

## ▶ MR/PET: Technical Challenges and Clinical Applications

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The hybrid technology MR/PET allows the acquisition of a number of parameters within one single examination. Technically, both modalities are the same as in stand-alone scanners. The challenge of the combined technology is among others to provide an attenuation correction matrix for the PET data volume without acquisition of CT data. This is solved by calculation an attenuation correction matrix (so called m-MAP) using a MRI DIXON sequence. Using the MR/PET hybrid system, the morphological imaging technique allows an exact localization of the functional PET-information. Thereby, the diagnostic specificity and accuracy of the PET is increased. MR/PET is used in clinical applications for only a few years now and is still in the initiation phase. A larger data basis regarding the advantages of the combined MR/PET is required. However, up to now some clinical key applications for MR/PET become apparent: This is for instance staging and therapy control of malignant diseases in children and young adults and the detection and restaging of relapse in prostate cancer. This presentation gives and comprehensive overview of the technique and application of multiparametric imaging using MR/PET.

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