuclear sclerotic and posterior subcapsular cataracts underwent uncomplicated phacoemulsification. She received a ReZoom IOL in her dominant left eye and an AcrySof Restor IOL (Alcon Laboratories, Inc., Fort Worth, TX) in her nondominant left eye. Postoperatively, the patient's UCVA was 20/20 OU (-0.25 D OD and plano OS). Her near visual acuity measured J2 OU (J3 OD and J1 OS).

The patient was very happy with the vision in her right eye, but she complained of halos and waxy vision in her left eye when reading. Her symptoms did not improve after a YAG capsulotomy in her left eye 6 months postoperatively. The patient later underwent two argon laser pupilloplasties in her left eye in an attempt to improve the AcrySof Restor IOL's centration and decrease the dysphotopsia. Her symptoms remained unchanged, howev-

er, and she was not satisfied with the vision in her left eye until the surgeon replaced the AcrySof Restor IOL with a ReZoom lens approximately 10 months after the initial cataract surgery.

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DISCUSSION

Setting Patients' Expectations

Patients who are interested in multifocal IOLs should be counseled preoperatively about the potential for postoperative dysphotopsia. This visual disturbance, which includes nighttime glare, halos, starbursts, waxy vision, and decreased contrast sensitivity, can be replicated preoperatively by means of visual aids, charts, and night-driving simulators. Patients who are extremely phobic about the potential for dysphotopsia or who have professions that could be negatively affected by visual disturbances (ie, engineers, truck/taxi drivers) may be happier with accommodating IOLs, as may individuals who previously had refractive or corneal surgery.

Reassuring Patients

Almost all patients who receive multifocal IOLs experience some visual disturbances during the immediate postoperative period. Instead of dismissing patients' complaints, surgeons should reassure them that some dysphotopsia is normal and will improve over the coming months with neuroadaptation.

Identifying the Problematic Lens

Each multifocal lens design is associated with specific visual disturbances. For example, patients who receive the ReZoom IOL often complain of glare and halos, whereas those with AcrySof Restor IOLs tend to describe waxy vision and decreased contrast sensitivity.¹ As demonstrated in the earlier case examples, however, patients who receive the same type of IOL may experience different complaints. In addition, a symptom that is well tolerated by one patient may be more bothersome to another.

For example, the patient described in case No. 1 experienced disabling glare and halos with the ReZoom IOL. The patient from case No. 2 was very happy with her ReZoom IOL but was bothered by waxy vision and decreased contrast sensitivity in the eye with the AcrySof Restor IOL. Surgeons should try to isolate and

differentiate the symptoms that patients may be experiencing in each eye.

Creating a Treatment Plan

It is advisable to wait a minimum of 6 months after the implantation of multifocal IOLs before performing additional procedures such as a YAG capsulotomy, excimer laser ablation, or an IOL exchange. If a patient still complains of severe dysphotopsia 6 months after cataract surgery or refractive lens exchange with a multifocal IOL, the surgeon's first step should be to rule out residual refractive error as the source of the postoperative visual disturbances. If eyeglasses or contact lenses significantly reduce or eliminate the patient's complaints, the surgeon can recommend that the patient either continue to use these corrective devices or undergo more permanent refractive options such as LASIK, PRK, or conductive keratoplasty (CK; Refractec LLC, Irvine, CA).

Surgeons should consider an IOL exchange for patients who continue to complain of dysphotopsia after sufficient time has elapsed for neuroadaptation (at least 3 months). As illustrated in the provided case examples, exchanging IOLs is sometimes the most effective strategy to eliminate postoperative visual disturbances.

It is worth remembering that exchanging IOLs is technically easier in eyes that have intact posterior capsules. Surgeons should therefore consider performing an exchange before a YAG capsulotomy in order to minimize the risk of cystoid macular edema and vitreous loss.

CONCLUSION

Although some dysphotopsia can be resolved by the correction of residual refractive error, the most severely affected patients may require additional surgical intervention such as the explantation and exchange of their multifocal IOLs. Screening patients carefully and setting realistic expectations preoperatively may help improve their visual outcomes with these lenses. Listening to patients and working with them to resolve their postoperative complaints can also improve their satisfaction with these procedures. ■

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1. Bucci FA Jr. "Vaseline vision dysphotopsia" and explantation of the ReStor multifocal implant. Poster presented at: The Annual Meeting of the Association for Research in Vision and Ophthalmology; May 8, 2007; Fort Lauderdale, FL.