PET/MR in prostate cancer: technical aspects and potential diagnostic value.

PET/MR is a new multimodal imaging technique that is expected to improve diagnostic performance of imaging in conditions in which assessment of changes in soft tissue is important such as prostate cancer. Despite substantial changes in PET technology compared to PET/CT, initial studies have demonstrated that integrated PET/MR provides comparable image quality to that of PET/CT, retaining PET quantification efficacy. In this review we briefly describe technological changes compared to PET/CT that made integrated PET/MR possible, propose acquisition protocols for evaluation of prostate cancer with this new multimodal approach, present initial results concerning the application of PET/MR in prostate cancer, and outline the potential for further clinical applications, focusing on potential incremental value compared to present diagnostic performance.