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Setting expectations for near vision with EDOF lenses

Simple tools go a long way toward educating patients and setting them up to succeed with presbyopia-correcting IOLs.

After years of successfully recommending and implanting multifocal IOLs, I was excited to transition to extended depth of focus lenses when the Tecnis Symfony IOL from Johnson & Johnson Vision was introduced. I truly believe that EDOF lenses are an improvement over multifocal technology because of the forgiving nature of the optics and the high-quality vision they offer over a wide range, with no gaps or "sweet spots."

D. Rex Hamilton

The only downside of EDOF IOLs is that near vision is not quite as strong as with multifocal IOLs, but I have found that with proper patient education, this need not be a detriment to patient satisfaction. Personalizing vision by combining an EDOF with a multifocal IOL is certainly another reasonable option, but my personal preference is to give patients the same optics in both eyes. Here is my approach to setting expectations.

Show what "near" means

If patients expect to read very fine print in dim light, they may be disappointed. The reality is that most people rarely need to read very fine print at all, let alone in dim light. I developed a simple two-sided "near vision card" that shows the Jaeger scale, corresponding font size and examples of text in that font (Figure 1a).

Phones, magazines and newspapers are typically in 8-point font, which corresponds to J5. Other common near tasks in the 8- to 12-point font range are price tags, receipts and computer screen/website text. This helps define near vision for patients because "near vision" and "reading vision" are subjective terms that can be easily misinterpreted.

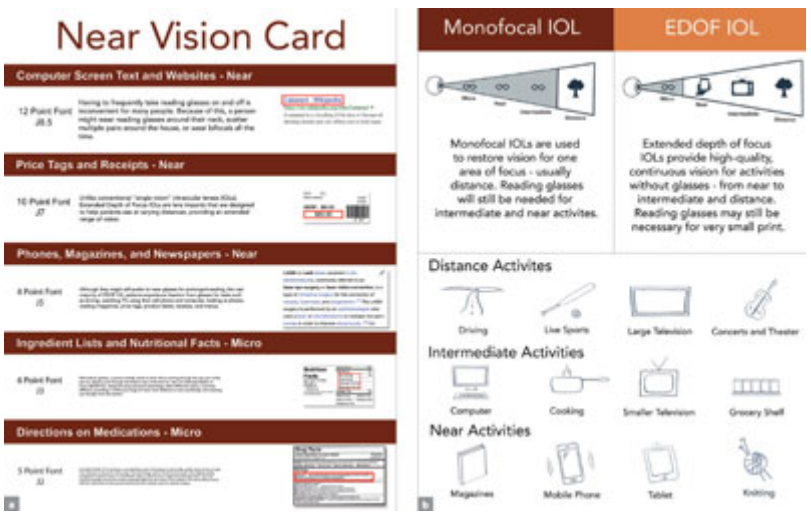

Figure 1. One side of the near vision card helps surgeons educate patients about font sizes they can expect to be able to read after surgery (a). The other side of the card depicts common tasks and activities at various distances (b).

Source: D. Rex Hamilton, MD

I tell patients that they will be able to see the top two categories (10- to 12-point font) with no glasses and the phone/newspaper category (8-point font) with no glasses in good light, and that they may need reading glasses for the "micro" tasks at 5- to 6-point font (ingredient lists, medication labels).

On the other side of the card (Figure 1b) are simple diagrams showing which distances they can expect to need glasses for with a monofocal IOL vs. an EDOF IOL and icons depicting common activities at those distances (ie, distance = driving, concerts and theater, live sports; intermediate = cooking, computer,

grocery shelf; near = magazine, mobile phone, knitting).

This simple card accomplishes two things. First, it quickly and easily sets expectations in a way that patients can understand and relate to real-world activities. Second, it underpromises. Bilateral EDOF implantation can usually provide J3 or better near acuity. When patients find after surgery that they can actually perform micro-level visual tasks (J2 or J3) without spectacles, they are thrilled instead of disappointed not to be reading J1.

Go the extra mile for low myopes

I also use Rendia (formerly Eyemaginations) simulations. You can see a version of these on the tecnisvisionsimulator.com website, but the Rendia versions for practices are more customizable to individual practice needs. I can show patients what starbursts (Figure 2) or uncorrected astigmatism will look like. I find these simulations especially useful for educating low myopes about what it will be like to lose their near vision after cataract surgery if they have monofocal IOLs implanted (Figure 3). It does not matter what we say — they really do not "get" it until we show them this image.

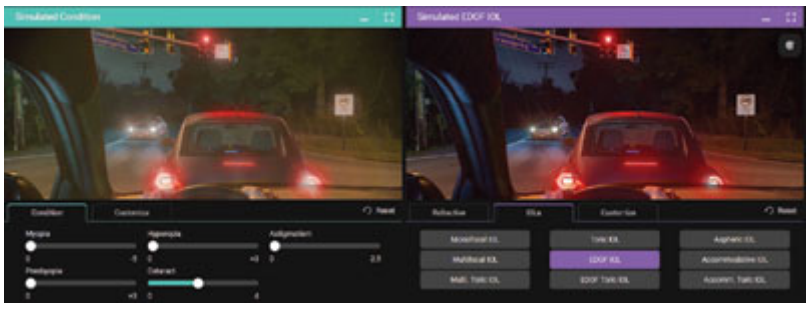

Figure 2. Simulations help patients understand how removal of the cataract and implantation of different types of IOLs may affect their night vision.
Source: Rendia

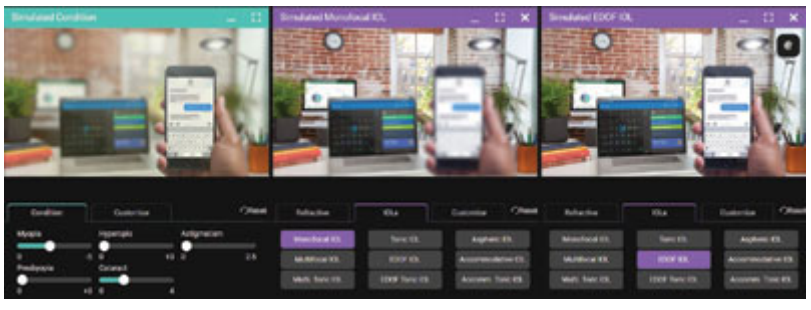

Figure 3. Customized Rendia simulations are particularly important in helping low myopes understand the consequences of monofocal distance correction compared with an EDOF lens.

Surgeons have the most trepidation about implanting presbyopia-correcting IOLs in low myopes, and rightfully so. Unlike the "slam dunk" hyperopes who are almost universally thrilled with their vision on day 1, low myopes can be the hardest to satisfy because they have been accustomed to natural near vision without correction.

A few simple steps can smooth out the experience. In addition to the simulations, I warn low myopes in advance that after surgery on the first eye, they may feel like they are still reading out of the unoperated eye and wonder whether the new IOL is working right. I explain that their brain is used to reading with both eyes and it is still going to do that. After surgery, I cover the unoperated eye and demonstrate that in fact they can read out of the eye with the EDOF IOL.

Right after surgery on the second eye, I remind patients that neural adaptation will improve both their near vision and their night symptoms over time. A good analogy to help patients understand neural adaptation is to point to a watch or wedding ring they might be wearing. Because it is always there, they do not even feel it, but if they suddenly removed it or got a new ring on a different finger, they would notice it.

If, after a few months, a former low myope still has some doubts about the near vision not being perfect, I like to remind them what their near vision would have been like if we had implanted monofocal IOLs. I put −2.5 lenses in front of their eyes and have them look at their phone. They have an immediate negative reaction and agree that what they have is so much better.

This approach to setting expectations before and after surgery has been successful for me. What I like best about it is that it reinforces what the patient is investing in. They are not choosing a technology or a particular distance — they are investing in the lifestyle benefits of spectacle independence.

For more information:

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Disclosure: Hamilton reports he is a consultant to Johnson & Johnson Vision, Alcon Laboratories and Carl Zeiss Meditec.

multifocal intraocular lenses | presbyopia | night vision