PATIENTS WHO SHOULD NEVER RECEIVE A PREMIUM IOL

Evaluate exclusion criteria and additional factors when considering multifocal IOL implantation.

BY MAGDA RAU, MD

In theory, bilateral multifocal IOL implantation should be the solution to every problem with presbyopic visual acuity, but surgeons know that it is not that simple. These lenses, which often can help provide spectacle independence and satisfactory distance, intermediate, and near vision, can potentially leave patients dissatisfied because of the visual trade-offs required. This caveat has assumed even greater importance in an era when behavioral norms such as smartphone use make any visual compromise a social and/or professional handicap. At the same time, improvements in the design, optical performance, and side effects of these IOLs have relaxed the exclusion criteria for multifocal lenses. How, then, do we do we identify poor candidates?

POOR CANDIDATES FOR MULTIFOCAL IOLS

It is important to carefully advise patients who may have overly high expectations as to their postoperative vision or who have anxious or demanding personalities. They must understand that achieving perfect visual acuity at all distances, in every lighting condition, without any optical side effects, is not a realistic expectation. We must emphasize the possibility that they may sometimes need glasses for reading small print or seeing at far distances and inform them that they may experience glares and halos after surgery.

I never say, "I will help you get rid of your glasses." Instead, I say, "You will become spectacle independent." I also advise patients that optical rehabilitation will take about 3 months and that, during that time, they should be patient and train their vision for far distance. I even recommend that they play video games because I believe this activity could help stimulate brain adaptation. I counsel them not to examine the vision of one eye alone very often, but rather to be primarily concerned with their binocular vision.

VISUAL DEMANDS

Some of us consider a patient to be a poor candidate for a multifocal IOL if he or she has never been satisfied with prescription multifocal glasses. I myself do not consider this a red flag. In my experience, many of these patients see very well with a multifocal IOL.

For patients who have jobs that demand good near visual acuity or those who work at night, a decisive factor in IOL selection is their desire for spectacle independence (see *Test Drive*). I will ask patients about their profession, working distance, and lighting conditions where they work. Sometimes I will choose a low-add multifocal IOL to provide spectacle independence for everyday life and explain to these patients that they may need glasses for their occupation. A diffractive high-add trifocal IOL can be another good option.

POSSIBLE EXCLUSION CRITERIA FOR PREMIUM IOLS

- Unreasonable expectations of perfect vision
- Anxious or demanding personality
- Profession that demands good near visual acuity
- Profession that requires working at night
- Greater than 1.25 D of astigmatism
- Retinal pathology
- Diabetes

I will not implant multifocal IOLs in patients who work with microscopes or magnifying machines, but I would recommend a toric IOL.

ADDITIONAL RED FLAGS

Astigmatism. Studies show that correcting even a low amount of astigmatism can improve optical and functional results after multifocal IOL implantation.[1] I will therefore correct as little as 0.75 D of astigmatism. Unfortunately, currently available technology cannot precisely measure lower amounts of astigmatism, making its surgical correction questionable.

Retinal pathology. Patients who are in the early stages of macular degeneration or diabetic retinopathy are not good candidates for multifocal IOLs. The implantation of these lenses must be an exception. The implantation of toric and aspheric lenses could improve visual acuity, but OCT scans and fluorescein angiography must be performed before cataract surgery. If the patient has only macular drusen, has a multifocal IOL in the contralateral eye, and wishes to be independent of glasses, I will implant an asymmetric multifocal IOL with low addition in his or her second eye.

Diabetes. Some patients with diabetes desire spectacle independence through the implantation of multifocal IOLs. In my experience, this technology can benefit certain elderly patients whose nonproliferative diabetic retinopathy is well controlled and stable, but very detailed written consent is necessary. In these cases, I prefer to implant asymmetric low-add multifocal lenses because of the low loss of light. I find that this lens design performs better than diffractive lenses in these patients. Proliferative retinopathy remains a contraindication for the implantation of premium IOLs.

CONCLUSION

In my opinion, it is crucial to factor a patients' desire for spectacle independence into IOL selection. A strong desire can help them to overcome some difficulties after implantation such as dysphotopsia or an imperfect result. ■

TEST DRIVE

A 52-year-old man once came to my clinic with a desire for spectacle independence because he was annoyed about the time he spent each day looking for his glasses. By checking his completed questionnaire, I learned that he was working as a test driver at a BMW manufacturing facility, where he tested the driving quality of prototype cars. I asked him if he drove at night, and he answered affirmatively, explaining that sometimes he drove all night long in order to test a car's lights. I explained to this patient that, because of his profession, I did not recommend a clear lens exchange with a multifocal IOL.

About 2 weeks later, the patient returned to my clinic. He had put a lot of thought into the risk of glares and halos, but he said that he felt so limited by his dependence on reading glasses that his quality of life was suffering. He decided to take the risk and requested a multifocal IOL. I proposed a low-add model, which I have found can cause fewer optical side effects, but the patient wished for complete independence from reading glasses.

I decided to implant an asymmetric Lentis Mplus X toric lens (Oculentis) in his nondominant eye. In my opinion, my own clinical studies showed less severe patient complaints about

glare and halos after implantation of asymmetric multifocal IOLs compared with diffractive multifocal IOLs with addition of about 3.00 D. In these studies, the majority of patients implanted with asymmetric multifocal IOLs described glare in only the lower part of their visual field. Furthermore, this lens is pupil independent and decreases contrast sensitivity only slightly.

Had this patient complained about glares and halos after surgery on his nondominant eye, I would have recommended a lens with lower add power or even a monofocal IOL for his other eye according to the severity of the dysphotopsia. Three weeks after surgery, however, he was satisfied. He reported not being bothered by glare in the lower area of his visual field and asked to proceed with surgery on his other eye with the same lens model. He was so satisfied with his final result that he recommended my clinic to his friends.

1. de Wit DW, Diaz JM, Moore TC, Moore JE. Refractive lens exchange for a multifocal intraocular lens with a surface-embedded near section in mild to moderate anisometropic amblyopic patients. *J Cataract Refract Surg.* 2012;38(10):1796-1801.

MAGDA RAU, MD
- Head, Augenklinik Cham and Refractive Privatklinik-Dr.Rau, Cham, Germany
- Head, Eye Centre Prag, Prague, Czech Republic
- Member, *CRST Europe* Editorial Advisory Board
- info@augenklinik-cham.de
- Financial disclosure: None