
Siemens Expands Angiography System to Reduce Dose for Catheter Interventions



Siemens Healthcare has integrated the navigation technology MediGuide from St. Jude Medical into its Artis zee™ angiography systems. The technology is also available as an upgrade for a number of existing Artis zee floor-mounted and biplane systems and the AXIOM Artis dFC and AXIOM Artis dBC. MediGuide Technology is a medical positioning system to localise compatible devices without radiation as overlay on a pre-recorded angio-scene with high accuracy. This has the potential to reduce dose for lengthy procedures by eliminating the need for patients to undergo continuous fluoroscopy in order to track the catheter.

The MediGuide Technology uses a special electromagnetic tracking procedure to determine the position of medical devices during minimally-invasive interventions. A miniaturised sensor integrated into a catheter can be located by receiving electromagnetic positioning signals from MediGuide transmitters found in the Artis zee's detector housing. MediGuide then calculates the position and orientation of the catheter and displays it in real-time on previously acquired fluoroscopic images from the patient. In order to display the catheter's position precisely, the technology also compensates for patient movement caused by respiration and heart motion.

"Siemens is the first to integrate MediGuide technology into its systems, demonstrating our ongoing commitment to lowering dose via our CARE initiative," said Jane Whittaker, UK Angiography Business Manager at Siemens Healthcare. "The MediGuide technology may provide significant benefits especially during longer interventions or examinations in the cath lab as the cardiologist does not need to take fluoroscopic images of the patient each time the catheter is repositioned. As a result, less dose is experienced and less contrast agent used."

The Heart Center Leipzig in Germany, has already performed the first interventions with the Artis zee and MediGuide technology. "The low-radiation, precise localisation of the catheter tip onto the pre-recorded fluoroscopy image is a most impressive function, because the system is able to compensate the motion from heart beat and breathing," said Professor Dr. Gerhard Hindricks, Director of the Rhythmology Department. "For my team and me, this is clearly the future in electrophysiology."

Dr. Christopher Piorkowski, MediGuide Project Team Leader at the Heart Center Leipzig, added: "Our clinical experience now includes more than 50 patients. The technology will have a significant impact in the field of catheter ablation, but also for the placement of left ventricular leads for cardiac resynchronisation."

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