

The Best of 2010

Cataract & Refractive Surgery Today's panel of ophthalmologists cast their votes for the top clinical advice, research, and technology of the year.

BY GILLIAN McDERMOTT, MA, EDITOR-IN-CHIEF

One of the best ways we at *Cataract & Refractive Surgery Today* could think of to identify the ophthalmic highlights of last year was to ask the opinion of cataract and refractive surgeons hard at work in practices across the country. This article summarizes the responses of 13 ophthalmologists for several categories.

CLINICAL PEARL

Based on the panel's responses, the best clinical pearls of 2010 pertained to cataract surgery, although *CRSToday's* Chief Medical Editor Stephen G. Slade, MD, nominated the use of a Lewicky cannula for Descemet's stripping automated endothelial keratoplasty. He learned the technique from fellow Houston surgeon John Goosey, and Dr. Slade reports that it "completely eliminates viscoelastics" from the procedure.

IOLs

Three surgeons prized advice on lens implants. Salt Lake City surgeon Robert J. Cionni singled out Warren Hill, MD, of Mesa, Arizona, for explaining that "no single factor is more important in achieving the anticipated refractive goal than a capsulorhexis that is consistently sized to cover the IOL optic for 360°." Dr. Cionni continued, "Without doing so, one cannot expect to be within 0.50 D of the expected refractive goal reliably. However, by covering the IOL with 1 mm of residual anterior capsular rim for 360°—in addition to other factors such as measuring axial length and keratometry values with an IOLMaster [Carl Zeiss Meditec, Inc., Dublin, CA] or Lenstar LS900 [Haag-Streit AG, Köniz, Switzerland; distributed in the United States by Alcon Laboratories, Inc., Fort Worth, TX] and using newer optimized IOL power formulas appropriate for the axial length measured—one should be able to be within about 0.25 D of [the] expected refractive result more consistently."

To follow Dr. Hill's advice, Dr. Cionni began using a 5.75-mm optical zone marker (Mastel Precision, Inc.,

Rapid City, SD). As the patient fixates on the microscope's light, Dr. Cionni places the marker on the cornea and centers the Purkinje image from the microscope light's filaments in the marker. He then traces the capsulorhexis directly under the ring marked on the cornea. The result, he said, is a continuous curvilinear capsulorhexis of about 5 mm in diameter due to the effect of corneal magnification. Dr. Cionni added that, because of their "sticky" nature, hydrophobic acrylic IOLs can be centered in the capsulorhexis and typically remain where positioned. Since he began following Dr. Hill's suggestion, Dr. Cionni said that he has "been impressed with my ability to center the IOL (easily ascertained postoperatively with the AcrySof Restor [model SN60D1; Alcon Laboratories, Inc.] due to the diffractive rings visualized centered in the undilated pupil and achieve 360° optic coverage. Although refractive surprises can still occur, their likelihood is reduced."

James C. Loden, MD, of Nashville gave Cincinnati surgeon Michael Snyder top marks for the video he presented during the 2010 Caribbean Eye Meeting. It showed "the insertion of a single-piece IOL into the sulcus as a lens fragment barrier in the face of capsular rupture," Dr. Loden said. "Unfortunately, I had the opportunity to employ this technique [in 2010] with the rupture of the capsule after my first nuclear quadrant was removed. Apparently, I [had] chopped my bag along with the nucleus." Remembering Dr. Snyder's video, Dr. Loden visco-levitated the remaining nucleus into the anterior chamber and inserted a three-piece IOL into the sulcus. He then proceeded with phacoemulsification and a bimanual vitrectomy, after which the patient achieved "a great postoperative outcome without having to visit the retina guys."

Based in Sarasota, Florida, William J. Lahners, MD, praised Amar Agarwal, FRCS, FRCOphth, for his glued IOL technique, in which the surgeon fixates a PCIOL using scleral tunnels and tissue glue rather than sutures. "Dr. Agarwal's techniques are always a fresh way to look at an old problem," commented Dr. Lahners.

Devices

In 2010, J. E. "Jay" McDonald II, MD, of Fayetteville, Arkansas, resurrected his use of the Honan cuff during cataract surgery. He began employing the device for small eyes to create more space in the anterior chamber, which he found made phacoemulsification easier. Success in these cases led him to incorporate the Honan cuff when implanting the Crystalens (Bausch + Lomb, Rochester, NY) "so the lens would sit back in the bag." He now routinely uses the device during cataract surgery, except in eyes with 6.00 D or more of myopia. "Years ago, when we did intracaps routinely, this invention saved our bacon," he said. "Why didn't I think of it before?"

Los Angeles surgeon Robert K. Maloney nominated a video by Thomas Oetting, MD, of Iowa City, Iowa, on the use of the Malyugin Ring (MicroSurgical Technology, Redmond, WA; video available at www.microsurgical.com). In particular, Dr. Maloney said he appreciated the advice that "it is easier to remove the ring if you detach the distal loop first, prior to detaching the proximal loop."

Anterior Capsulotomy

R. Bruce Wallace III, MD, of Alexandria, Louisiana, voted for a pearl shared during one of the AAO's Spotlight on Cataracts symposia last year. Iqbal Iqbal Ahmed, MD, demonstrated a bimanual technique to initiate an anterior capsulotomy when the surgeon encounters a cataract with weak-to-absent zonules (video available at <http://www.youtube.com/watch?v=JkKwKfILCq4>). "Loose zonules are often first diagnosed by a floppy anterior capsule," Dr. Wallace remarked. "By using a microforceps to grasp the central anterior capsule, a bent needle is better able to tear the stretched capsule."

Endophthalmitis

Steven Dewey, MD, of Colorado Springs, Colorado, wrote that he was deeply impressed when Ferenc Kuhn, MD, "essentially reinterpreted the Endophthalmitis Vitrectomy Study performed in the early 1990s" at the AAO Annual Meeting in Chicago. "First, he noted that the procedures performed to treat endophthalmitis at the time were not complete vitrectomies but rather collecting samples in a small fashion (tap) or larger fashion (vitrectomy)," said Dr. Dewey. "Citing the rather impressive improvements in the safety of vitrectomy technology, Dr. Kuhn advocates a complete vitrectomy at the time of diagnosis with the injection of intracameral antibiotics regardless of the presenting acuity. He was able to achieve a final acuity of 20/40 or better in over 90% of his cases."

Sedation

For Kerry Solomon, MD, in Mount Pleasant, South Carolina, the top clinical change last year was eliminating the use of intravenous (IV) sedation during cataract surgery. He switched to oral Versed (Roche) and found that patients prefer it to starting an IV. "While the sedation from oral Versed is not quite as deep, the anxiety level of patients who do not have to start an IV has decreased, and they actually feel better after surgery, because they are not quite as groggy," he explained. "In terms of facility surgery, the staff has found oral Versed to be efficient and easier to deliver to patients, allowing sedation to occur in a more customer-oriented way. In turn, moving patients through the process and turning rooms over happen at an efficient rate, because we do not have to handle IV preparation."

A Clean Ocular Surface

Christopher E. Starr, MD, of New York wrote that he now performs "phacoemulsification of the tear film in order to eradicate bothersome, and potentially dangerous, meibum and tear film debris on the ocular surface. This pearl apparently has been around for quite some time but was new to me in 2010. I was told that Alan Crandall, MD, discovered this phenomenon, but when asked, Alan credited Robert Cionni, MD, with its origins." Dr. Starr presented videos of this technique at several conferences last year and summarized it as follows: "Before making any incisions, take the primed phaco handpiece and hover it about a centimeter over the cornea and conjunctiva and actually 'phaco' (foot position 3) in the air. The ultrasonics likely break up the fragile meibum and debris, and the simultaneous irrigation washes it away from the eye. I assure you that it really works."

RESEARCH OR REVIEW ARTICLE/ PRESENTATION

Ectasia and Keratoconus

"Keratoectasia is a challenging condition to treat, particularly when it is progressing," Elizabeth A. Davis, MD, of Bloomington, Minnesota, commented. "Until recently, there were no treatments available to halt the ongoing corneal weakening. [Corneal] collagen cross-linking is now in FDA clinical trials and has shown promise as a method of increasing corneal biomechanical stability in both keratoconus and post-LASIK ectasia." Dr. Davis recommended *CRSToday's* "concise review of the topic and previous studies."¹

Dr. Maloney nominated an article by London's Dan Reinstein, MD, on the use of high-speed digital ultrasonography to measure epithelial thickness in eyes with subclinical keratoconus.² Dr. Maloney reported that Reinstein and

his group found that the epithelium thins over the cone in this subset of eyes, an effect not observed in normal eyes. "In the future, this may offer a more accurate way of screening for subclinical keratoconus than either anterior or posterior corneal topography," Dr. Maloney said.

Dr. Slade picked an article by Perry Binder, MD, and William Trattler, MD,³ that he said "seriously questions the validity of a multifactorial system of numbers for [keratoconus] diagnosis before LASIK. I agree with the authors that we do not have good science for a formula of risk factors to diagnose patients at risk in a definitive fashion."

Central Toxic Keratitis

Dr. Lahners voted for a review of central toxic keratitis, which he described as "an uncommon, presumably sterile, inflammatory condition that can follow uncomplicated LASIK surgery."⁴ The piece covers options for and the results of treatment published in the literature. "A few conditions such as this one ... can surprise us with a poor outcome despite our best efforts," remarked Dr. Lahners, who hopes an effective method of prevention will soon be found.

Cataract Surgery

Noting the increasingly demanding nature of cataract surgery patients and the growing number of patients undergoing this procedure who have a history of refractive surgery, Dr. Cionni selected an article that helps ophthalmologists improve the accuracy of IOL power calculations after myopic PRK or LASIK.⁵ Dr. Solomon agreed with this pick. "Since IOL power calculation in postrefractive surgery patients is more difficult and unpredictable compared to calculations of virgin eyes, it is key to know which method will provide the best and more accurate calculation," he said.

In related comments, Dr. Wallace identified research presented by Roger Steinert, MD, during the AAO Annual Meeting. The study demonstrated "higher predictability for IOL power calculations after precise anterior capsulotomies performed by the femtosecond laser," Dr. Wallace said. "Not only is a better refractive result important to patient satisfaction, demonstrating that the femtosecond laser has a refractive benefit beyond astigmatic correction helps to justify out-of-pocket charges to Medicare patients for the use of the femtosecond laser."

The combination of an article and letter that he felt candidly discussed negative dysphotopsia and its treatment was more important to Dr. Loden.^{6,7} The problem is a significant source of dissatisfaction for surgeons and patients after an otherwise perfectly performed cataract procedure, he stated. "When not addressed with understanding, compassion, and intervention, negative dysphotopsia can cre-

ate poor word-of-mouth referrals in a small community," he asserted. To address the problem, Dr. Loden prefers to exchange the IOL for a single-optic lens with a round edge, specifically the STAAR Elastimide lens (model AQ2010V; STAAR Surgical Company, Monrovia, CA). He considers the square-edged IOLs to be the source of negative and positive dysphotopsia, and he wishes industry would give surgeons the option of an aspheric IOL (silicone or acrylic) with a round edge and large optic. "In my practice, posterior capsular opacification is treated easily and atraumatically with a laser capsulotomy and considered an inevitable side effect of cataract surgery, not a complication," he added.

From Long Island, New York, *CRSToday's* Chief Medical Editor Eric D. Donnenfeld, MD, nominated a study that he and colleagues conducted and presented at the ASCRS annual meeting in which patients received pulsed dosing of difluprednate 0.05% (Durezol; Alcon Laboratories, Inc.) prior to cataract surgery. Compared with patients who received prednisolone acetate on the same dosing schedule, the difluprednate group had better UCVA and BCVA 1 day postoperatively, he said. The difluprednate group also had less macular edema on optical coherence tomography and less endothelial cell loss at 4 weeks. "The dosing schedule we employed was difluprednate every 15 minutes at home for four doses followed by three drops every 15 minutes at the surgical center," Dr. Donnenfeld said. "Postoperatively, patients received difluprednate every 2 hours for the first day, four times a day for 1 week, and twice a day for the second week. This dosing schedule dramatically improved surgical outcomes following phacoemulsification."

Dr. Dewey was most impressed by news from the Age-Related Eye Disease Study (AREDS) presented in 2010 that cataract surgery seems to have no effect on the ultimate development of advanced forms of age-related macular degeneration (AMD).⁸ AREDS looked "specifically at patients with high-risk characteristics for developing macular degeneration," he commented. "The timeframe of this study appears to have been the factor in countering previous studies showing mixed results. The AREDS was fortunate to have studied outcomes in which small-incision phacoemulsification and UV-blocking IOLs were the norm. The positive side is that the surgery has no downside with regard to AMD progression. On the negative side, the use of a blue-blocking IOL will have no effect on a patient at risk for AMD progression." Research also showed that the intake of omega-3 fatty acids in fish oils has a protective effect similar to that of high-potency antioxidants, stated Dr. Dewey. He noted, "Patients taking fish oil had a 30% reduction in the progression to advanced AMD."⁹

Ocular Surface Disease

Dr. McDonald voted for a comprehensive review that he said recognizes meibomian gland dysfunction (MGD) as the genesis of dry eye syndrome.¹⁰ More important, he wrote, the article describes how MGD leads to the symptoms and signs of dry eye “as well as the methodology of using fluorescein and lissamine green (soon available as Fluramene [Noble Vision Group, LLC, Eugene, OR]) to view the lid wiper epithelium along the line of Marx of the upper lid. [This information] has provided a logical and sensible path to evaluating and treating the ubiquitous but always puzzling dry eye patient. ... [This is a] game-changing article for anyone treating dry eye.”

SOFTWARE

Applications

Four panelists nominated “apps” they use regularly to improve patients’ care. Both Dr. McDonald and Dr. Lahners raved about Epocrates (Epocrates, Inc., San Mateo, CA). “This software has really provided an unprecedented amount of clinical information, especially on medications prescribed less frequently,” Dr. Lahners enthused. “I use it almost every day!” Joked Dr. McDonald, “Having this condensed PDR in my pocket has diminished my inquiries to my associate Chad Betts, MD, also a registered pharmacist, about patient meds and doses. He probably appreciates it more than I, as I am not always interrupting his world with ‘What does this medicine do, and what is the dosage?’”

Dr. Dewey chose the Eye Handbook, developed at the University of Missouri-Kansas City. This free app received Dr. Stonecipher’s vote as well. “Whether it is visual testing, references, diagnostics, coding, meetings, or new press releases, the Eye Handbook provides the ophthalmologist with the ability to perform basic ophthalmic tasks on the go,” he remarked. “With applications such as [this and Epocrates], the office just went mobile.”

Surgery

Dr. Donnenfeld said he loves being able to create oval and reverse side cuts with the Intralase iFS laser (Abbott Medical Optics Inc., Santa Ana, CA). “These flaps reduce the incidence of dry eye and are dramatically more stable,” he wrote.

Again citing the challenge of performing IOL power calculations for patients with a history of refractive surgery, Dr. Cionni voted for the postrefractive surgery calculator provided on the ASCRS Web site. “This Web-based tool allows us to enter as much data as we have available and then view IOL calculations from numerous formulas designed to better predict refractive outcomes,” he stated. “Its use on a daily basis has markedly simplified my practice and improved my outcomes.”

Dr. Solomon selected Alcon’s Ozil IP software, which he said maintains a stable chamber while allowing surgeons to operate through smaller incisions. “The end result is a safer, more reproducible procedure and earlier visual recovery for patients,” he said.

Videos

Dr. Slade is a fan of Final Cut Pro 7 (Apple Inc., Cupertino, CA). “This [editing software] brings the closest thing to professional video to the surgeon,” he wrote. “In fact, it is what the pros use themselves.”

Dr. Wallace purchased the Sight Selector software program (Patient Education Concepts, Inc., Houston, TX) while attending the AAO Annual Meeting. He has found it particularly valuable for educating patients about presbyopia-correcting IOLs. “The surgeon and/or staff can choose to walk the patient through the various IOL options or use the narrative videos,” he noted.

TECHNOLOGY

Femtosecond Laser-Assisted Cataract Surgery

According to Dr. Donnenfeld, there was “nothing as exciting in 2010 as the development and approval of femtosecond-assisted cataract surgery,” a sentiment echoed by a majority of *CRSToday’s* panelists. Dr. Davis stated, “These lasers have the potential to revolutionize cataract surgery in terms of efficiency, safety, and predictability. I envision the future of cataract surgery to involve the use of these lasers to create perfectly constructed tiny incisions, precisely planned and executed astigmatic relaxing incisions, perfectly centered and sized capsulotomies, and emulsified nuclei of any density. Removal of emulsified lens material will then simply and safely be performed by a simple I/A technique followed by the implantation of an IOL or injectable polymer.” Also important, however, is the attractiveness of this concept to laypeople, Dr. Slade pointed out. “Patients totally get ‘laser cataract surgery,’” he remarked.

Although Dr. Wallace stated that the technology’s potential importance in cataract and lens-based refractive surgery cannot be denied, Dr. McDonald noted that “this innovation has stirred the most heated and heartfelt discussions on the ASCRS Internet forum seen since its inception 6 years ago.” The major issue is economics. “The greatest uncertainty for this technology is not about its ability to deliver better results but who will pay for it,” Dr. Cionni wrote. Or, as Dr. Starr quipped, “If I only had an extra half-million dollars.” Karl G. Stonecipher, MD, of Greensboro, North Carolina, however, noted that “this is exactly what we saw with the introduction of the femtosecond laser in refractive surgery.”

Dr. McDonald predicted, “The consumer-driven market will raise the value of dysfunctional lens replacement sur-

gery but not without a lot of fire and storm." He hopes that the effect will be to unify rather than polarize ophthalmologists. Commented Dr. Solomon, "Laser refractive cataract surgery is in its infancy, and this technology is what is going to carry us through the next decade."

Other Nominations

Dr. Lahners and Dr. Loden broke from the pack in this category. The former voted for the Implantable Miniature Telescope (VisionCare Ophthalmic Technologies, Saratoga, CA). "While not perfect, it offers a measurable improvement in those suffering from macular degeneration," he explained. "Most importantly, it offers them hope."

Dr. Loden selected the Softec HD and Softec One lens implants (Lenstec, Inc., St. Petersburg, FL). "The Softec HD is unique in that it is a biaspheric lens that is milled to tighter standards, resulting in the lens' being offered in 0.25 D steps," he said. "The Softec One is a standard non-aspheric lens that I predict will gain in popularity after February 11, 2011, when the current [New Technology IOL] classification expires." The latter IOL, he explained, will represent a cost-effective, single-piece, hydrophilic acrylic alternative for the ambulatory surgery center (ASC) environment.

TECHNICAL INNOVATION

Phacoemulsification and Nuclear Division

Both Dr. Dewey and Dr. Loden nominated the Ellips FX handpiece (Abbott Medical Optics Inc.) as the top technical innovation of 2010. "The extra transversal movement and faster speed of the needle tip emulsify even the densest fragments with exceptional ease," commented Dr. Dewey. "This technology seems to take a full grade off the density of each cataract with regard to simplifying nuclear removal." Dr. Loden appreciates the recent modifications that allow him to use a straight phaco tip without losing cutting efficiency.

Last year, Dr. Cionni began prechopping the nucleus, which he has found reduces the required amount of ultrasonic energy and time spent in the eye. Based on his observations of fellows, however, he believes it is difficult breaking the nucleus into manageably small pieces that most often leads to significant complications such as a ruptured posterior capsule or thermal damage to the incision. Dense cataracts, he noted, are not easily divided by a pre-chopper and require challenging bimanual maneuvers. For these reasons, Dr. Cionni thinks the best technical innovation of 2010 was the Ultrachopper (Alcon Laboratories, Inc.), which he said functions like a jigsaw to easily cut through dense cataracts.

Dr. Wallace hailed the recently approved Stellaris PC Vision Enhancement System (Bausch + Lomb), which he

said "offers phacoemulsification with a vacuum pump option and a sophisticated posterior segment vitrectomy system. Many ASCs are considering adding retina procedures now that more retina codes have been assigned to ASCs. Having a versatile unit like the Stellaris PC gives anterior and posterior segment surgeons one device for all procedures, which helps to reduce overhead."

IOLs

Since its approval last spring, the Tecnis Multifocal 1-Piece IOL (Abbott Medical Optics Inc.) has assumed a prominent position among Dr. Maloney's premium IOL offerings. He said he appreciates the "excellent near acuity, even in dim light" that the lens' diffractive optic offers without compromising "good nighttime acuity for distant tasks like driving." Dr. Davis was similarly enthusiastic about the quality of vision, rate of spectacle independence, spectrum of vision, and refractive predictability of this IOL as well as the low rate of glare and halos she has observed. This model's availability "allows surgeons who prefer the controlled unfolding of a one-piece IOL to have access to this exciting [presbyopia-correcting] lens," she wrote.

Intraoperative Devices

Dr. Donnenfeld has used ORange intraoperative wavefront aberrometer (WaveTec Vision, Aliso Viejo, CA) for the past 5 years. Changes to the device in 2010 permit surgeons to perform aphakic measurements that the unit then translates into the correct IOL power for implantation, he said. "Aphakic ORange readings have dramatically improved my refractive accuracy in cataract surgery following LASIK and PRK, toric IOLs, and [limbal relaxing incisions]," he stated.

As a residency program director, fellowship program director, and cataract surgeon, Dr. Starr is always looking for innovative ways to improve surgical teaching and instruction. He selected the TrueVision 3D HD system, which he considers the best teaching tool available today. Rather than watch surgery on a small, low-resolution, two-dimensional monitor, he said, students "get a high-definition, 3D view of the surgery on a huge, vibrant plasma screen, an experience as good if not better than sitting at the microscope itself." ■

A video of the technique for phacoemulsifying the tear film is available from Dr. Starr at eyetube.net/?v=smibi.



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- David M. Corneal collagen cross-linking: a review. *Cataract & Refractive Surgery Today*. October 2010;10(10):31-34.
- Reinstein DZ, Gobbe M, Archer TJ, et al. Epithelial, stromal, and total corneal thickness in keratoconus: three-dimensional display with Artemis very-high frequency digital ultrasound. *J Refract Surg*. 2010;26(4):259-271.
- Binder PS, Trattler WB. Evaluation of a risk factor scoring system for corneal ectasia after LASIK in eyes with normal topography. *J Refract Surg*. 2010;26(4):241-250.
- Moshirfar M, Hazin R, Khalifa YM. Central toxic keratopathy. *Curr Opin Ophthalmol*. 2010;21(4):274-279.
- Wang L, Hill WE, Koch DD. Evaluation of intraocular lens power prediction methods using the American Society of Cataract and Refractive Surgeons Post-Keratometric Intraocular Lens Power Calculator. *J Cataract Refract Surg*. 2010;36(9):1466-1473.
- Vámosi P, Csákány B, Németh J. Intraocular lens exchange in patients with negative dysphotopsia symptoms. *J Cataract Refract Surg*. 2010;36(3):418-424.
- Mamalis N. Negative dysphotopsia following cataract surgery. *J Cataract Refract Surg*. 2010;36(3):371-371.
- Chew EY, Sperduto RD, Milton RC, et al. Risk of advanced age-related macular degeneration after cataract surgery in the Age-Related Eye Disease Study: AREDS report 25. *Ophthalmology*. 2009;116(2):297-303.
- SanGiovanni JP, Agrón E, Clemons TE, Chew EY. Omega-3 long-chain polyunsaturated fatty acid intake inversely associated with 12-year progression to advanced age-related macular degeneration. *Arch Ophthalmol*. 2009;127(1):110-112.
- Korb DR, Herman JP, Blackie CA, et al. Prevalence of lid wiper epitheliopathy in subjects with dry eye signs and symptoms. *Cornea*. 2010;29(4):377-383.