Hong Kong College of Radiographers and Radiation Therapists

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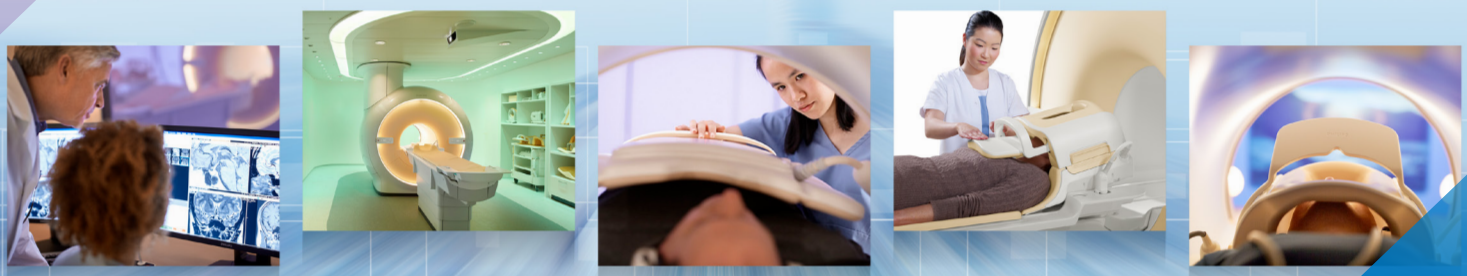
MRI USER MEETING



The inaugural MRI User Meeting co-organized by the Hong Kong College of Radiographers and Radiation Therapists (HKCRRT) and Philips Healthcare was held on 16th November, 2016 at the Hyatt Regency Hong Kong. The meeting comprised of lectures on the sharing of MRI system user experience by radiology experts from Hong Kong, Taiwan and Singapore.

WELCOME SPEECH

Ms Maria Law
President of HKCRRT

The HKCRRT was established in December 2008 with the mission of developing, regulating and promoting the standard of practice in radiography, medical imaging and radiotherapy for the benefit of the public. Magnetic resonance imaging (MRI) is an important radiological technique and plays a significant role in clinical diagnosis and monitoring treatment response. This meeting provides an opportunity for participants to learn about the latest technological advances and user experience in different MRI systems, to interact with fellow radiologists and facilitate collaborations on MRI research studies for the further advancement of knowledge and expertise in radiography.

NEW CLINICAL APPLICATION UPDATE

Mr Kenny Wu
MR Product Manager, Philips

Numerous advancements have been developed in the past year to enhance image quality in MRI and expand its clinical application beyond diagnosis, including:

- Improvement in motion free technique, spiral imaging, faster/multi slide scanning and simultaneous excitation which significantly reduce scanning time
- Magnetic resonance (MR) and computed tomography fusion simulation to achieve better tumour contouring for oncology treatment planning
- MR-linac for accurate delivery of radiotherapy to targeted tissues and monitoring response during treatment
- mDIXON XD CEMRA for non-subtraction single-pass peripheral MR angiography (MRA) with improved vessel-to-background contrast and fat suppression and large field of view (FOV) imaging
- 4D TRANCE for non-contrast angiography
- New cardiac application of MRI with fat separation providing clear late gadolinium enhancement for distinguishing between fatty change and infarct
- mDIXON XD Turbo Spin Echo (TSE) for next generation fat-free and motion-free simultaneous imaging with better water-fat separation for all anatomies

"Positive patient experience during MRI is also one of our main focus," said Wu. "Solutions developed to achieve this goal include Ambient Experience (AE, which provides an engaging and multi-sensorial environment to elevate patient comfort and alleviate patient anxiety), MRI in-bore experience (which enhances patient cooperation and workflow by delivering an immersive visual and audio experience during the scanning process), and Auto-Voice (which enables real-time patient guidance and monitoring of breath-hold time)."

REVIEW OF CLINICAL EXPERIENCE WITH INGENIA 3.0T

Mr Yoke-San Seetho
Singapore General Hospital, Singapore

The Ingenia 3.0T scanner is ideal for musculoskeletal (MSK) imaging due to the high SNR, excellent small joints imaging, field homogeneity, signal uniformity and T1 spine imaging. Different coils are used with the 3.0T scanner for MSK imaging. The 8-channel wrist coil has an effective FOV and is the best choice for fingers/thumb scans, with the upper extremity coil an alternative option. For knee scans, the loop coil has better SNR, higher resolution, shorter scan time and provide better visualization of the cartilages in different plane/sequence scan protocol compared with the body coil, which is useful for hip scans. Positioning is important as it may introduce artifacts during the scan. Prone position is most suitable for fingers/thumb MRI in wrist or extremity coil. Patient comfort is also important to ensure minimal movement during the scan. "Optimizing different technical aspects such as profile order, TSE factor and shot duration ensures crisp and sharp T1 TSE imaging and helps achieve the best coronal proton density TSE Fat-Sat sequences in MSK imaging," commented Seetho.

Ingenia 3.0T is useful for MRI neurography (eg, meralgia parasthecia) which requires fast 3D scan, fine voxel, thin slice, good nerve contrast, nerve fibre tracking, bilateral nerve comparison and good fat suppression. In addition, 3.0T with supine lateral (Mulder's) compression technique adapted for forefoot/-toes MRI can be applied to improve lesion conspicuity and help determine treatment plan in Morton's neuroma cases.