

# News Release

**Investor Contact:** Stacey Witten  
Email: investor.relations@3dsystems.com

**Media Contact:** Diane Parrish  
Email: press@3dsystems.com

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## 3D Systems Expands Leadership in End-to-End Healthcare Solutions with New Addition to Its Comprehensive Line of Medical Simulators

- New training simulator includes 3D Systems' leading virtual reality simulation for true-to-life minimally invasive spine surgeries
- Creates first hybrid platform by utilizing a 3D printed spine, medical instruments and virtually simulated images
- SPINE Mentor will be introduced at SESAM, booth #EX22

**ROCK HILL, South Carolina, June 12, 2017** – [3D Systems](#) (NYSE:DDD) today announced the release of the [Symbionix SPINE Mentor](#), a hands-on simulated training and practice tool for minimally invasive spine surgeries. As the leader in 3D precision healthcare, 3D Systems is committed to delivering advanced and innovative solutions from simulation and planning to surgical devices and implants. This latest offering combines simulation, 3D printing and medical tools to create a hybrid solution that extends the company's broad portfolio into spinal surgery training.

Today's release of the SPINE Mentor is ideal for neurosurgeons, anesthesiologists, orthopedic surgeons and pain management surgeons to train for and practice procedures. This simulated experience provides a higher level of realism than cadaveric training, as well as hones skills and instills more confidence prior to conducting surgery on patients.



**New Symbionix SPINE Mentor simulator for training of minimally invasive spine surgeries.**

The highly accurate SPINE Mentor simulator was designed to enable a variety of spinal procedures such as lumbar puncture as well as the placement of catheters and wires.

This system is comprised of a 3D printed spine for accurate palpation, a computer/monitor and a highly realistic puncture pad with different anatomical layers including the Ligamentum Flavum to practice needle penetration.

This safe and realistic environment allows tissue response, including the loss of resistance when entering the epidural space, and eliminates the need to practice with real fluoroscopy by simulating real-time fluoroscopic image displays for the entire spine. A virtual C-arm can be manipulated throughout the procedure and dynamic haptics simulate anatomic obstacles for hands-on realism.

“As the demand for simulators grows due to the reluctance of medical institutions to use animals in training, 3D Systems continues to invest in simulator development to satisfy the needs of this expanding market,” said Kevin McAlea, Executive Vice President, General Manager, Metals and Healthcare, 3D Systems. “Our commitment to patient safety and our contribution to spinal surgery doesn’t stop with training. In the operating room, our unique Direct Metal Printing (DMP) technology delivers precise spinal implants.”

The SPINE Mentor will be introduced at the Society in Europe for Simulation Applied to Medicine (SESAM) Annual Meeting 2017, June 14-16, in Paris, France. Full procedural simulation of Spinal Cord Stimulation, Loss of Resistance (LOR) technique, and realistic leads manipulation can all be experienced in 3D Systems’ booth, #EX22.

### **About 3D Systems**

3D Systems provides comprehensive 3D products and services, including 3D printers, print materials, on-demand manufacturing services and digital design tools. Its ecosystem supports advanced applications from the product design shop to the factory floor to the operating room. 3D Systems’ precision healthcare capabilities include simulation, Virtual Surgical Planning, and printing of medical and dental devices as well as patient-specific surgical instruments. As the originator of 3D printing and a shaper of future 3D solutions, 3D Systems has spent its 30 year history enabling professionals and companies to optimize their designs, transform their workflows, bring innovative products to market and drive new business models.

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