



# Mix & match your way to better vision

Providing good, all-round vision in certain patients

**Magda Rau, MD**

*Augenlinik Charn, Germany*

In today's world it seems that we place more and more importance on maintaining good visual acuity, particularly as we get older, than ever before. We need to be able to read the small print on labels, bottles and instruction leaflets, read text messages and e-mails and of course be able to drive safely at night. It comes as no surprise, therefore, that we expect better and better results from cataract and refractive surgery.

## What can patients currently expect?

Refractive intraocular lenses (IOLs) are now able to offer excellent intermediate and distance vision as they provide 100% light transmission. However, the results for near vision are not quite as good as those you can expect to achieve with a diffractive lens. Furthermore, refractive lenses are pupil dependent, meaning that problematic night vision symptoms can arise.

In general terms, I would say that refractive lenses are ideal for those who drive mostly during the day and who are light to moderate readers. I would also recommend them more to men, as they often prefer a wide "hunters" view unlike women who would rather be able to focus in on details. Lastly, those patients who rely predominantly on intermediate vision such as those who engage in sporting activities and who use computers frequently, would also benefit from refractive lenses.

Diffractive lens implantation can offer excellent near and distance vision, in addition to good speed-reading ability and, because they are pupil independent, patients experience fewer problems with their night vision. One of the disadvantages of this type of lens is related to the fact that it provides poor intermediate vision and is associated with a loss of transmitted light and contrast sensitivity. The lens is, however, ideal for patients who read or perform a lot of close, detailed work and those who like to go to the movies and who often drive at night.

## What about the patient who wants it all?

So what about the patients who spend a lot of time reading, working on computers, playing sports and driving at night? Well the answer could lie in the mixing and matching of diffractive and refractive lenses. The key to this procedure is to find out whether implantation of different multifocal IOLs could maintain, or even increase, the advantages of the two individual lenses while also increasing postoperative satisfaction.

Between February and November 2006, I operated on 20 patients who received a refractive multifocal IOL (ReZoom; Advanced Medical Optics) in one eye and a diffractive multifocal IOL (Tecnis; Advanced Medical Optics) in the other. Preoperative refraction ranged from +5.75 to -5.50 D and the subjects' mean age was 52.2 years. Patients enrolled in the study had no retinal or optic nerve pathology, a strong desire to achieve spectacle independence and a willingness to accept possible side effects such as halos and glare. Excluded from the study were those with astigmatism over 1.25 D, patients with unrealistically high expectations and patients who were not satisfied with multifocal glasses.

Upon examination of the patients at [INSERT PERIOD OF TIME] postoperatively, mean uncorrected visual acuity (UCVA) was 0.84 bilaterally and, individually it was 0.84 in the ReZoom eyes and 0.78 in the Tecnis eyes. Meanwhile, mean best corrected visual acuity (BCVA) was 0.89 bilaterally with a mean correction of -0.33 D. The mean intermediate (70 cm) UCVA was 0.68 bilaterally (0.68 and 0.5 in the ReZoom and the Tecnis eyes, respectively) and mean near (30 cm) UCVA was 0.78 bilaterally (0.68 in the ReZoom eyes and 0.78 in the Tecnis eyes).

## 85% spectacle-independence achieved

A questionnaire was distributed to the patients three months postoperatively in order to evaluate patient satisfaction and

level of spectacle independence. All patients reported being satisfied with their visual results. Ninety percent of patients were free from glare and, of the 10% who did experience glare, only half found it disturbing. Halos were experienced by 30% of patients, however, only 10% rated them as disturbing when driving at night.

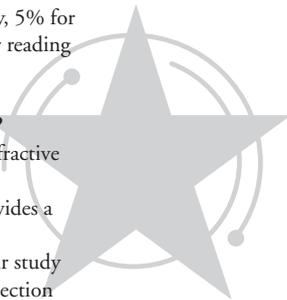
The rate of spectacle independence achieved was 85%. Fifteen percent of patients required glasses temporarily, 5% for distance vision and 10% of patients required them for reading small print or reading in dim lighting conditions.

### So is the mix and match approach successful?

Our study demonstrates that mixing and matching refractive and diffractive multifocal IOLs can offer excellent intermediate, distance and near vision results and provides a high rate of spectacle independence.

The high level of patient satisfaction achieved in our study group can probably be attributed to careful patient selection and education. It is essential to inform patients about the potential visual side effects, such as glare and halos, in order that they are prepared to deal with them if necessary.

It is my opinion that the mix and match approach is appropriate for certain patients and can provide them with better all round visual results than they would achieve with the implantation of just one type of IOL.



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### *In short...*

Magda Rau explains that by mixing and matching diffractive and refractive IOLs, patients can achieve much better all round visual results than if they have just one type of IOL implanted. Twenty patients who had received the ReZoom refractive lens in one eye and the Tecnis diffractive lens in the other, all reported being satisfied with the optical results and 85% achieved spectacle independence.

#### **AUTHOR**

**Magda Rau, MD** is head of the Augenklinik Cham, Germany. She may be contacted by E-mail: [info@augenlinik-cham.de](mailto:info@augenlinik-cham.de)