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Gender differences in patient satisfaction after multifocal IOL implantation

Is the sex of a patient important?

A new term, *gender medicine*, has been established. Based on academic and administrative suggestions (gender mainstreaming), this field has now begun to be generally accepted. The knowledge that the appearance and development of diseases as well as the effects of medicinal drugs on women and men is different is already being introduced into research more and more and also into teaching and further education.

When considering glasses for reading, women, on average, tend to request prescriptions between +0.25 and +0.5 higher addition than men of the same age group.

Dr Rau and her team compared the desired optimum distance for reading books or magazines favoured by women in the 28-50 age bracket with the distance preferred by men of the same age. They also examined the optimal desired reading distance of a group of 100 men (average age of 38) and 100 women (average age 36). The results were 43 cm for the men and 38 cm for the women, which was statistically significant. Apparently younger women as well as older women tend to hold reading texts closer to their face. For the purposes of their study Dr Rau's team maintain that women are smaller as a rule and that they have shorter arms.

"To verify our many years of experience in difference expectations of MFIOLs between men and women," explained Dr Rau, "we evaluated and compared the satisfaction of both after implantation of various multifocal IOLs to those in our previous studies from 1999-2007."

The M4 lens

Published in the *Klinische Monatsblätter für Ophthalmologie* 2002 the team obtained results following implantation of 80 MF4 lenses (Carl Zeiss Meditec) into the eyes of 40 patients with an average age of 72.

The MF4 is a refractive multifocal lens with four optical zones. The central zone is for near vision, with

a 4.0 addition. A one-piece, foldable, acrylic IOL its mean UCVA for distance was 0.63, for the near 0.82.

"We found," explained Dr Rau, "that 30% of all patients were very happy with the result and they were all women. 64% of the patients questioned were satisfied with the implantation and 6% were not satisfied.

"The 6% unhappy patients were all men complaining about inadequate far vision (4%) and about halos and glare (2%). The results of this study appeared to confirm that women tend to attach great importance to excellent visual acuity at near distance and appreciate the fact that they are no longer dependent on reading glasses."

AMO Array

"In order to meet the requirements of male patients I began to use an AMO Array lens. This is a three-piece, foldable, silicon refractive MFIOL with five optical zones, in which the central zone is for far vision, the addition is 3.5D. From 1999 - 2001 we implanted 80 AMO Array in the eyes of 40 patients with a mean age of 64 years. 22 patients in the study were male and 18 female.

"The mean UCVA for distance was 0.72, for near 0.72 and 45% of the patients were very satisfied with the achieved results, 10% were not satisfied – of that 10%, 6% was due to poor near vision for the women and 4% were all men due to halos and glare."

As some of the male patients opted for better visual acuity at close range, Dr Rau started combining the AMO Array with the MF4 in the other eye of the same patient

Magda Rau, MD

Augenklinik Cham, Germany



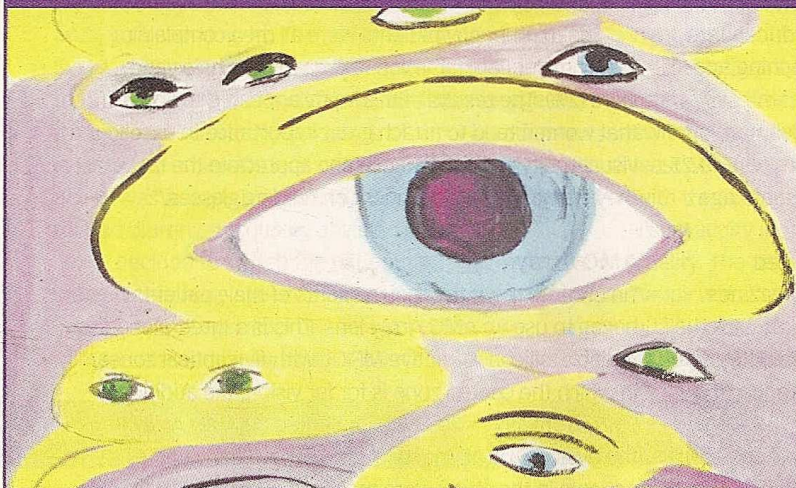
In short...

Some behaviourists insist that human behaviour patterns have remained much the same since the Stone Age. Men, as the hunters, needed a wide, clear view into the far distance. Women, as the gatherers, required good vision at close range. Today men and women have different requirements for reading glasses.

Figure 1: The optimal desired reading distance is different for men and women.



Figure 2: Dr Rau's painting is her interpretation of patient gender differences.



(EuroTimes, Volume 8, Issue 3, March 2003). With male patients, the AMO Array was implanted first and where dissatisfaction with near vision occurred, the MF4 was implanted in the other eye.

In conjunction with a prospective study performed between December 1999 and January 2001, Dr Rau compared a population of AMO Array Silicon patients fitted with a + Rezoom, which is a second-generation multifocal IOL. The optical results were comparable. The average visual acuity obtained with the AMO Array was 0.72 at far distances, while the + Rezoom achieved a far vision of 0.73. The average near visual acuity was 0.72 in the AMO Silicon group and 0.68 in the

+ Rezoom group. Contrast sensitivity was comparable; 70% of the patient in the AMO group observed halos but only 36% of the Rezoom group mentioned halos. Thirty five percent of all subjects in the AMO Array group complained about glare, while only 11% of the patients in the Rezoom group had problems with this. Eighty eight percent of all subjects in the AMO Array group and 92% of all Rezoom patients expressed their satisfaction. Eight percent of the 4% of unsatisfied AMO Array patients had problems with poor visual acuity when reading, while 4% complained about glare and halos (all male subjects). Dissatisfaction in the Rezoom group was attributed to inferior near visual acuity (7%), while only 1%

of the patients complained about glare and halos. Male satisfaction after Rezoom implantation was concluded to be higher because of less glare and halos.

Between August 2005 and June 2007, we implanted the multifocal refractive Rezoom into 160 eyes of 80 patients. The mean UCVA for the distance was 0.78, for the intermediate 0.68 and for the near 0.72. The results this time were that 45% were very satisfied – 15% were women and 30% men. Eight percent were not satisfied – of which 6% were women who experienced poor near vision and 2% were men who experienced glares and halos.

Tecnis lens

"In a study performed between September 2004 and February 2006, we implanted the AMO Tecnis multifocal lens into 80 eyes of 40 patients. The average age of the patients was 56 years," continued Rau.

Tecnis is a multifocal, diffractive three piece silicone lens with prolate anterior surface to compensate for spherical aberration of the cornea. The diffractive principle creates two focal points with slight scattering, is independent of the pupil and presents advantages in the near area. The uncorrected far vision was 0.92, for the near was 0.88.

Eight percent were not satisfied with the achieved results. One percent women because of poor intermediate vision, 7%, all men, 6% who complained of poor intermediate vision, 1% of halos and glare.

"Female satisfaction after implantation of the diffractive MF lens Tecnis was very high," remarked Rau. "Male patients occasionally complained about shorter reading distances, which was also an issue with computer work. Two men even needed a (-) prescription for glasses."

Although this patient population also included younger professional women, satisfaction after implantation of these refractive multifocal IOLs was very high indeed.

Table 1: Required MF-IOL explanations.

Lens	Period	Eyes	Explanations man/women	Reasons
Amo Array	1999-2001	280	3 men 0 women	glare and halos, poor near vision
MF4	1999-2003	230	4 men 0 women	glare and halos, poor distance vision
Rezoom	2005-2008	600	0 men 1 woman	glare and halos, poor near vision
Tecnis	2004-2008	200	0 men 0 women	

Women and men obviously have different requirements regarding multifocal lenses. However, is this surprising? After all, women and men differ from each other physically. Women are generally smaller, have shorter arms, therefore hold texts closer to their eyes, and tend to sit closer to a computer.

Furthermore, women usually attach greater importance to near vision. As regards multifocal IOLs, women usually wish to be independent of reading glasses. Men, on the other hand, are more demanding about clear far vision and glare and halos are usually considered to be much more troublesome among male subjects.

"In my opinion," said Rau, "higher satisfaction may be achieved among female patients by implanting refractive multifocal IOLs with a near dominant central zone and the diffractive MF IOLs. The refractive IOL with a central distance dominant zone provides vision in the far range; the second-generation refractive Rezoom is an IOL that will give satisfaction especially among male patients.

In Dr Rau's view: "More women hold full-time jobs today, many alongside men in factories and offices or managing companies and many are still compelled to look after the household and the children. These widely varying tasks necessitate high standards of visual acuity."

Which lens for which sex?

"With male bilateral cataract patients,"

concludes Dr Rau. "I initially implant the refractive MFIOL Rezoom into the dominant eye. Four to eight weeks later, an ophthalmological examination is performed, accompanied by an in-depth discussion. If the patient is satisfied with the already implanted MFIOL, then I continue with this type. The calculation is optimized based on already available data. If a slight improvement of the near vision is desired, I calculate the refractive MFIOL slightly in the minus range of -0.5. In the case of male unilateral cataract patients I also start with the Rezoom, since I have been able to achieve considerable satisfaction with this refractive MFIOL. In female bilateral cataract cases, I start with the non-dominant eye and implant a diffractive IOLs Tecnis or- refractive lenses with a central zone for near vision (MF45, Zeiss). If the patient is still satisfied four to eight weeks later, I continue with the same IOL or – if better visual acuity in the medium or far range is desired – we combine this with a refractive Rezoom.

"My conclusions is that, taking into account the female male differences in acceptance of MFIOLs, the option of mixing and matching gives us the possibility of satisfying a larger share of patients."

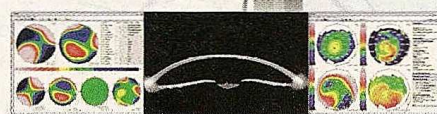


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