

Siemens and COCIR: a Strong Commitment



Heinrich von Wulfen at COCIR's 50th anniversary

Siemens Healthcare generates healthcare activities out of its own organization, out of well-established partnerships with leading clinical and research facilities, and together with medical associations. A very good example of the latter is the European Coordination Committee of the European Radiological, Electromedical

and Healthcare IT Industry, COCIR. Just recently, COCIR celebrated its 50th anniversary. Leading-edge vendors of medical technology as well as European medical associations are among its members. It works closely with EU boards and committees and is therefore, located in Brussels, Belgium, right in the neighborhood of European Union (EU) policy makers, for example, Guenther Verheugen, the acting EU Commissioner for Enterprise and Industry. COCIR is highly involved in addressing industry requirements in European regulations so all European countries can quickly profit from the latest innovations of the healthcare industry. As president of COCIR, Heinrich von Wulfen, Regional CEO of the Siemens Healthcare Sales Regions Europe, Africa, Middle East & Customer Relationship Management, is actively involved in the organization's programs and initiatives – along with other Siemens Healthcare colleagues.

COCIR's anniversary was a retrospective look on establishing standards and guidelines for medical equipment on a European level, a development which is closely aligned to the growth of the EU itself. COCIR represents technical as well as healthcare-policy interests and under-

stands the challenges of future requirements in healthcare. The association seeks answers on how healthcare systems can deal with the rising needs for higher quality services and simultaneous cost reduction.

The latest achievement is COCIR's renewed Code of Conduct. It provides guidelines for the healthcare industry about how to interact compliantly with healthcare professionals. In addition, the first industry standard on Good Refurbishment Practice was issued. It clearly demonstrates how COCIR companies are to handle refurbished medical systems to ensure their safety, quality, and continued performance.

Furthermore, COCIR drives eHealth and the European Healthcare IT market's acceleration. Understanding the importance of process optimization in healthcare in order to meet its future requirements, COCIR's activities also concentrate on the sustainability of healthcare systems with a dedicated program that was introduced at this year's European Health Forum in Bad Hofgastein, Austria. Siemens Healthcare appreciates the fruitful cooperation and strongly supports COCIR in driving continuous, positive developments in healthcare within the EU.

Highest Image Quality, Lowest Dose Contest

For years, physicians have been educated to follow the ALARA (as low as reasonably achievable) principle, that is, to use the minimum amount of dose required to obtain the necessary images. Siemens recognizes its responsibility in providing solutions that enable ALARA without compromising image quality. Now, for the first time, Siemens invites physicians to share their excellent images obtained at the lowest possible radiation dose by joining the Siemens International CT

(computed tomography) Image Contest. The jury consists of luminary experts (Prof. Stephan Achenbach, MD; Prof. Dominik Fleischmann, MD; Prof. Yutaka Imai, MD; Prof. Zengyu Jin, MD; Prof. Borut Marincek, MD; Prof. Maximilian Reiser, MD; Prof. Uwe Joseph Schoepf, MD), who, combined, have significantly influenced the medical field with more than 3,000 peer-reviewed articles, 150 chapters/books, and more than 100 awards. Images can be submitted online

by users of SOMATOM® Definition AS, SOMATOM Definition, or SOMATOM Definition Flash in six categories: cardiac, vascular, neuro, abdomen and pelvis, thorax, and Dual Energy. Image submission will end February 1, 2010.

[www.siemens.com/
image-contest](http://www.siemens.com/image-contest)

CAS Technique May Reduce Radiation Exposure for Patients and OR Staff

An initial study conducted at the University Hospital of Ulm in Germany suggests that computer-assisted surgical procedures may provide significant benefits for patients and OR staff. The study's objective was to assess the effective dose as well as the organ dose of 2D and 3D C-arm imaging, comparing the conventional fluoroscopy-based approach to computer-assisted surgery (CAS) using a 3D mobile C-arm scan.



ARCADIS Orbic 3D

The study focused on dorsal spondylosis and percutaneous transsacral screw stabilization. Siemens supported the hospital by providing dosimeters, an ARCADIS® Orbic 3D C-arm, and a male Rando-Alderson-phantom.

The dose measurements were carried out with the help of this phantom, equipped with thermoluminescent dosimeters (TLDs). Representing the organs, the dosimeters were placed in 42 different positions. Three TLDs were positioned to obtain the results' consistency for every measurement location.

On top of the phantom study, additional clinical cases were analyzed: In 20 prospective clinical cases of dorsal spondylosis (with and without CAS support) and in 20 cases of percutaneous transsacral screw fixation (with CAS support), radiation exposure was documented and evaluated. In addition, two retrospective cases were evaluated and the current literature was reviewed.

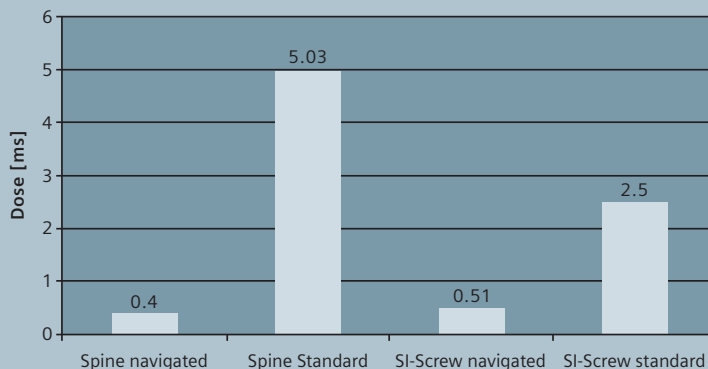
The study's results were not unexpected, but seem surprisingly conclusive: The utilization of 2D fluoroscopy during a standard spine surgery lead to an effective dose which was up to 12 times higher than the dose during a computer-assisted procedure using a mobile 3D C-arm.

The effective dose of a conventional non-navigated sacroiliac joint operation was up to five times that of a navigated procedure.

The outcomes of the study regarding organ doses were similar. During non-navigated spine surgery, the lung was exposed to a radiation dose up to 32 times the dose of a navigated surgery.

The results suggest that a patient's effective dose as well as the organ dose could be significantly reduced by using 3D C-arm imaging supported by CAS technology compared to a conventional 2D fluoroscopy-based approach. In conclusion, CAS may not only improve quality of care for the patient but also protect OR staff – a clear win-win situation.

Effective dose for spine surgery and SI-Screw placement for navigated and standard procedures



Innovation and Creativity in Information Technology

Lifespan health system was one of this year's recipients of the 2009 *CIO* 100 Awards, presented by the International Data Group's (IDG) *CIO* magazine. For the past 22 years, *CIO* has honored organizations all over the globe with this award for presenting extraordinary achievements in information technology (IT). Lifespan, consisting of Rhode Island Hospital, Hasbro Children's Hospital, The Miriam Hospital, Bradley Hospital, and Newport Hospital – all located in Rhode Island, USA – earned its award for an information solution it designed to support physicians' decisions about future computed tomography (CT) scans. The solution, in which imaging and information technology work together, helps the clinician identify patients who have had a high exposure to ionized radiation. Using this information, he or she can then decide whether the patient should receive further CT scans. Maryfran Johnson, Editor in Chief of *CIO* Magazine & Events, explains: "This year's *CIO* 100 awards draws well-deserved attention to companies that are both innovating and creating business value with IT despite the economic downturn. These winners are an inspiration to businesses everywhere." Lifespan and especially Carole Cotter, Chief Information Officer, take pride in what they have achieved: "I am proud of our information services team and their ability to work with other departments to innovate despite the constraints of the economic downturn. They remain focused on maximizing the technology we already have by using it in new ways that further the goals of the Lifespan hospitals." The awards were presented in Colorado Springs, Colorado, in August 2009 during the *CIO* 100 Symposium.



Lifespan's Newport Hospital



The ACUSON S2000 cardiovascular (CV) ultrasound system offers full cardiovascular functionality in adult, pediatric, and OR environments.

Dedicated to Cardiovascular Exams

The premium performance ACUSON S2000™ cardiovascular (CV) ultrasound system offers exquisite image quality, full cardiovascular functionality, and the highest clinical performance in adult, pediatric, vascular, and OR environments. From image acquisition to application and review, the system offers individually customizable protocols for maximum user flexibility to further increase patient care while at the same time accelerating cardiovascular throughput. Unique knowledge-based workflow applications and automated measurements streamline clinical workflows to produce rapid, accurate, and reproducible results. The Cardiovascular Imaging and Quantification package provides the essential functionalities necessary for performing the standard cardiac exam, stress echo exam, and vascular exams: Cardiac Application Module, Stress Echo, Clarify™ Vascular Enhancement (VE) technology, TEQ™ ultrasound technology, and Advanced SieClear™ spatial compounding and Dynamic TCE™ Tissue Contrast Enhancement technology. The ACUSON S2000 CV system offers the following advanced clinical applications:

- *syngo*® Auto Left Heart (AutoLH) for the reliable and rapid automatic generation of left atrial and left ventricular volumes and ejection fractions for adult cardiac quantification;
- *syngo* Arterial Health Package (AHP) for semi-automated measurement of the Carotid Intima-Media Thickness (CIMT) with Vascular Age¹ and Framingham Risk Factors to identify subclinical vascular disease and evaluate cardiovascular disease risk; and
- *syngo* Velocity Vector Imaging™ (VVI), a dynamic 2D method to visualize, measure, and display myocardial motion and mechanics, which allows easy gathering of information for a variety of applications, including rapid assessment of ventricular synergy in heart failure.

The ACUSON S2000 CV system's open architecture and transducer compatibility across multiple Siemens ultrasound platforms protect the customer's investment and bring an entirely new price/performance level to premier cardiovascular imaging.

¹ Stein JH, Fraizer MC, Aeschlimann SE, Nelson-Worel J, McBride PE, Douglas PS. Vascular age: integrating carotid intima-media thickness measurements with global coronary risk assessment. *Clin Cardiol* 2004; 27:388-92.

SOMATOM Emotion Facelift

The focus on constant innovation is present throughout the entire Siemens computed tomography (CT) product portfolio and has now resulted in the release of the new SOMATOM® Emotion 6 and 16. The SOMATOM Emotion scanner remains the world's most popular CT system¹ with more than 6,700 Emotion systems installed globally since its release. The new SOMATOM Emotion builds on this platform and features an innovative new product design as well as new software features. The new software developments brought to the Emotion platform have a significant focus on the CT workflow. A key feature now available on the Emotion 6 and 16 is *syngo*® Expert-i, which enables access to the scan console from any remote computer attached to the hospital or practice network. This feature alone has the ability to significantly improve workflow in any practice with medical staff no longer required to physically attend the CT suite to assess images or decide on appropriate scan protocols.

The new SOMATOM Emotion system also builds on well-known total cost of ownership advantages of the Emotion CT family. With lower power requirements, reduced heat output, and significantly smaller installation space, the system is a cost-effective profit center for many customers worldwide.



The new SOMATOM Emotion scanner, available in 6-slice and 16-slice configurations.

¹ Based on system sales

Tables for Every OR Occasion

Siemens offers a comprehensive portfolio of integrated tables – Artis family tables and the Trumpf TruSystem 7500 tables – for the hybrid operating room (OR).

The Artis zee® family of tables comprises three different versions: standard table, table with tilt, and OR table with tilt and cradle. Carbon tabletops enable high-end and 3D imaging. Preferred for cardiac and vascular procedures, Artis zee tables provide excellent positioning, complete body coverage, and a floating tabletop.

Trumpf TruSystem 7500, equipped with a standard carbon plate and an optional universal breakable tabletop, is designed for orthopedic and neuro surgeons. High-quality imaging capabilities make the carbon tabletop suitable for interventional procedures as well as minimally invasive surgeries. The breakable tabletop, which consists of numerous segments that conform to meet the needs of surgeons, allows for the flexible positioning of patients.



Trumpf operating table