

Medical Solutions

For the daily and trade press
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Background Information: Flat detectors

The latest in radiography technology: Flat detectors increasingly replacing X-ray film, imaging plates and image intensifiers

In photography, digital technology is increasingly replacing film. And in radiography, digital technology is well on its way to replacing conventional film technology. Siemens Medical Solutions is utilizing flat detectors, which acquire the X-rays and convert them to digital images. This new technology has been proven to reduce the number of work steps associated with a radiological examination from 36 to seven. Patients benefit not only from shorter examination times, but also reduced dose.

Detector technology has enormous advantages compared to X-ray film: images acquired using FD technology are available immediately and may be post-processed, easily archived, and transmitted. These are benefits also seen in digital photography. The number of work steps in the hospital radiology department or private radiology practice have been reduced by up to 80 percent. This means more time for patient care. The use of these new detectors also reduces dose significantly, in particular by eliminating the need for repeat acquisitions.

Flat detectors are also being used in angiography and cardiology. The requirements placed on the detector are even greater in these areas because they have to provide film sequences of the beating heart or vessels. Additionally, flat detectors have to acquire large regions of the body, such as the chest, while being sufficiently compact to provide the physician with excellent access to the patient. Siemens developers solved this seeming

contradiction with a rectangular-shaped detector. The flat detector used in angiography has an acquisition area of 30 cm x 40 cm and may be rotated as needed.

This optimum size is behind the concept known as Axiom FDi. The concept not only replaces the previous technology with flat detectors, but also taps the full potential offered by this technological advance. The best example is the Axiom Artis dFC cardiology system with magnetic navigation. Because the detector is not affected by magnetic fields, the system can be combined with special magnets used during interventions to enable the catheter to be navigated through cardiac vessels. Catheter interventions are now much simpler and may be performed in regions of the heart that previously could only be reached through surgery. As a result of the benefits of flat detectors, three of the four cardiology systems offered by Siemens may be ordered with the new technology. In total, Siemens offers 15 different systems equipped with flat detectors.

Several images accompany this press release and may be found on the Internet under:

<http://www.siemens.com/med-pictures/FD-technology>

Siemens Medical Solutions is one of the world's largest suppliers to the healthcare industry. The company is known for bringing together innovative medical technologies, healthcare information systems, management consulting, and support services, to help customers achieve tangible, sustainable, clinical and financial outcomes. From imaging systems for diagnosis, to therapy equipment for treatment, to molecular medicine to hearing instruments and beyond, Siemens innovations contribute to the health and well-being of people across the globe, while improving operational efficiencies and optimizing workflow in hospitals, clinics, home health agencies, and doctors' offices. Recent acquisitions in the area of in-vitro diagnostics – such as Diagnostic Products Corporation – mark a significant milestone for Siemens as it becomes the first full service diagnostics company. Employing approximately 36,000 people worldwide and operating in more than 130 countries, Siemens Medical Solutions reported sales of 8.23 billion EUR, orders of 9.33 billion EUR and group profit of 1,06 billion EUR for fiscal 2006 (preliminary figures). Further information can be found under:

<http://www.siemens.com/medical>