



# EDCO FORUM<sup>®</sup>

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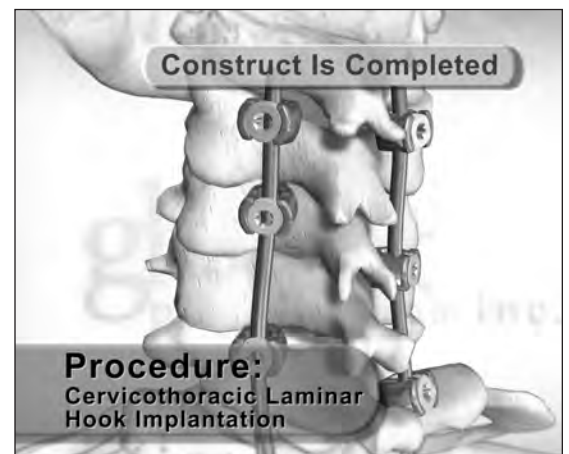
## OPTIMIZING PATIENT INTERACTIONS WITH 3D MEDICAL ANIMATION

Offering clear and concise explanations of pathological conditions, medical procedures, surgeries and spinal injections is essential to ensure patients understand, accept and provide informed consent. Communicating good understandings during often too-short patient visits, however, can be challenging.

Conventionally, physicians relay medical information to patients via verbal communications coupled with written educational materials. Two prospective, randomized studies (conducted in Europe) highlight a more effective, alternative approach—and demonstrate the value of using computer animation to transfer understanding and knowledge to patients about surgical procedures and risks.<sup>1,2</sup>

In Vienna, Principal Investigator, Dr. Michael Hermann, validated that the use of computer animation in patient education sessions optimizes preoperative surgical consults. Dr. Hermann divided a test pool of 80 patients into two groups—Group 1 watched computer animated educational materials and Group 2 reviewed the same information in written format. Patients reported (on a scale from 1 to 5) their level of understanding, subjective and objective knowledge, measure of emotion, and readiness to undergo surgery. Participants in the computer animation group, noted significantly higher degrees of trust, reductions in anxiety, and readiness for operation.<sup>1</sup>

Investigators from the University of Heidelberg found that computer-generated visual images of coronary catheters and endoscopy procedures yielded higher levels of patient satisfaction and knowledge. A patient pool of 56 was divided into two groups—a Visualization Group and a Control Group. Both groups received standardized information as well as written leaflets. The Visualization Group also watched computerized



images of the procedures. Patients educated with the computer images scored statistically significant higher levels of satisfaction ( $P < 0.001$ ) and knowledge ( $P \leq 0.006$ ). Of note, the time required to present visual images to patients was not significantly longer than the standard conversational educational interaction.<sup>2</sup>

### Employing Animation for Successful Patient Interactions

As these studies reveal, 3D medical animation is a valuable tool for communicating with patients—and for providing detailed information about complex pathologies, comprehensive overviews of procedures, concise explanations of surgical interventions, and concrete visualizations of spinal injections.

Physicians can now use computer-generated visual images to clearly illustrate implant and tool placement—from any angle or perspective right through skin, muscle and bone. Three dimensional animations also allow medical staff to educate patients on anatomy and physiology by providing clean and clear images without the gory details of typical surgical and medical videos.

## 3D Medical Animation Patient Education Series

[www.GhostMedical.com](http://www.GhostMedical.com)

### Volume 1: The Spine

#### **PATHOLOGIES**

Compression Fracture  
Degenerative Disc  
Disc Spondylolisthesis  
Disc Stenosis  
Lumbar Disc Hernia  
Lumbar Disc Prolapse  
Sciatica  
Scoliosis  
Spondylolisthesis

#### **PROCEDURES**

Anterior Cervical Discectomy  
Anterior Cervical Fusion  
Artificial Disc Replacement  
Cervical Hook System  
Corpectomy  
Facet Stenosis  
Interbody Fusion  
Kyphonoplasty  
Lumbar Laminectomy  
Lumbar Laminotomy  
Lumbar Pedicle Screw & Rod  
System  
Lumbar Spine Fusion

#### **SURGICAL APPROACHES**

Anterior Cervical  
Anterior Lumbar  
Anterior Lateral Lumbar  
Posterior Endoscopic Lumbar  
Posterior Lower-Cervical  
Posterior Thoracic  
Posterior Upper-Cervical  
Posterior Lumbar

#### **INJECTIONS**

Caudal Steroid  
Cervical Epidural Steroid  
Discography  
Facet Joint Steroid  
Lumbar Epidural Steroid  
Lumbar Sympathetic Block  
Lumbar Transforaminal Epidural  
Steroid  
Sacroiliac Joint Steroid  
Stellate Ganglion Block

**Introducing Ghost Production's Animated Patient Education Series** Ghost Productions—producer of spinal animations since 1994, including custom work for leading medical companies and television stations (e.g., *National Geographic*)—presents a new collection of patient education animations.

Volume 1: The Spine—Injuries, Pathologies & Treatments is a two-disc set of animations graphically describing anatomy and medicine. This valuable resource helps physicians and medical practitioners deliver clear understandings of pathology and treatment options for patients. Compiling animations from one of the basic pathologies, Ghost Productions offers an educational tool in a format that patients easily understand.

Organized in four key subject areas—Pathologies, Procedures, Surgical Approaches, and Injections—a list of the 40 titles is provided in the sidebar. Chapter menus offer intuitive navigation and allow quick access to specific topics. Show the DVDs in exam rooms to increase patient understandings of specific problems or to explain how a particular procedure will benefit their health. Loop the animations for use in waiting rooms or import them into Microsoft® PowerPoint® or Apple® Keynote™ for professional presentations.

For less than \$1,000, each title includes two discs of full-screen, broadcast quality video footage in DVD, web-safe, Quicktime™ and Windows Media® format:

- Disc one is a DVD for use with a DVD player connected to a television or a DVD-compatible computer.

- Disc two contains animations in Quicktime™ and Windows Media® format.

### **To Learn More**

For more information about this innovative patient education series, please call 1-651-633-1163 or visit the Ghost Productions website at [www.ghostmedical.com](http://www.ghostmedical.com).

Specializing in animation of surgical technique, surgeon education, and patient education, Ghost Productions understands the nature of medical breakthroughs. Their highly-skilled staff is also trained to frame messages for targeted patient populations. In addition to prepared patient education modules, Ghost Production offers custom animation services.

### **References:**

1. Hermann, M. 3-dimensional computer animation—a new medium for supporting patient education before surgery. Acceptance and assessment of patients based on a prospective randomized study—picture versus text. *Der Chirurg*, 2002 May; 73(5): 500-7.
2. Enzenhofer M, Bludau HB, Komm N, Wild B, Mueller K, Herzog W, Hochlehnert A. *J Med Internet Res*. 2004 Jun 2;6(2):e16.