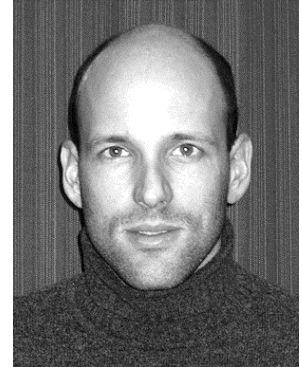


Quantitative analysis of dynamic contrast enhanced MR (DCE-MRI) data of the kidney

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Abstract

Quantitative analysis of DCE-MRI data from the kidney has the potential to become a clinically highly useful imaging modality for the non-invasive investigation of organ function. There are major challenges related to perfusion imaging of the human kidney that I want to address. The processing pipeline has several components: choice of MR sequence, breathing pattern, conversion to tracer concentrations, motion correction, segmentation of kidney and arterial input function (AIF), and compartment modeling for estimating the filtration and perfusion. The reproducibility between repeated MR scans is high, but a comparison to clinical standards for kidney filtration reveals that the MR estimates for filtration are still not within the range for active clinical use. In this presentation I will address the challenges related to the processing pipeline.

