

Healthcare

SIEMENS INTRODUCES DUAL ENERGY APPLICATIONS FOR GENERAL IMAGING

First Multi-Contrast System Introduced for Computed Tomography

ERLANGEN, Germany, May 13, 2008 – Following the introduction of the first-ever dual-source Computed Tomography (CT) system, SOMATOM® Definition, with two X-ray tubes that simultaneously generate different energies, Siemens Healthcare (www.siemens.com/healthcare) has developed 10 dual energy (DE) applications. At the 10th Annual International Symposium on Multidetector-Row CT, to be held in Las Vegas, May 13-16, Siemens will present its Optimum Contrast software, which brings new levels of contrast to sectional images created with dual energy applications. Thanks to these innovations, dual-energy applications, which were previously reserved for special clinical investigations, can now be used in a broad range of routine examinations that involve contrast medium.

Until now, radiologists performing examinations with contrast medium had to decide whether they wanted to see more contrast or less image noise in the final images. While images taken at lower voltages of approximately 80 kV (kilovolt) resulted in a higher resolution of the displayed vessels due to the significantly increased iodine contrast, these images always featured a higher level of image noise. In comparison, images taken at a voltage of 140 kV are more suitable to differentiate soft tissue, and image noise tends to be minor.

CT systems can now, for the first time ever, combine the advantages of low and high voltage values of 80 kV and 140 kV in every image using Siemens Optimum Contrast software. Optimum Contrast is made possible by the use of two X-ray tubes that are capable of generating different voltages, simultaneously. In addition, the software contains newly developed image optimization algorithms, which analyze the 3D data and

determine the optimal mix of high and low voltage benefits for every image voxel to combine the best of both worlds in multi-contrast images. This makes soft tissue and vascular structures containing contrast medium more recognizable than ever.

“We at Siemens see a vast potential for dual energy imaging combined with tools, such as Optimum Contrast to provide a dimension of contrast in CT, improving diagnostic outcomes and simplifying complex workflows,” said André Hartung, vice president of marketing and sales, Computed Tomography, Siemens Healthcare. “Optimum Contrast adds the benefits of dual energy imaging to routine CT scans and optimizes the image quality of all contrast medium examinations.”

In addition to its new Optimum Contrast software, Siemens will also present four recently introduced dual-energy applications at this year’s symposium.

One of the new dual energy applications for the SOMATOM Definition from Siemens is **syngo® DE Heart PBV** (Perfusion Blood Volume), which provides color-marking of non-perfused parts of the myocardium during cardiological examinations. Moreover, a specific application allows for the isolated display of the heart, for example, without thoracic structures. Heart perfusion is examined primarily after an infarction to determine damaged areas of the organ. For the first time, DE CT allows for detecting the presence and level of stenosis, as well as the location and extent of the resulting reduced perfusion in the myocardium in a single scan.

Deposits of uric acid crystals in the joints of gout patients may damage the cartilaginous and osseous substance, particularly if the disease has been chronic for several years. With **syngo DE Gout**, CT can now be used to detect gout. The new DE application assists physicians in clearly identifying uric acid crystals in the extremities and monitoring changes in the crystals in the course of treatment.

syngo DE Lung Vessels provides a whole series of new applications to assist physicians in CT examinations of patients with suspected pulmonary embolism – a sudden occlusion of blood vessels in the lungs. The new applications allow for detecting non-perfused pulmonary blood vessels and tissue through color-marking. The “Lung Isolation” application isolates the entire organ to assess the perfusion situation without obstructing adjacent organs.

syngo DE Brain Hemorrhage assists in the distinction between new and old hemorrhages in the event of cerebral bleeding. The two energy levels of the X-ray tubes are used to fade out the contrast medium. In the past, this had required two scans. The CM subtraction offers two advantages: A non-CM enhanced examination is no longer necessary, and the patient is spared the radiation dose of a second scan.

About Siemens Healthcare

Siemens Healthcare is one of the world's largest suppliers to the healthcare industry. The company is a renowned medical solutions provider with core competence and innovative strength in diagnostic and therapeutic technologies as well as in knowledge engineering, including information technology and system integration. With its laboratory diagnostics acquisitions, Siemens Healthcare is the first fully integrated diagnostics company, bringing together imaging and lab diagnostics, therapy, and healthcare information technology solutions, supplemented by consulting and support services. Siemens Healthcare delivers solutions across the entire continuum of care – from prevention and early detection, to diagnosis, therapy and care. The company employs more than 48,000 people worldwide and operates in 130 countries. In the fiscal year 2007 (Sept. 30), Siemens Healthcare reported sales of €9.85 billion, orders of €10.27 billion, and group profit of €1.32 billion. Further information can be found by visiting <http://www.siemens.com/healthcare>.

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