Today's Presbyopes: Options and Opportunity

Paul M. Karpecki, OD, FAAO

What presbyopes want from vision correction—and from their doctors.

Born between 1946 and 1966, most members of the Baby Boom generation now find themselves on the far side of 40—and presbyopic. And, although the ideal refractive solution to accommodative loss still lies over the horizon, the options we currently have are more numerous and sophisticated than ever before. As a result, today's presbyopes have many more choices than those prior generations whose best hope was a "flat top" bifocal. Yet, many presbyopes remain unaware of the full range of options available to them, and even those who have done their homework (thanks in large part to the Internet) are sometimes confused about available choices and reasonable expectations.

Understanding Today's Presbyopes

In general, today's presbyopes enjoy active, engaged lifestyles. Many are image conscious and, whether for social or business reasons, will invest considerable money to maintain a youthful appearance. Many in this age bracket are better off financially than they ever were before and possess the funds to invest in self improvement.

Overall, patients today have a better understanding of presbyopia than was common 10 or so years ago. This said, many still do not know enough about their vision correction options. Emmetropes and low myopes, for example, frequently resort to self-prescribed reading glasses from the local drugstore, especially during the early stages of presbyopia. This is not because they favor the look of "granny glasses" or don't want to spend more than $10. In most cases, presbyopes who opt for self treatment do so because no one has educated them about other options.

Significant Opportunity

Presbyopic Baby Boomers represent the single largest demographic group in the USA. Small wonder, then, that finding an effective solution for presbyopia is a major objective for vision care companies. Additionally, the combined population of low hyperopic (+2.00 D or less) and emmetropic presbyopes is far greater than the number of pre-presbyopic myopes (up to about –14.00 D) who have been the mainstay of refractive surgery. Thus, the untapped potential is enormous.

Once presbyopes learn that alternatives to eyeglasses are available, they are generally highly motivated to learn more. Market research conducted in January 2001 through myclearvision.com, a patient information Web site for Refractec, Inc., showed that over 90% of respondents (605 completed surveys; average age 51) would be willing to travel a distance in order to get information about the vision correction options available to presbyopes.

THE PRESBYOPIC BABY BOOMER

- ☑ Largest demographic group in USA
- ☑ Prizes youthful appearance and abilities
- ☑ Willing to invest in self-improvement
- ☑ Possesses better understanding of presbyopia
- ☑ Less knowledgeable about full range of options
- ☑ Emmetropes and those with mild refractive error
  - — Most risk-averse of the presbyopes
  - — Drugstore readers are often first recourse
  - — As presbyopia advances, they will seek out other options
- ☑ Expect thorough explanations—not terse edicts—from their eye doctor

A Risk-averse Group

Although presbyopes with little other refractive error are motivated to learn more about solutions to their loss of accommodation, they are a risk-averse group. In one study, 69% of more than 600 respondents aged 40-60 reported they had not considered having laser surgery (Source: NHBS Market Research, January 2001). Of the 31% who *had*, at some point, considered LASIK surgery, only 2% had undergone the procedure.

Other studies confirm the risk-averse nature of this population. When asked what factors would lead them to consider refractive surgery, 87% cited safety of the procedure, 67% would be interested in a procedure that did not involve cutting, and

ASSESSING TOLERANCE FOR MONOVISION

The ability to tolerate monovision is essential to the success of CK, LASIK, and PRK for the treatment of presbyopia. One of the simplest ways to test an individual's ability to tolerate monovision is to sit the patient at the phoropter, have the patient focus on the distance target, and add plus power in 0.25 D increments over the nondominant eye. When the patient reports the target appears blurry, note the threshold at which binocular vision is no longer 20/20.

Patients who can't tolerate at least 1.50 D additional plus power will not adapt well to monovision. I get clear-cut, reliable results with this method. If the patient's ability to tolerate monovision remains in doubt, a contact lens trial is useful. A patient's ability to tolerate monovision is also influenced by the amount of postoperative cylinder. Monovision candidates should have less than 0.75 D of cylinder after their procedure.

51% found the idea of an in-office procedure appealing.

In general, the most risk-averse are the emerging presbyopes, particularly emmetropes and very low hyperopes.

GUIDING PRESBYOPES THROUGH THE ALTERNATIVES

- ☑ Assessment considerations
  - — Age
  - — Refractive status, ie, emmetrope, hyperope, myope
  - — Add power requirements
  - — Status of crystalline lens
  - — Ability to tolerate monovision
  - — Lifestyle needs
  - — Tolerance for risk
  - — Personality
- ☑ Thoroughly outline pros and cons of each option
- ☑ Set visual expectations
- ☑ With emerging presbyopes, begin with nonsurgical options
  - — As presbyopia progresses move to corneal procedures, then IOLs

This seems logical because these were the patients who for 40 years bragged about their distance vision and could read a license plate well ahead of any myope. They have always considered their vision one of their greatest gifts and hence are extremely cautious when it comes to surgical treatments. Myopes on the other hand, even low myopes, consider themselves as always having had poor vision as people generally gauge vision based on distance targets. For this reason myopes are least risk averse to surgical procedures. Of late, we have seen an increase in the number of emmetropic presbyopes who are interested in surgical options. Most are in their early 50s. In other words, they put up with the frustrations of presbyopia—and its progression—for several years before deciding to pursue elective surgery.

The Presbyope-Doctor Relationship

While today's presbyopes still look to their doctors for guidance, education, and recommendations, they are not necessarily quick to act without question. They want to understand *why* the doctor has made his or her recommendation. This is especially true of those patients who have done some Internet research.

Patients, especially those considering elective procedures, also expect to spend more time with the doctor and staff and to have their questions thoroughly answered. So, taking the time to proactively educate presbyopes about their vision correction options is essential for any practice that serves this group.

Assessing Presbyopes' Needs and Expectations

The doctor must also ask probing questions of patients—and listen carefully to the responses—in order to assess their lifestyle needs, tolerance for risk, etc. As with refractive surgery, personality assessment is important—perfection-driven and highly negative personalities make poor candidates for any refractive surgery. Presbyopes with mild-to-moderate myopia can also be a challenge because they tend to have high expectations for their reading vision. Care must be taken to ensure appropriate expectations.

One must also assess the patient's willingness to tolerate risk. The best approach is to fully enumerate the pros and cons of the various options available. Pay heed to the patient's questions and body language. Guide risk-averse patients to a solution with which they will be comfortable. Often further experience with presbyopia and nonsurgical options will increase a patient's willingness to consider surgery.

Spectacles and Contact Lenses

For many patients, multifocal spectacles or contact lenses will be the first thing they try. Both technologies have come a long way thanks to advances in progressive lens design. The transitions from near to intermediate and from intermediate to distance are more natural than was previously the case, and, as a result, a higher percentage of patients adapt more easily to progressive spectacles or multifocal contact lenses. Additionally, a wider variety of designs from various manufacturers provides fitters with more options, further increasing the chances of a successful outcome.

Despite this, many patients, particularly those who had little or no need for refractive correction prior to presbyopia, would prefer not to wear spectacle or contact lenses. Many are interested in surgical options that can reduce or eliminate the need for optical appliances.

Current surgical options can be divided into corneal monovision procedures and intraocular lenses. The degree of the patient's accommodative loss, magnitude of the spherocylindrical correction, ability to tolerate monovision (see box), and stage of cataract formation are the primary keys in determining which option is most appropriate.

Clear-lens Presbyopes

For low hyperopes (no more than +1.50 D) with crystalline lenses free of opacities, astigmatism of 0.75 D or less, and add power requirements up to +1.50 D, conductive keratoplasty (CK) is a great starting point. When the add power requirement exceeds +2.00 D, the patient's age and the extent of cataract development are prime considerations. For those who have clear lenses, monocular LASIK or PRK will be a good option, provided that none of the usual contraindications (eg, highly irregular or thin corneas, dry eyes) is present.

An additional caveat applies. If the corneal apex is significantly decentered, based on Orbscan elevation maps, the risk of induced astigmatism (caused by the surgical introduction of a second, centered apex) is greatly increased. Higher hyperopes (greater than +3.75 D) might consider a lens procedure.

Cataracts

Large population-based studies indicate that 33% of individuals aged 45 to 64 already exhibit early cataract formation.[1,2] If early stage cataracts are present and are likely to progress significantly within the next 5 years, an intraocular solution becomes much more attractive.

Since there can be a loss of contrast sensitivity with multifocal IOLs, we are likely to recommend a monocular aspheric IOL, to patients with nascent cataracts in a monovision approach. Contrast sensitivity is better maintained and night vision symptoms are fewer with these monofocal lenses. This is far less of an issue for patients with more advanced cataracts. These patients have already lost contrast sensitivity (and more) and, with the cataracts' removal, will have significantly improved vision. As a result, they adapt better to multifocal IOLs. In our practice, we largely reserve multifocal and accommodating IOLs for cataract patients but are now also beginning to recommend a significant amount of monovision with an aspheric IOL and full refractive correction, including limbal relaxing incisions for these patients.

Progressive Options for Progressive Loss

We make it clear to patients that surgical correction will not provide them with the same near vision they enjoy with spectacles, nor will it restore the accommodative power they possessed in their youth. Phakic patients must also be reminded that as they age, their presbyopia will continue to progress.

For this reason, we often counsel emerging presbyopes (where appropriate) to think of their options as occurring along a continuum. I liken it to plastic surgery. People rarely start out by having a facelift at the first signs of aging. Rather, one might start with a face "peel," progress to Botox®, and then, in later years, opt for a facelift or blepharoplasty.

Depending on patients' refractive needs, a similar path might be followed by those who wish to reduce their dependence on spectacles. A presbyope might start with multifocal contact lenses or contact lens monovision, progress to a corneal monovision procedure, and, eventually, receive refractive IOLs.

Preparing for the Future

Currently, presbyopic procedures represent 5% of all surgeries performed at our center. Although the percentage is small, it is growing. This is an expansion opportunity and by being an active participant in the field while it is still in its early stages, one can earn a reputation as a specialist in this area when the market takes off.

THE POST-LASIK PRESBYOPE

Patients who had LASIK performed in their younger years are already comfortable with refractive surgery and will likely seek out surgical options once they become presbyopic. With these patients, CK may be the best option.

CK eliminates the need to lift the original flap. Thus it avoids problems such as finding that the hyperopic ablation treatment zone is larger than the flap for the original myopic procedure. (A not uncommon dilemma given that smaller flap sizes were favored in the past.) With CK, a larger treatment zone can be used, which is useful in avoiding night vision symptoms such as halos. Also, we have found with CK that post-LASIK eyes tend to achieve greater corrections with just a few thermokeratoplasty spots than do virgin corneas.

THE BOTTOM LINE

Presbyopic Baby Boomers constitute the largest single demographic in the USA. Eager to retain the appearance and abilities of youth, this group is interested in alternatives to reading glasses—yet, despite the Internet, most possess little real knowledge about their options. The market holds great potential for the practice that can help presbyopes evaluate and access current technology.

Paul M. Karpecki, OD, FAAO, is director of research at Moyes Eye Center in Kansas City, MO. He is a consultant to Bausch & Lomb Inc. and Refractec, Inc. Clarissa J. Ceglio, *Refractive Eyecare's* executive editor, assisted in writing this article.

REFERENCES

1. Klein BE, Klein R, Lee KE: Incidence of age-related cataract: the Beaver Dam Eye Study. *Arch Ophthalmol* 1998 Feb;116(2):219-25.
2. Mitchell P, Cumming RG, Attebo K, Panchapakesan J: Prevalence of cataract in Australia: the Blue Mountains eye study. *Ophthalmology*. 1997 Apr;104(4):581-8.