

# Patient Selection, Implantation, and Prospective Analysis of the ReZoom

Bilateral implantation of this multifocal IOL is ideal for day-to-day activities.

**BY MAGDA RAU, MD**

**P**resbyopic correction is a developing capitol in refractive surgery. Although the population is aging, people are staying physically and mentally active longer. For many people, depending on reading glasses to manage presbyopia hinders their daily activities. For others, they simply wish to regain the vision they enjoyed in youth. In both cases, my preferred procedure is clear lens exchange with a multifocal IOL.

With the increased popularity of refractive surgery, even cataract patients want spectacle independence after surgery. Patient satisfaction is heavily dependent on choosing the right multifocal IOL, and preoperative counseling is an essential component of this decision. Questions can help to discover the individual's lifestyle and expectations. For an example of questions I ask my patients, see *Preoperative Counseling*.

The patient's answers should reveal (1) whether correction with a multifocal IOL is suitable for his needs, and, if it is, (2) which multifocal IOL is the most appropriate option. Under no circumstances do we make absolute promises regarding completely unaided vision. Instead, we emphasize the benefits of no longer being dependent on glasses for all activities.

During the preoperative assessment, the patient should be informed of possible optical side effects, including halos and glare. He should be given time to assess how compatible such disturbances are with his lifestyle. We also tell the patient that optical rehabilitation may be longer compared with a monofocal IOL. In our experience, it takes a patient up to 3 months to learn to alternately enhance and suppress focal points, allowing the multifocal IOL to work properly.

## TAKE-HOME MESSAGE

- Patient satisfaction is heavily dependent on choosing the right multifocal IOL.
- Preoperative assessment can help the surgeon decide if a patient is a candidate for a multifocal IOL.
- The patient should be given time to analyze how possible visual disturbances may affect his lifestyle.

## PATIENT SELECTION FOR MULTIFOCAL IOLs

Implantation of a zonal refractive multifocal IOL is ideal for the light-to-moderate reader who drives mostly during the day. Refractive IOLs offer excellent intermediate and distance vision because 100% of the light is transmitted through the optic; however, near vision is not as satisfactory as it is with a diffractive multifocal IOL because of the loss of 15% of the light transmission. Because refractive IOLs are pupil dependent, night vision symptoms may arise. For these reasons, patients who predominantly rely on intermediate vision (eg, engaging in active sports, frequently using the computer, playing card games) experience the greatest benefit from refractive IOLs.

I typically prefer using a multifocal IOL in male patients. I have found that, unlike women who focus more on daily details, men tend to seek a wide hunter's view. Some behaviorists insist that behavioral patterns have remained much the same since the Stone Age. In regard to vision, this means that men, who were originally the hunters, desire a wide, clear, and uninhibited

view into the far distance. Women, originally avid collectors, primarily require good vision at a close range. When reading, men usually hold text farther away from their eyes than women do.

### IOL MATCHING PROCESS

I use a specifically adapted approach for bilateral implantation based on my long-term experience with multifocal IOLs. I start with the dominant eye and implant a ReZoom IOL (Advanced Medical Optics, Inc.). The zonal refractive ReZoom IOL features five concentric refractive zones that are optimized and proportioned to provide good vision across a range of distances (ie, true multifocal vision). Zones one, three, and five are distance-dominant, whereas zones two and four are near-dominant. Aspheric transition between zones provides balanced intermediate vision.

The ReZoom multifocal IOL is distance-vision dominant. The width of the fourth zone (for near vision) is reduced so that more light passes through distance correction, which scientifically reduces nighttime halos and glare.

If the patient is satisfied with his first eye, I optimize the calculation based on his preoperative IOL calculation data and implant another ReZoom in his second eye. If the patient desires slight improvement of his near vision, I calculate the second refractive multifocal IOL slightly in the minus range of -0.5. If the patient is not satisfied with his first eye and wants better near vision, I implant a diffractive Tecnis IOL (Advanced Medical Optics, Inc.) in the other eye.

### BILATERAL IMPLANTATION EVALUATED

Recently, I evaluated the optical and functional results, patient satisfaction, and the incidence of glare and halos in patients who received bilateral ReZoom IOLs from August 2005 to June 2006 (n=80). The second implantation was always performed within 1 month of the first.

#### PREOPERATIVE COUNSELING

- What kind of job does the patient have, and at what distance is he working?
- Does he process small parts or larger objects?
- What is his preferred distance (1) to the computer screen or (2) while holding a book or newspaper? What font size would he like to be able to read without visual aids?
- What kinds of sports or hobbies are important to him?
- How often does he drive at night?
- How was his tolerance toward multifocal eyewear?

All patients (mean age, 68.3 years) had bilateral cataracts with no retinal or optic nerve pathology. Patients desired spectacle independence and were willing to accept visual side effects (eg, halos, glare) that may occur with multifocal IOLs.

Surgery was initiated via temporal clear cornea incision, and the capsulorrhexis was smaller than usual (approximately 4.5 mm). At 3-month follow-up, all patients achieved a UCVA of 20/40 or better; 40% of patients achieved a UCVA of 20/25, and 28% achieved a UCVA of 20/20. Mean distance UCVA was 0.78.

At 3 months, mean intermediate UCVA was 0.73 and near UCVA was 0.7. A total of 99% of patients achieved 20/40 or better; 58% achieved 20/32 or better. Mean distance BCVA improved to 0.87 (mean correction, -0.40 D).

We tested contrast sensitivity using Pelli-Robson charts. Three months after implantation:

- Mean contrast sensitivity was 1.62;
- 12% of patients experienced halos, although only 8.7% found it disturbing;
- 23% of patients noticed halos around light sources, but only 12% found them disturbing;
- 69% of patients were spectacle independent;
- 30% of patients needed glasses occasionally, 5% for distance vision and 25% for near vision;
- 95% of patients were satisfied with the achieved results; and
- 5% of patients were not satisfied with their vision: two men who complained of halos while driving at night and four women who complained about poor vision while reading.

### SPECTACLE INDEPENDENCE ACHIEVED

Bilateral implantation of the ReZoom multifocal IOL offers excellent intermediate and distance vision, as well as good near vision. Most patients achieve spectacle independence, and patient satisfaction is high. In our study, we found men to be more satisfied with the multifocal IOL compared with women; the latter desire better near vision.

The ReZoom IOL also offers excellent intermediate vision, allowing us to offer it our patients whose work or lifestyle activities require intermediate vision. When implanted properly, this lens leads to spectacle independence in everyday life, without sacrificing short reading distance. ■

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