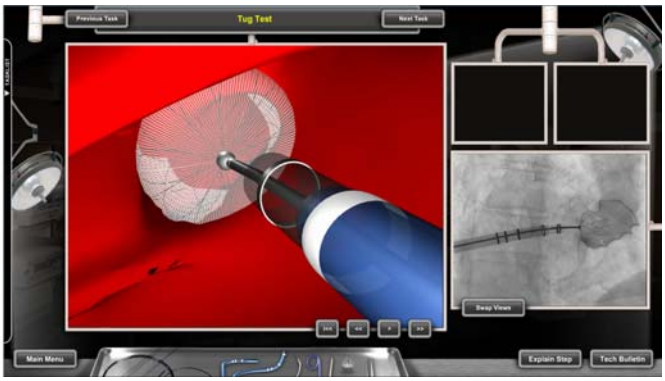
Atritech: Medical Simulation



Client

Atritech is an emerging medical device company, focused on improving the quality of life for patients with atrial fibrillation (AF) by providing a permanent alternative to medications that help reduce the risk of AF related stroke.

Challenge

Atritech developed a device, the WATCHMAN® Left Atrial Appendage Closure Technology, and identified the need to educate sales representatives and customers on the implant procedure.

Solution

KDG supported Atritech by developing an innovative program that is an interactive, immersive simulation program. The Atritech WATCHMAN® Simulation was created to educate sales representatives and customers on how to implant the WATCHMAN® device into the left atrial appendage (LAA). Three case studies were developed utilizing the implant data from three real patients. The patient's heart image data collected during various medical procedures was imported into 3-D software to recreate the actual LAA that the implant procedure was performed on. Each case study also includes a variety of fluoroscopy images taken before, during and after the implant.

The Atritech Watchman Simulation starts by exploring the LAA anatomy from the inside, a view not usually available. Next the fluoroscopy images are used to measure the LAA Ostium. The next 4 steps advance the device components into the LAA. Then the device is deployed, a tug test is performed and the release criteria are reviewed. Finally the device is released and the procedure is complete.

Two versions of the simulation were created, a Flash walk through version and a real-time gaming version. With utilization of the gaming engine, the program leverages real-time physics and collision detection, all controlled by a Wii style game controller pad.

Using the real-time gaming version, the sales representative or customer must drag each instrument used during the implant procedure into the correct position. Correct and incorrect feedback is given throughout the simulation. They can even perforate the heart, which would end the simulation.

Future Additions

KDG will continue to work with Atritech to develop additional case studies. This will expand the educational opportunities for the sales representatives and physicians.

Web-Enabled ***Powerful*** ***Media-Rich*** ***Interactive***

KDG InterActive offers proven training and education results. Check out our web site at http://www.kdg.com .