**Bringing presbyopia-correcting IOLs into the mainstream**

**Howard Larkin**

**San Diego, California, US.**

**PRESBYOPIA-CORRECTING IOLs have the potential to revolutionise both the clinical practice and the economics of ophthalmic surgery.** Leading surgeons and leaders of the American Society of Cataract and Refractive Surgery. But extensive education of both the public and surgeons will be required to realise the potential of this emerging technology, they told attendees of the 2007 ASCRS Symposium on Cataract, IOL and Refractive Surgery. This need for education arises from an unusual confluence of events. On one hand, emerging multifocal and accommodating IOL technology at last makes it possible for ophthalmic surgeons to successfully address presbyopia – by far the most prevalent refractive problem facing the aging post-World War II generation. And this generation’s unprecedented size, good health, wealth and expectations for a continued active life in retirement will almost certainly create enormous demand for presbyopic lens correction across the globe.

“I think most of us consider presbyopia to be the final frontier of lens-based surgery,” said Samuel Masket MD, who ended his term as ASCRS president at this year’s meeting in San Diego, California, US.

On the other hand, “the vast majority of the public has little understanding of the condition,” Dr Masket noted. A Harris Poll commissioned by ASCRS released at the meeting found that while about two-thirds of US residents between age 45 and 65 polled had experienced presbyopia symptoms, only about half knew what the term meant, and less than one-third was aware that the condition could be addressed with implanted lenses.

To some extent, even experienced cataract and refractive surgeons share this problem. Many are confused by conflicting studies swirling around this emerging technology, said I. Howard Fine MD, chair of the ASCRS Foundation, who practices in Eugene, Oregon, US.

**Battle for market share**

“It’s well understood that competition is among the great drivers of innovation. However, the rough and tumble battle for market share also means conflicting and often times confusing claims. It is with this uncertainty in mind that the foundation has decided to insert itself into the ongoing discussion over presbyopia-correcting intraocular lenses in the hope of bringing an objective and understandable balance to the debate,” Dr Fine said.

Supported by donations from individual surgeons and ophthalmic device manufacturers, including Alcon and Advanced Medical Optics, the ASCRS Foundation has launched an education initiative to promote presbyopia-correction IOL understanding between both groups.

On the patient side is a new website, www.readclearlyagain.org, launched earlier this year. An in-office software package designed to help practice staff educate patients on the advantages of presbyopia-correcting IOLs, known as the IOL Counselor; has also been distributed to all ASCRS members (see sidebar).

On the surgeon side is a comprehensive set of clinical and practice management education efforts designed to answer what Dr Fine sees as critical questions for surgeons: “Are these lenses right of my patient and my practice, and how do I decide? Does the increased financial potential outweigh the fundamental changes in practice patterns needed to achieve it?”

At a major symposium at this year’s ASCRS meeting Dr Fine and others began to explore these questions.

The potential of refractive lens exchange is captured in two figures. First is the rate of increase in presbyopia-correcting IOLs sales for clear lens exchange, which have doubled every year for the past few years and is projected to reach 60,000 in the US this year. While this is still small compared with the three million cataract surgeries done every year, “this growth rate continues it will not be long before this gets pretty large,” said Richard L. Lindstrom, MD, incoming ASCRS president, of Minnesota Eye Consultants, Minneapolis, US. And financial analysts project that presbyopia-correcting IOL sales will increase much more quickly than overall medical device sales for years to come, he added.

Second, and perhaps even more significant, is the proportion of total IOL sales these premium lenses contribute – about £6m, or about 59 per cent of the worldwide total of nearly £96m in 2006, according to Market Scope, Lindstrom noted.

“It’s because they can charge £900 for one of these premium IOLs, but only £150 for a standard lens.”

Similarly, surgeons can charge much more for presbyopia correction IOLS services than they can for standard lenses. Dr Fine said. This creates an opportunity for practices to greatly increase revenues while reducing patient load, allowing ophthalmologists to spend more time with each patient.

But because these lenses, particularly multifocal varieties, are much less forgiving of inaccurate placement or power calculation, and patients paying out-of-pocket for a clear lens exchange are much more demanding of a near-perfect outcome, they will demand much more of the surgeon.

Meeting these increased demands will require surgeons to shift from what Dr Fine calls a high-volume, disease-focused, efficiency-based mindset to a personal service mindset. Surgeons will have to spend much more time talking to patients to determine their needs and manage their expectations. They will need to invest in and master the latest biometry equipment to ensure accuracy. They will have to measure outcomes and assess the performance of new lens technologies so that they can match them to patient needs and preferences. They will need to be prepared to do post-surgery touch-ups, and spend much more time on follow-up.

**Becoming physicians again**

“You are going to have to become a physician again. Over the past 15 years we have become more surgeons and technicians. Now we will have to really talk to our patients and listen carefully to what they say. These cases will present a tremendous challenge to those who have practised exclusively in the old way,” Dr Fine said.

In addition to patient counselling, superb surgical skills will be required to succeed with presbyopia-correcting IOLs, said Dr Masket, who practises in Los Angeles, California, US. Surgeons will need to follow what he called the four A’s:

- **Astigmatism** – Refractive patients will not be satisfied with residual astigmatism, no matter how accurate the IOL power calculation. Just a half a dioptre of cylinder significantly degrades outcomes in terms of clarity, Dr Masket said. He routinely uses corneal relaxing incisions, and tests for...
astigmatism afterwards. About 15 per cent of cases require additional adjustment. Toric IOLs may soon be available for this purpose, noted Douglas Koch MD, of Houston, Texas, US.

- **Accurate biometry** – Non-contact technology, such as the IOL Master, plus consistent keratometry methods such as immersion A-scans are essential, said Warren Hill MD, of Mesa, Arizona, US. However he emphasises that a perfect keratometry and axial length measurement aren’t enough to attain outcomes within 1/4 dioptre of the target refraction. A round and centred rhexis is also required.

- **Appropriate formula** – Choosing the right formula for calculating lens power is also essential to get close to the target, Dr Hill added. The wrong formula can spoil the results of even the most precise biometry and surgical technique by causing the surgeon to choose the wrong power IOL.

- **Adjust the outcome** – Adjustments are part of the refractive lens game, Dr Masket said. In a series of 240 eyes he operated on, 26 eyes in 21 patients required adjustments. These included 14 eyes requiring additional corneal relaxing incisions to correct residual astigmatism, four eyes requiring photoablation, two insertions of piggyback lenses, two corneal debridements, one extraocular muscle surgery and three lens exchanges. All achieved spectacle independence except those requiring explantation.

  “Enhancement will be part of the picture for the foreseeable future,” he said. “You need to build it into the process.”

- **Preparing office staff**

  Your staff’s attitude and service orientation will also need to change to succeed with presbyopia-correcting IOLs, said Stephen S Lane MD, of the University of Minnesota, and Associated Eye Care in St Paul, Minnesota, US. Where staff have focused exclusively on diagnosing and treating pathology, they will now also need to present the advantages of these IOLs in a way that will convince patients of their value enough to justify the additional expense.

  “Everyone in your office needs to be on board and trained to talk about these lenses.” Ideally, that education will start before the patient even reaches your office, with brochures on presbyopia-correcting IOLs sent to the patient before the first consultation. Posters, educational materials and even “brag books” of patient testimonials where allowed should be in the office reception area.

  Patients should be counselled on lens options and their pros and cons. Interactive tools, such as the IOL Counselor distributed by ASCRS in March 2007, can be very powerful tools for showing patients how these IOLs can benefit them.

After all this, when the time comes for the doctor to present presbyopia-correcting IOLs as an option, many patients will already have decided they want them.

“Every patient who comes in should know that your practice implants these lenses. Your practice should exude confidence and professionalism,” Dr Lane says.

But important as these changes are, Dr Fine cautions against focusing on presbyopia-correcting IOLs to the exclusion of providing standard cataract service.

“My own belief is that society will not tolerate a specialty that shuns the routine Medicare patient. I think we still have to provide excellent surgery with routine monofocal lenses for our Medicare patients.”

Avcmasket@aol.com
hfine@finemd.com
rlindstrom@mneye.com
sslane@associatedeyecare.com