



Issue: February 2011

Spotlight on Technology & Technique

Operating Room Screens Go 3D

By Samantha Stahl, Assistant Editor

With the increasing popularity of 3D filmmaking giving movie goers an immersive experience in the theater, it was only a matter of time before the technology headed into the operating room.

The 3D Surgical Visualization System from TrueVision is a high definition imaging device that attaches to microscopes and converts the surgical field into a 3D image displayed on a flat panel screen. Though potentially alarming for anyone not used to seeing a larger-than-life intraocular image leaping from the screen, the real-time system strives to be an essential teaching tool for surgical staff and ophthalmology residents.

Special Effects

Proponents say that 3D visualization provides more than just the novelty factor. There is a great deal of surgical value in the system, says Richard Lewis, MD, a glaucoma specialist from Sacramento, Calif. "With the image on a big flat-screen TV, the whole OR knows what you're doing." The display gives staff the opportunity to anticipate his surgical needs, he says, meaning better quality care for the patient.

"It's like a movie in 3D — it enhances the perception of what's going on. It's hard to describe what it does, but having that 3D connection makes you feel like you're part of the scene," he says. Dr. Lewis, who was the first ophthalmologist to adopt the system for glaucoma surgery, believes the technology provides great benefits for complicated cases and challenging techniques. "The new procedures we're doing for glaucoma in and around the canal — such as canaloplasty, trabeculoplasty, eye stents, Alcon's ExPress mini shunt — all require better visualization. More so than ever, we need to be able to see the tissue. There's only one way to do it: more sophisticated technology." Dr. Lewis finds that necessary technological maturation in TrueVision.

"With the new surgical technology, you need to have the proper equipment to deal with complications," he says. "3D adds a dimension that gives you depth perception and better visualization of what you're working with."

From an educational standpoint, Dr. Lewis appreciates the system's suitability to showcasing technique. "The screen is a key feature because you can demonstrate surgical technique and complications in a beneficial way," he says. TrueVision also allows users to record 3D, high definition surgical videos. Along with TrueEdit, the company's video content editor, the system can put together video clips that are ideal for educational settings and meetings by outputting the final product to PowerPoint.

Dr. Lewis also notes the ergonomic benefits of projecting the surgical field on a screen: "Instead of being locked into one position, you can move your head around. Doctors with neck and back problems will appreciate this because you aren't as tethered to the typical OR scope."



3D allows heads-up surgery and provides better depth perception.

Coming Attractions

TrueVision recently received 510(k) clearance from the FDA for a new software package that provides computer-aided surgical guidance. The company's Refractive Cataract Toolset will guide surgeons during procedures such as capsulorhexis and toric intraocular lens positioning. By placing virtual landmarks on the surgical field of view based on the patient's preoperative data, the software's templates can tailor the procedure without a need for ink marks, according to the company.

As 3D technology develops, more ophthalmic subspecialties will find ways to benefit from the visualization. Dr. Lewis adds, "The key here is that it's a new technology for glaucoma, and its role in aiding surgeons is still being worked out. But the timing is right because of all the new devices being released. I think TrueVision is going to be an enhancer in the combined glaucoma/cataract world." **OM**

For more information, visit www.truevisionsys.com.