# Efficient Spiral in-out and EPI Balanced Steady-State Free Precession Cine Imaging using a High-Performance 0.55T MRI

Matthew C Restivo, PhD, Rajiv Ramasawmy, PhD, W Patricia Bandettini, MD, Daniel A Herzka, PhD, and Adrienne E Campbell-Washburn, PhD

Supporting Information

Supporting Information Figure S1: Edge sharpness comparison between Cartesian and spiral in-out acquisitions. a) Example profiles drawn in the septal wall for both Cartesian and spiral in-out bSSFP images. b) Example intensity profile from a spiral in-out cine frame. Sharpness was measured as the pixel distance between 10 and 90% off the min-max range of a sigmoid fit of the profile. c) Box-plot of sharpness for 12 healthy volunteers, averaged over all frames. No significant difference was measured between the two sequences.
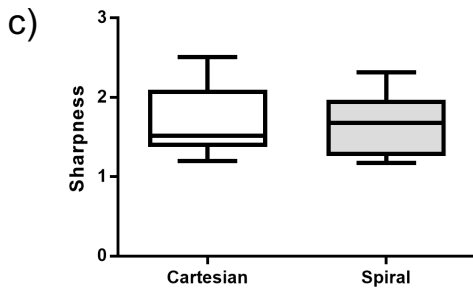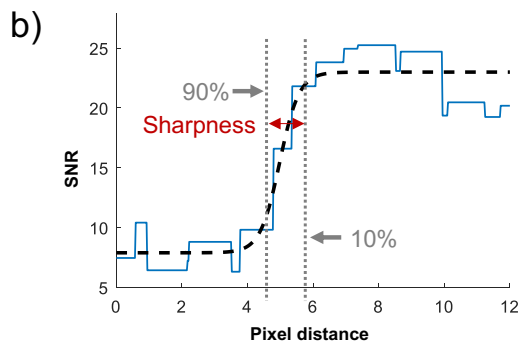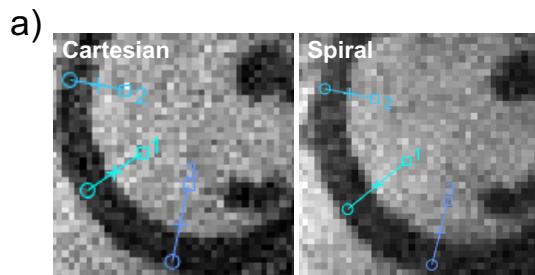
Supporting Information Figure S2: Bland-Altman plots comparing Cartesian and spiral in-out cines for left-ventricle and right-ventricle ejection fraction and stroke volume assessment. Mean difference (solid line) and ± 1.96 standard deviations (dotted lines) are displayed.
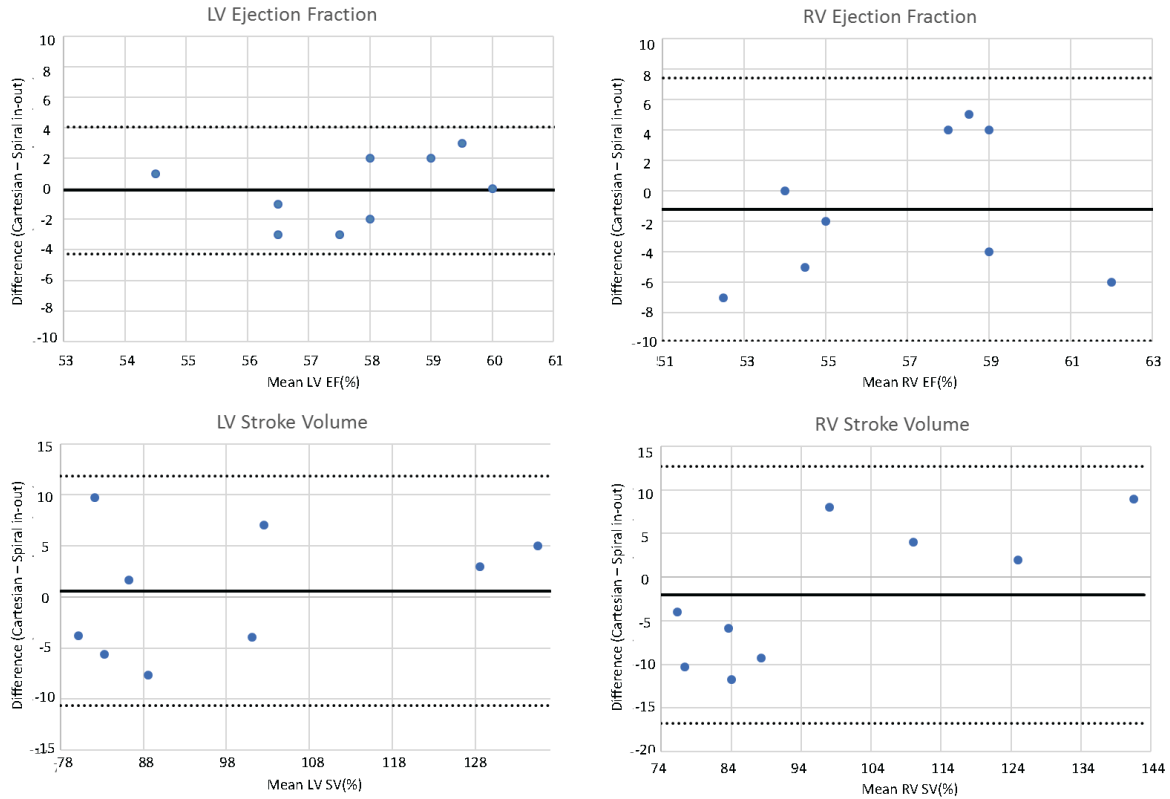
Supporting Information Video S1: Short axis cine stack acquired using the Cartesian (left) and spiral in-out (right) bSSFP protocols. Increased SNR can be observed using spiral in-out with limited artifacts.

Supporting Information Video S2: Three long-axis cine views acquired using the Cartesian (top row) and spiral in-out (bottom row) bSSFP protocols.