

Prostatepedia¹

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Advances in Imaging

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Guest Commentary

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Imaging is important for newly diagnosed prostate cancer patients who may or may not have localized disease, and it's especially important for advanced prostate cancer patients, whether they continue to be androgen sensitive or have developed some level of androgen resistance. For earlier stages of disease, there has been a lot of interest regarding multiparametric MRI. Nonetheless, the efficacy of multiparametric MRI is limited by the expertise of the interpreting radiologist. The fusion technology software championed by several of the academic centers has been rolled out without consistency within the community. For some practices, it was adopted due to marketplace competition and the device developers' promotions. Companies that develop multiparametric fusion technology have not made a significant contribution to the advancement of urologic and radiologic educational needs. That said, some groups incorporated dedicated specialists within their practice to train for high-quality multiparametric fusion-based biopsies. Purchasing the newest promising technology without ensuring a framework to optimize clinical results will lead to poor implementation.

In the United States, MRI is still mostly recommended for patients who have had a negative prostate biopsy, but due to age, PSA kinetics, or rectal examination, there is still a concern of possible malignant disease that was missed on the first biopsy. MRI is most uniformly accepted for additional information when evaluating patients for the need for a second biopsy. MRI will no doubt have an ongoing role in the active surveillance population. MRI will no doubt have an eventual role in decision making for possible first biopsies.

There has been a lot of very good, evidence-based literature coming from European countries that suggests that whole-body MRI, with the right software protocol, is exceptionally helpful in evaluating metastatic disease. Unfortunately, in the United States, this protocol takes 45 to 60 minutes to accomplish, and unfortunately, translates to a challenging economic utility model for the MRI efficiency from an administrator perspective. There are many interesting and promising blood-, tissue-, and urine-based markers, genomic assays, and additional imaging techniques, which require ongoing trials to determine how best to use them for the most efficient value-based care model.

No single test—MRI or any other blood-, tissue-, or urine-based marker—is perfect. Eventually, we will hopefully develop a cost-effective algorithm that combines a panel of all the different biomarkers. MRI is part of that discussion, but we don't have that sorted out currently.

There have been multiple PET scan technologies developed in the last several years that have been assessed for improved potential sensitivity and specificity, and ultimately, to improve the accuracy of the data that shows cancer spread and its location. MRI and Axumin PET scans have been approved for advanced prostate cancer patients. There have been other PET scans such as FDG, C-11 Acetate, C-11 Choline, sodium fluoride, which have not received widespread reimbursement approvals nor widespread accessibility. There is also no consensus recommendation for these technologies. [Pp1](#)