

Micro-Ultrasound (MicroUS) is emerging as a promising new imaging technology for prostate cancer diagnosis and management. It operates at frequencies of 29MHz and provides resolution to 70 microns, size of a prostatic duct. Studies comparing MicroUS to multiparametric Magnetic Resonance Imaging (mpMRI) have demonstrated comparable detection rates of clinically significant prostate cancer (csPCa), indicating its non-inferiority to mpMRI. When utilized alongside mpMRI, Micro-US enables real-time visualization of MRI sites, facilitating precise targeting. These findings underscore MicroUS as a viable alternative for guiding prostate biopsy, with the potential to overcome accessibility issues associated with mpMRI, such as cost and availability of expertise. The ongoing 3-arm OPTIMUM randomized controlled trial, designed to compare MicroUS to mpMRI, holds promise in providing definitive evidence on the optimal utilization of MicroUS in prostate biopsy procedures.

Additionally, MicroUS shows potential in other urological oncology applications, including local staging of prostate cancer and bladder cancer staging.

This presentation will provide a review of the existing literature around functionality and efficacy of MicroUS within the patient care pathway for prostate cancer.