AXIOM SIRESKOP SD WITH MOBILE FLAT DETECTOR – IMPROVED WORKFLOW IN THE FLUORO ROOM

AXIOM Sireskop SD, a universal system designed to streamline operations and patient flow in fluoroscopy as well as radiography, is a fusion of innovative information technology and cutting-edge medical technology. Equipped with a mobile flat detector, it provides medical professionals with a single imaging solution for all digital radiographic and fluoroscopic procedures – from pediatrics to bariatrics. The tableside-controlled system features comprehensive dose reduction and high-capacity X-ray tubes that allow flexibility for various patient types with excellent image quality. The mobile flat detector enables clinicians to improve workflow, as no films or cassettes are needed anymore in image processing. Also, all images are now available in one patient folder and no longer have to be merged on PACS workstations.

FULLY DIGITAL workflow in the fluoro room. The tableside-controlled system features comprehensive dose reduction and excellent image quality.

AXIOM ARTIS *d*BC MAGNETIC NAVIGATION – MAGNETIC-ASSISTED INTERVENTION NOW AVAILABLE WITH A BIPLANE SYSTEM

Once again Siemens' and Stereotaxis' cooperation proved to be profitable. Their newest combination – AXIOM Artis *d*BC Magnetic Navigation – offers all the advantages of magnetic-assisted intervention and biplane angio possibilities.
In 2003, the first AXIOM Artis *d*FC MN was installed at Central Baptist Hospital, Lexington, Kentucky, USA. This monoplane system offers magnetic navigation of guidewires and is primarily used for electrophysiological applications, although it can also be used for interventional procedures.
Now, two years later, Siemens has integrated two magnets into the biplane system AXIOM Artis *d*BC. With the help of the magnets located outside the patient's body, the clinician can accurately navigate catheters and guidewires through the complex vessels and chambers of the heart directly from the control room. Time-consuming conventional catheter steering is thus made unnecessary. The first installation of an AXIOM Artis *d*BC Magnetic Navigation was completed in June 2005 at the Cleveland Clinic Foundation, Cleveland, Ohio, USA. The Cleveland Clinic performed three bi-ventricular cases on the first day of practice, receiving excellent initial feedback. More interventions with magnetic catheter guidance on the AXIOM Artis *d*BC MN are planned.

ANDREA NATALE, M.D., section head for Electrophysiology and Pacing in the Cleveland Clinic Heart Center, is very content with the remote navigation of guidewires from the control room.

WHEN IT COMES to workflow performance and value, SONOLINE G40 is in a class by itself.

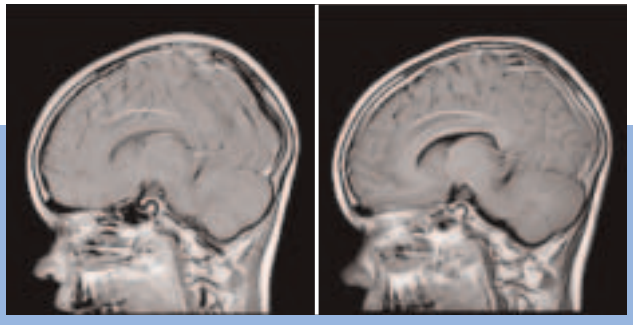
SONOLINE G40 – COLOR DOPPLER CAPABILITIES ON THE MOVE

The SONOLINE G40 ultrasound system is the latest member of the Siemens SONOLINE ultrasound product family. It combines best-in-class image quality, workflow advancements, and color Doppler capabilities to meet daily clinical needs in a variety of clinical settings, including general imaging, obstetrics/gynecology, and internal medicine.

"SONOLINE G40 is the latest example of how Siemens is integrating best-in-class imaging technology and clinical workflow advancements into high-value systems that are responsive to clinicians' needs," explains Klaus Hambüchen, head of Siemens Medical's Ultrasound Division. "A performance-driven, color Doppler ultrasound solution, this ultra-portable system brings these comprehensive clinical capabilities to practices and clinics of every size and case load."

The intuitive user interface of the G40 system allows clinicians to offer comprehensive diagnostic ultrasound exams to more patients in less time. The compact system design with built-in cable management offers easy transportation and micro-positioning in all clinical environments, and the DIMAQ-IP integrated workstation includes a built-in CD read/write drive for cost-effective output and archiving of exam data. In addition, embedded connectivity solutions allow simple integration into DICOM-enabled networks and PC-based workstations.

MOTION UNDER CONTROL WITH NEW MRI SOLUTIONS 'BLADE' AND '3D PACE'



LEFT: without BLADE technology; right: with BLADE technology.

"BLADE" is the name of a new MRI technique to reduce sensitivity to patient motion. For patients of all ages, stroke patients, or patients in pain who cannot stay still, clear-cut head imaging is possible – even if a patient is agitated or anxious. The technique supports Dark Fluid, T1, and T2 brain imaging, in all 3 orientations – axial, sagittal, and coronal – and is compatible with all coils, including the latest-technology Tim (Total imaging matrix) coils.

Another technique ensuring diagnostic quality is 3D PACE, prospective motion correction used for functional MRI. During functional MRI, data is acquired over several minutes to detect brain activation while the patient is performing a task. Because of the long acquisition time, patient movement is common and consequently image quality is reduced. As 3D PACE works prospectively, the detected motion is automatically corrected before the next acquisition starts. This is a big step forward in providing robust functional MRI.

LITHOREPORT on the MODULARIS urology platform triggers digital workflow.

DIGITAL WORKFLOW IN LITHOTRIPSY

The MODULARIS urology platform, in combination with the new mobile ARCADIS C-arms, now offers digital patient data management for lithotripsy. Patient data is retrieved from the HIS/RIS via DICOM-Worklist function. The brand new LithoReport is a comprehensive tool for documentation of lithotripsy procedures, which automatically includes patient data and the relevant shock wave data. The intuitively designed user interface is easy to use and the user can document the entire examination process digitally with only a few clicks. Acquired data and images generated during treatment are sent to the archive and are available for case studies or statistic analysis at any time.

INTRODUCED at the 2005 European Congress of Radiology (ECR): ARCADIS Avantic, the latest mobile C-arm from Siemens.

ARCADIS AVANTIC – THE POWERFUL NEW MEMBER OF THE C-ARM FAMILY BY SIEMENS

Siemens recently introduced its new mobile C-arm system ARCADIS Avantic. This multipurpose, high-end mobile C-arm provides up to 20 kW/250 mA and is equipped with an industry-leading 13" (33 cm) image intensifier. Because it provides an exceptionally large field of view of the region to be examined, the system is ideally suited for imaging in vascular and cardiac surgery, electrophysiology, gastroenterology, orthopedic surgery, trauma, and spine surgery, pain management, and urology.

ARCADIS Avantic is based on *syngo,* the easy, intuitively operated software platform for all Siemens modalities that effectively simplifies clinical workflows. With *syngo*, ARCADIS Avantic supports all DICOM 3 functions.

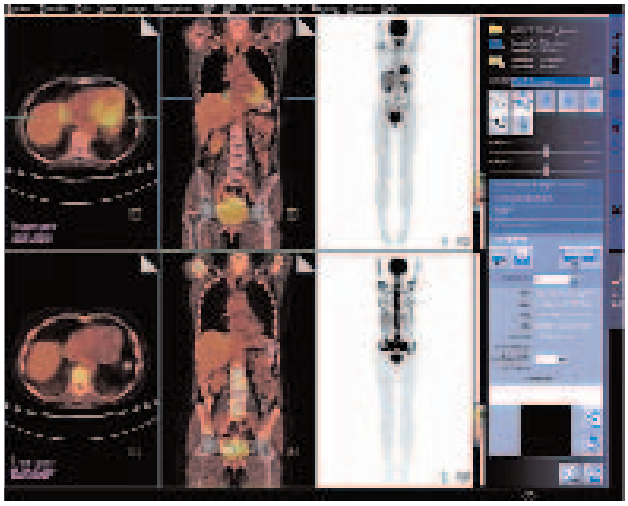
Due to its lightweight design, the system is easy to maneuver and exceptionally suitable for clinical situations where physicians need a high-end mobile C-arm and a large field of view. The many improvements in the area of design, image aquisition, and workflow integration make imaging more accurate and efficient.

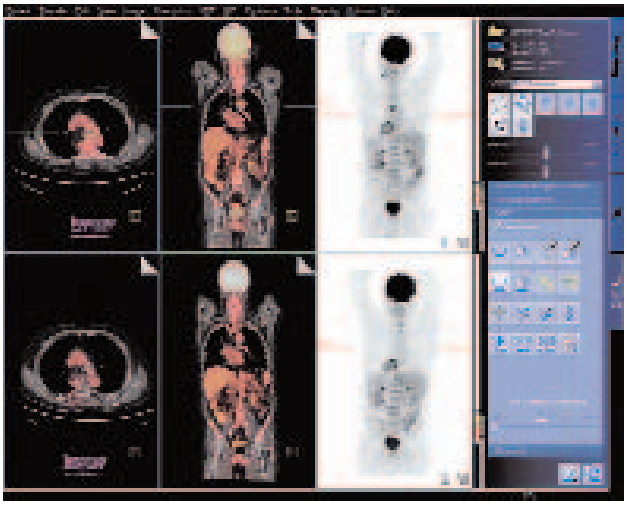
SOMATOM SENSATION OPEN WITH 40 SLICES

THE LARGE BORE of the SOMATOM Sensation Open is ideal for examinations of cancer and bariatric patients.

With SOMATOM® Sensation Open, Siemens Medical Solutions provides a 40-slice computed tomography (CT) system ideally supporting workflow and applications in oncology care. The system features an extra large 82 cm gantry bore and an 82-cm equally large field of view. Thanks to its high image resolution of below 0.4 mm, it is ideally suited for early detection and staging examinations, as it visualizes even the smallest changes in nodule size. Its large volume coverage of up to 28.8 mm per rotation supports advanced perfusion studies. And its large gantry bore facilitates image-guided interventions, such as biopsies, and eases patient positioning for radiation treatment planning.

Mayo Clinic in Rochester, MN, was one of the first clinical sites to install the new system. An optional high-capacity patient table, developed as part of the CT Clinical Innovation Center partnership between Mayo and Siemens, was also installed with the system to offer advanced CT imaging capabilities for extremely heavy patients. The table allows the scanning of patients weighing up to 615 lbs, compared to 450 lbs for conventional patient tables.





COMPARISON CAPABILITIES with TrueD for biograph PET/CT images: Volumes of interest (VOIs) on pretherapy and posttherapy studies allow quantitative comparison of response to therapy.

syngo TrueD: EFFICIENT THERAPY TRACKING FOR HYBRID IMAGING

Monitoring the effect of treatment is a rapidly growing area for hybrid imaging in oncology. Hybrid imaging procedures, such as PET/CT, can help determine whether the patient achieved a rapid response to chemotherapy, aid in the determination of the prognostic value of a specific therapeutic regimen, or review any residual activity remaining after the delivery of radiotherapy.

The new software application *syngo* TrueD supports therapy tracking with hybrid imaging by making the comparison of pretreatment and posttreatment studies easy and efficient. *syngo* TrueD provides automatic 3D registration across serial studies to connect the multiple image sets. Volumes of interest (VOIs) can be created on the pretherapy study and, with a single click, be applied to the corresponding image of the posttherapy study. *syngo* TrueD thus supports quantification, such as percentage change comparisons calculated on areas of abnormal tracer uptake. The application provides the ability for the user to save VOIs, which can be applied to other studies that are interpreted as the patient is monitored over time. VOIs can also be stored for loading the data into radiation therapy planning applications.

In addition to PET/CT, *syngo* TrueD also supports hybrid imaging with SPECT/CT and PET/MR. The *syngo* TrueD application will be available in early 2006.

SIEMENS ACQUIRES SENSANT CORPORATION TO COMMERCIALIZE NEXT-GENERATION ULTRASOUND TRANSDUCER TECHNOLOGY

Siemens Medical Solutions has acquired Sensant Corp., a company that specializes in the development of Capacitive Microfabricated Ultrasonic Transducer (CMUT) technology. Siemens wants to commercialize this innovative technology that is expected to offer superior and efficient volumetric four-dimensional imaging for a wide range of applications. A broader frequency range and higher image resolution will allow clinicians to examine the next level of microscopic detail within conventional and 4D ultrasound. According to Klaus Hambüchen, president and CEO of Siemens' ultrasound division, this technology will enable higher frequency imaging that lets clinicians view the smallest details within the body. Says Igal Ladabaum, CEO of Sensant Corporation: "By enabling physicians to reach a confident diagnosis faster and more easily, volumetric 4D imaging will improve patient care and reduce overall costs to patients and healthcare systems."

SENSANT'S SILICON ULTRASOUND USES PATENTED, breakthrough technology to bring a new level of sophistication and informative capability to ultrasound. Silicon ultrasound will enable better quality care more quickly and economically.