

Russell's Hall Hospital introduces Image Fusion Technology advancing the accuracy of Prostate Biopsy

TRUS has been the standard approach since the 1980's for histopathologic diagnosis of prostate cancer. However, this so-called blind biopsy technique has multiple limitations and the patient frequently has to undergo repeated biopsy. Multi-parametric MRI on the other hand is emerging as the gold standard for detecting prostate cancer offering excellent spatial resolution but is expensive, time consuming and is not a real-time modality. The recent introduction of an innovative technology known as 'prostate fusion imaging' combines the advantages of both modalities – MRI data synchronised with real-time ultrasound which provides a 'road map' for precise localization of the lesion and accurate guidance of the needle offering a major improvement in the way prostate biopsy is performed.

The Urology department at Russell's Hall Hospital is one of the early adopters of this ground-breaking technology. Mr Ani Chakravarti, Medical Service Head said "it offers a promising advance in biopsy targeting and prostate imaging and could be most beneficial for patients who fall into one of two categories – those with prior negative biopsies but with persistently elevated PSA levels and the 'active surveillance' patient group. We selected the Hitachi Preirus ultrasound system with integrated Real-time Virtual Sonography (RVS) modality which aligns the MRI imaging with dynamic



Left to right: Dr. Anthony D'Sa, Consultant Radiologist; Mr Asad Abedin, Consultant Urologist, Mr Ani Chakravarti, Consultant Urologist and Medical Service Head; Myrna Selby, Urology Nurse; Front row – Mrs Kay Rees-Thompson, Applications Manager, Hitachi Medical Systems UK Ltd.

ultrasound, leveraging the power of both imaging modalities subsequently allowing us to target the lesion effectively. This potentially reduces the number of biopsies and increases the accuracy rate."

The flexibility of Hitachi's RVS system allows fusion imaging across a wide range of ultrasound transducers including the simultaneous bi-plane probe for TRUS biopsy and transperineal probes for template biopsy enabling the technique to also be used during therapy procedures such as brachytherapy or cryotherapy.

The Urology department at Russell's Hall Hospital provides a team approach offering coordinated multidisciplinary evaluation of prostate cancer. "This Hitachi technology offers a more accurate method of obtaining biopsy specimens from suspicious regions which could afford an increased diagnostic yield and improved treatment planning for the patient" said Mr

Asad Abedin, Consultant Urologist. Real-time Virtual Sonography offers a novel paradigm shift in the development of improved prostate cancer detection.

**Further information is available from Hitachi Medical Systems UK
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