

MR Imaging-Targeted Prostate Biopsies

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- PMID: 29420983
- DOI: [10.1016/j.rcl.2017.10.010](https://doi.org/10.1016/j.rcl.2017.10.010)

Abstract

Conventional ultrasound-guided prostate biopsies have multiple limitations leading to underdetection of clinically significant prostate cancer (PCa) and overdetection of clinically insignificant PCa. Multiparametric MR imaging of the prostate offers better localization of prostatic tumors in comparison with ultrasound imaging and can help address these limitations. MR imaging-identified lesions can be targeted for biopsy directly in-gantry or indirectly using a fusion of MR imaging and ultrasound imaging. The fusion may be performed by the operator visually or using a software fusion device. In this article, we review the various techniques for MR imaging-targeted prostate biopsies and their clinical impact for PCa diagnosis.