

PET/MR is currently being considered as clinical imaging tool. In order to achieve this status, two major hurdles have to be overcome. First, comparisons between PET/CT and PET/MR have to demonstrate where the latter is superior to the former and second, useful time-efficient workflows have to be defined. With regards to the first point this is an ongoing process which will require many years of detailed clinical evaluation. Some early results can be presented. The second requires critical attention at this early phase of clinical PET/MR. Whole body PET requires around 20 minutes of imaging and MR will have to acquire data comparable at least to a low dose CT during this time. If MR takes substantially longer, a PET/MR scanner reverts to a very expensive MR scanner. In whole body imaging early results suggest that using Dixon type water-fat sequences are useful, but that a whole array of other sequences range from time consuming to redundant. The best way to eliminate such sequences in a PET/MR exam is to evaluate whether the MR sequence provides complementary-, confirmatory- or redundant information to the PET scan. The issues in neuro- and cardiac PET/MR are similar, but have to be adapted to the specific protocols used there, which frequently include a dynamic PET scan.