

New EP Lab Enhances Interventional Procedures

The recent completion of a fully digital electrophysiology laboratory at the New England Heart Institute is allowing electrophysiologists to perform complex interventional procedures with a higher level of efficiency and reduced radiation exposure. The updated EP lab's new state-of-the-art digital fluoroscopy provides high resolution digital imaging that gives electrophysiologists a more well-defined view as they perform intra cardiac procedures.



CONNOR J. HAUGH
MD, FACC

"A major benefit of this new fluoroscopy is the reduced radiation dose for patients, as well as for technicians and physicians," says Connor J. Haugh, MD, FACC, director of the NEHI Electrophysiology Laboratory. "We are able to get improved image quality more efficiently, with a reduction in radiation of up to 60 percent, a reduction that is especially important with complex cases that can take six to seven hours to complete."

Improved imaging boosts efficiency

The Philips Allura Xper system features flat detectors that create high quality, multi-dimensional digital images of the heart, with far improved clarity and speed over the previous analog x-ray system. The new technology's increased image quality and definition can be especially valuable in obtaining clear imagery when performing procedures on heavier patients, explains Dr. Haugh, reducing procedure time and complications.

"This technology makes complex procedures more approachable and efficient," he adds, in discussing the advantages of using the new fluoroscopy during procedures such as complex ablation for atrial fibrillation or atrial tachycardia and biventricular ICD implants. "The more efficient processing of images not only results in less radiation and clearer images, but we can manipulate images and display them in a way that makes it easier to perform the procedure. For example, when we are implanting a biventricular ICD, by manipulating the images we can store and process coronary sinus venograms in a more sophisticated way."

State-of-the-art EP procedure technologies


The redesigned EP lab includes a glass-paneled control room adjacent to the procedure area, which allows technicians to communicate with the electrophysiologist, process procedure information and assist with cases without wearing lead. In the procedure area, the electrophysiologist can operate catheters and view real-time images and data on six flat-panel screens mounted on an adjustable boom above the patient. The sophisticated procedure table can be adjusted to raise a patient's head for increased comfort or lower the head temporarily for easier central venous access.

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The electrophysiologist can view all vital patient information at once, including review screens of the ablations, fluoroscopic mapping and non-fluoroscopic mapping. Technicians in the control room can see the same images on a second set of screens, take measurements, display processed catheter information and help the electrophysiologist coordinate timing of catheter placement. Images can be frozen and manipulated digitally for closer examination.

"The vastly improved image quality of digital fluoroscopy will increase our efficiency during electrophysiology procedures," notes Dr. Haugh. "This state-of-the-art technology and our redesigned EP lab will allow us to provide a higher level of care to patients undergoing electrophysiology procedures."

For more information on digital fluoroscopy or the new electrophysiology laboratory, contact Dr. Haugh at 603.669.0413. 

New England Heart Institute



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