

MRI fusion biopsy in people with suspected prostate cancer (provisional title)

A prostate biopsy is done to help diagnose cancer in people with suspected prostate cancer. A multi-parametric MRI (mpMRI) is normally done before the biopsy to obtain an image to inform and guide the biopsy. A urologist can then use visual estimation (cognitive fusion) during the biopsy procedure to associate the mpMRI image with the live transrectal ultrasound image and target areas of the prostate for sampling.

MRI fusion biopsy platforms digitally overlay the diagnostic mpMRI image with the real-time transrectal ultrasound image to help guide prostate biopsies. The platform uses software and may include a proprietary hardware component. MRI fusion biopsy devices could improve the accuracy of taking biopsies from specific areas of interest compared with cognitive fusion biopsies (use of prior information from the MRI to guide biopsy, rather than an image overlay). This could increase the detection of clinically significant prostate cancer, resulting in fewer repeat biopsies and fewer prostate cancer cases being missed leading to improved outcomes for people with prostate cancer.

The NICE diagnostics assessment programme will assess the clinical and cost-effectiveness of MRI fusion biopsy devices to make recommendations on their use in the NHS.