

Pushing the Envelope on Eyetube.net

BY NATHAN M. RADCLIFFE, MD

HIGHLIGHTS FROM THE 2011 CUTTING EDGE MEETING

At the 2011 American Society of Cataract and Refractive Surgery Annual Meeting, Reay H. Brown, MD, presented a talk titled "Innovation in Glaucoma Surgery: Exploring the Adjacent Possible." As a man involved in the quest for less-invasive glaucoma surgery for several decades, Dr. Brown reflected that had he and his fellow surgical innovators begun sharing ideas earlier, the field might be much further along today.

Enter Iqbal Ike K. Ahmed, MD, and Richard A. Lewis, MD, who created the Cutting Edge meeting 4 years ago to provide scientists, innovative surgeons, and industry with a venue where they could interact and push the field of glaucoma surgery forward. In a recent video posted on Eyetube.net titled "Highlights from the 2011 Cutting Edge Meeting," Steven Vold, MD, interviewed Drs. Ahmed and Lewis. They shared their perspective on this intimate meeting of multidisciplinary scientists with a common goal: to advance the field of minimally invasive glaucoma surgery (MIGS; Figure 1) (<http://eyetube.net/?v=rozaj>). The 2011 Cutting Edge meeting approached glaucoma surgery from all angles and included presentations on basic science, surgical techniques, the design of clinical trials, and fundraising with venture capital firms. Dr. Lewis stated, "on a basic science level, the wound-healing response in surgery, be it conventional trabeculectomy or the new procedures, is pretty much the same. We have to deal with fibrosis, but we are trying to get beyond blebs, particularly blebs that are dependent upon antifibrotic agents." Noting that glaucoma is not just one disease but rather a spectrum of diseases, Dr. Lewis added, "I really don't think that there is going to be just one procedure. I think we are going to find that there are a variety of procedures that fit the needs in different types of glaucoma."

Dr. Ahmed described the meeting by making an analogy to the arrival of interventional cardiology in the field of cardiovascular medicine. "Offering our patients something beyond medications and laser therapy on one end of the spectrum and fairly invasive and risky, complicated surgery on the other end leaves a big void that this field is really moving to fill," he added.



Figure 1. Drs. Ahmed (left) and Lewis (right) share their perspectives on the 2011 Cutting Edge Meeting.

Dr. Vold wrapped up the interview by asking Dr. Ahmed to advise surgeons considering adopting new MIGS "It starts with an interest in filling gaps in your practice," concluded Dr. Ahmed. "From there, industry-sponsored programs and colleagues can be valuable in helping the traditional glaucoma surgeon move into the MIGS space."

SMARTPHONES IN OPHTHALMIC MANAGEMENT

In addition to providing the latest updates on MIGS and other cutting-edge glaucoma surgeries, Eyetube.net offers its viewers news about other technological advancements in ophthalmology and glaucoma in specific. One fantastic recent development is the release of the Eye Handbook (Cloud Nine Development, LLC, Overland Park, KS) mobile phone application. Watch Dr. Vold interview Rohit Krishna, MD, creator of the Eye Handbook and associate professor of ophthalmology and director of glaucoma at the University of Missouri, Kansas City School of Medicine (<http://eyetube.net/?v=teesu>). After recognizing that there are more than 300 million smartphone users in the United States alone, and that more than one-third (soon to be one-half) of them are using smartphones, Dr. Krishna realized that there was tremendous potential for an ophthalmic mobile phone application.

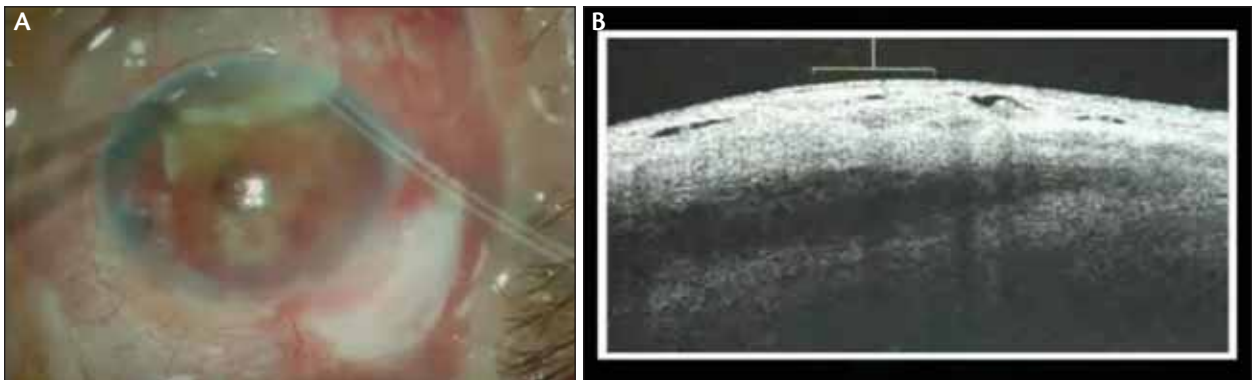


Figure 2. The surgeon repairs a thin, avascular, leaking bleb with a conjunctival advancement technique (A). A postoperative OCT image shows an elevated bleb (B).

The Eye Handbook is a free application that is available for download on iTunes for the iPhone, iPod Touch, and iPad (all from Apple, Inc., Cupertino, CA) and Android (Google Inc., Mountain View, CA). The application has been downloaded 200,000 times and has 15,000 regular users. The handbook is intended for everyone involved in eye care, from technicians to practice administrators to physicians. Dr. Krishna noted that the testing features, including color plates, an optokinetic drum, and visual acuity tools are the most used features. Available efficiency tools include ICD-9 and CPT codes, and the application also includes trabeculectomy educational videos—features Dr. Krishna uses the most. Other recent developments include an RSS feed, content from the AAO such as preferred practice patterns, and in-app purchasing for videos and e-books. Future developments will include the application's integration into electronic medical records, but for now, I highly recommend checking out the video on Eyetube.net or heading to eyehandbook.com to get a free copy of the Eye Handbook application.

ANTERIOR SEGMENT OPTICAL COHERENCE TOMOGRAPHY HAS ARRIVED ON EYETUBE.NET

"Being in the dark is something terrible," began Amar Agarwal, MS, FRCS, FRCOphth, director of the Eye Research Centre and Dr. Agarwal's Group of Eye Hospitals in Chennai, India. "How much easier it is to plan if the whole picture were available preoperatively." In one of the best-produced ophthalmic videos I have ever encountered titled "Room With a View—ASOCT and Applications," Dr. Agarwal explores the new applications of real-time, non-contact, 1310-nm, low infrared laser optical coherence tomography (OCT) of the anterior segment. After a brief review of the principles of time and Fourier-domain OCT, he discusses the value of the Visante OCT (Carl Zeiss Meditec, Inc., Dublin, CA) in documenting a variety of anterior segment pathology. He touches on LASIK complications such as epithelial ingrowth, astigmatism after penetrating keratoplasty, phototherapeutic keratectomy, and microbial keratitis in the anterior segment. In the

glaucoma arena, the measurement of the anterior chamber's angle, iridectomy patency, provocative testing, bleb morphology, and tube patency and position are covered. In one example, a patient with a thin, avascular leaking bleb is determined by OCT to have a direct communication between the anterior chamber and the subconjunctival space. The surgeons decided to repair the bleb with a conjunctival advancement technique (Figure 2A) (<http://eyetube.net/?v=chugi>). The surgical video is provided, followed by the postoperative OCT image with a smaller yet still elevated bleb (Figure 2B). This video is an achievement in ophthalmic videography, and any anterior segment surgeon should watch it, regardless of his or her experience with anterior segment OCT. "To sum up," Dr. Agarwal concludes, "the anterior segment OCT is a valuable information tool and has now become must-have knowledge for anterior segment surgeons." After watching his remarkable video, I agree.

CONCLUSION

These three ophthalmic videos showcase ophthalmologists who are using the latest technology to push the envelope of glaucoma care for the benefit of surgeons and patients. I recommend checking out some of the tremendous advances that are celebrated on Eyetube.net and encourage readers to share their achievements with colleagues by uploading their videos. □

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