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Healthcare

SIEMENS PUSHES THE BOUNDARIES OF MR AT ISMRM 2008
MAGNETOM Verio, MAGNETOM ESSENZA, Multi-Channel Coils Highlight Technologies on Display

TORONTO, Canada, May 5, 2008 – Siemens Healthcare (www.siemens.com/healthcare) showcases it latest innovations in Magnetic Resonance (MR) this week at the International Society for Magnetic Resonance in Medicine (ISMRM) 2008 in Toronto, May 3-9.

Siemens puts its partners worldwide into the position to work with the latest leading technology, such as the world's first 3 Tesla (T) MRI with 70 cm open bore; the most affordable, all-new 1.5T MRI on the market today; and new multi-channel coils for orthopedics, neurology, cardiology/body and breast care.

MAGNETOM® Verio. The most exciting equation in MR: 3T + 70cm + Tim

MAGNETOM Verio represents a completely new class of MRI technology that delivers high-field diagnostic imaging to patients who typically have not had access to MR imaging. Due to the system's bore of 70 cm in diameter, there is an average of 30cm between a patients eyes and the magnet, greatly alleviating concerns of claustrophobia in many patients.

In addition, the wider space makes it possible to scan patients who could not be examined with smaller bore MRI systems. For example, patients suffering from kyphosis, limited mobility, or pain, as well as pediatric and obese patients (up to 550 pounds), fall into this category. "MR scanning for ICU patients is now easier than before on long bore magnets. Moreover, the wider bore enables us to a more patient friendly positioning, especially in off-center scanning like scanning with dedicated coils. This, overall, shortens

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the workflow and data acquisition", said Dr. Bernd J. Wintersperger, section chief, general radiology, Ludwig Maximilians University of Munich Hospitals Großhadern.

Since the successful market launch of the MAGNETOM Verio in October 2007 and product availability April 2008, there are already more than 20 installations worldwide up and running.

With a system length of only 173 cm, the MAGNETOM Verio is currently the shortest 3T MRI system on the market worldwide, while having the footprint of a 1.5T MRI system. Furthermore, it is equipped with a light-weight magnet of six tons. Thanks to the system's smaller dimensions and lower weight, the installation costs for the MAGNETOM Verio are minimized. Also operational costs are reduced, due to the system's zero Helium boil-off technology.

With Tim™ (Total imaging matrix) technology, coil setup for procedures on the MAGNETOM Verio is easy and fast, and acquisition times are significantly reduced. Up to 102 seamlessly integrated matrix coil elements and up to 32 independent radiofrequency channels enable advanced clinical applications on the MAGNETOM Verio, which can allow physicians to evaluate complex pathologies quickly and reliably. Even advanced applications can be performed as part of the daily routine, like *syngo*® DTI (Diffusion Tensor Imaging), which provides complete 3D views of neuronal fibers in a few easy steps.

TrueForm Design integrated on the MAGNETOM Verio was developed to meet the challenges of imaging at 3T. Incorporating TrueForm Design affects a wide variety of applications including body, breast, orthopedic, and neuro applications by improving the consistency of signal intensities in the image, maintaining a consistent level of chemical fat suppression, and minimizing distortions at the edges of the images.

MAGNETOM ESSENZA. The most affordable, all-new 1.5T MRI on the market today

In October 2007, Siemens Medical Solutions introduced the ground-breaking 1.5T MAGNETOM ESSENZA, an MRI system that can be as much as $500,000 less than other, new 1.5T systems. In the meantime, the first systems have been installed worldwide. Sites are running in Europe, Asia and the Unite States. Users who, in the past,

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could not afford an MRI system or to only have refurbished or low-end technology are now enabled to offer comprehensive, state-of-the-art MR services to their patient community, with an all-new 1.5T MRI system. MAGNETOM ESSENZA is also a good choice as an additional system for larger institutions that want to increase the capacity and decrease waiting times for patients.

“With a nationwide surge in demand for MR imaging – due to its ability to provide essential diagnostic information across a range of clinical specialty areas – we have been unable to keep pace with the imaging demands of our community,” said Dr. John Nelson, medical director of Battlefield Imaging in Ringgold, Ga. “Siemens introduction of the MAGNETOM ESSENZA is especially important in today’s changing reimbursement environment. With MAGNETOM ESSENZA, we were able to afford a new system, greatly expanding access to imaging diagnostics and, ultimately, improving patient care.”

MAGNETOM ESSENZA offers innovative technologies that support a facility’s clinical and financial success. In addition to the low initial investment, savings of up to 25 percent can also be attained on installation costs for space, power requirements and construction. If the system is replacing an existing MRI, it can reduce energy consumption by up to 50 percent thanks to its innovative high-performance electronics. The magnet has zero Helium boil-off, so there is no need to regularly refill the expensive cooling substance, and the system is always ready for operation.

With powerful 30 mT/m gradients, MAGNETOM ESSENZA delivers excellent image quality for all clinical applications thanks to Tim technology. Another innovation on the MAGNETOM ESSENZA is the IsoCenter Matrix coil, which is installed at the center of the magnet, so it is always in the correct position, providing a simple workflow solution that leads to outstanding image quality.

New multi-channel coils enable faster exams and enhanced image quality

Increasing patient throughput while further increasing image quality – this is the challenge in clinical routine. Developments in coil technology and workflow are essential for meeting the requirements of faster MR imaging. With the introduction of Tim

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technology in 2003, Siemens set the trend in RF technology and coil workflow. At the ISMRM, Siemens introduces new high-end, multi-channel coils for various applications.

The new coils are based on the Siemens Tim technology and have up to 32 channels. This ultra-high “density” of coil elements results in increased signal-to-noise-ratio (SNR), as well as higher imaging speed with higher acceleration factors in parallel imaging (iPAT).

The newly developed 32-channel head coil is developed for advanced neurology, where speed and sensitivity are of the essence. The coil offers an open view that increases patient comfort and is also beneficial for visual stimulation experiments included in fMRI examinations. With the new 32-channel body coil, cardiac and abdominal imaging can be conducted in a single breath hold, in all four dimensions (i.e., high-spatial and temporal resolution). This means a better patient comfort due to faster exams and a workflow improvement for the clinicians.

***syngo* ASL** (Arterial Spin Labeling) allows for a completely non-invasive and contrast-free assessment of blood flow (perfusion) in the brain. Now, patients with stroke, cerebral tumors or neurodegenerative diseases, such as dementia and Alzheimer’s disease, can benefit from a fast and easy-to-perform MRI exam. Inline Subtraction ensures fully automated processing of different image datasets and also color-coded relCBF (relative Cerebral Blood Flow) maps of perfusion data are calculated automatically.

***syngo* NATIVE** is Siemens’ exclusive, next generation application solution for contrast-free MR angiography (MRA), a technique for visualization the vessels of the body. The package contains protocols tailored for use in different body regions (e.g., chest, renal arteries and peripheral vessels). Inline Subtraction simplifies the workflow and Inline MIP provides 3D images of the vessels without user interaction.

***syngo* MapIt.** Radiologists can now detect subtle joint pathologies with high confidence and determine the best course of treatment for conditions such as osteoarthritis (degenerative joint disease) at an early stage. Thanks to the new *syngo* MapIt, it is now

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possible to create parametric maps (for T1-, T2- and T2) fully automatically and within minutes. *syngo* MapIt can be used for biochemical imaging in all joints in the body (for cartilage imaging), in the liver and other body regions.

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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