Ingenia whole body capabilities an advantage in oncology imaging

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The world’s first Ingenia 1.5T MR system is now installed at University Medical Center (Utrecht, The Netherlands). Clinicians at UMC Utrecht immediately recognized the benefits of dStream digital broadband and a wide-bore system for breakthrough clinical performance. Accelerated patient management with Ingenia enables higher throughput and patient comfort, with major workflow improvements, fewer clicks, SmartAssist and more.

Philips’ Ingenia is a channel-independent digital broadband MR system combining simplified coil and patient handling with superb imaging. Taro Takahara, MD and Thomas Kwee, MD (Tokai University School of Engineering, Japan, and UMC Utrecht, The Netherlands) report that some major features of Ingenia 1.5T benefit oncology imaging.

“In oncology, whole body DWI (DWIBS) is rapidly gaining importance for imaging without contrast agent and without ionizing radiation,” says Dr. Takahara. “Ingenia may have a high impact for this purpose. Ingenia’s whole body imaging capabilities, and the dStream technology that provides increased SNR, are crucial for diffusion-weighted imaging. In addition, the 70 cm wide bore allows us to scan most obese patients.”

Coils are easy to use, provide high quality
“The dStream concept considerably smooths the way whole body MRI examinations are performed, providing more comfort to the patient, and improving overall workflow,” Dr. Takahara says. “The newly developed coils for this system are very impressive, and I was thrilled when I heard about the FlexCoverage posterior coil located underneath the tabletop. The system automatically selects the coil elements to use for best SNR in the FOV. Every anterior coil is very lightweight and can be easily put

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Taro Takahara, MD
Thomas Kwee, MD

User experiences

* Pending 510(k), not available for sale in the U.S.A.
onto the patient and connected to the table directly, which is a huge advantage for both patient and technologist.”

“In addition,” adds Dr. Kwee, “SNR is dramatically increased, since each coil has a converter to immediately digitize the signal, which is then transferred through fiber optical cable.”

**High impact in oncology exams**

Ingenia allows high resolution images with higher SNR, thanks to the new dStream architecture. It also offers good gradient linearity and excellent fat saturation. All this brings clearer visualization of lesions and helps to detect more potential lesions.

Regarding Ingenia’s whole body imaging capability, Dr. Kwee says, “Ingenia is the 70 cm system with highest homogeneity currently on the market, thanks to its Xtend imaging space. This can have significant impact on oncology exams.”

“Ingenia is well suited for state-of-the-art MR exams of a certain body area (e.g. liver or pelvis) and also for whole body MR examinations. Furthermore, its design and easier workflow make it suitable for imaging obese patients and patients who cannot tolerate a long MR examination.”

**DWIBS work enhanced by Ingenia technology**

Dr. Takahara performs a great deal of diffusion weighted whole body imaging (DWIBS) in oncology patients. With Ingenia, a tabletop extender is no longer required because the Ingenia system offers a large scanning range. “We can now scan more than two meters in the z-direction. The Xtend technology provides a very large homogeneous field of view (35 cm) for extended coverage.”

“In addition, whole body scanning can be done by a sophisticated automatic sequence,” he says. “We just need to start the sequence. Then dS-SENSE parallel imaging automatically performs the reference scan in a few seconds, and SmartSelect automatic coil element selection is very convenient when we perform a multi-station scan.”

“Clearly, SNR has been increased significantly,” says Dr. Takahara. “So, overall, the combined features of the Ingenia system improve workflow, patient comfort, and image quality. When we have more clinical data, we hope to be able to confirm that this improves diagnostic performance.”

“Ingenia is well suited for performing both a state-of-the-art MR examination of a small body area and a whole body MR examination.”