Fig. S1. The accuracy of static (SDC) and dynamic (DDC) distortion correction for volunteer V1 in comparison with original distorted (noDC) EPI and distortion-free reference GE. Two slices (13 and 22) are presented for 3 motion-corrected volumes with estimated rotations of 0.5°, 4.2°and 7.9°. Red outlines were drawn based on the GE reference. Green arrows point to regions where SDC was erroneous and DDC was accurate, with one exception at arrow nr 1, where residual distortion of circa 3.2 mm in DDC was observed.
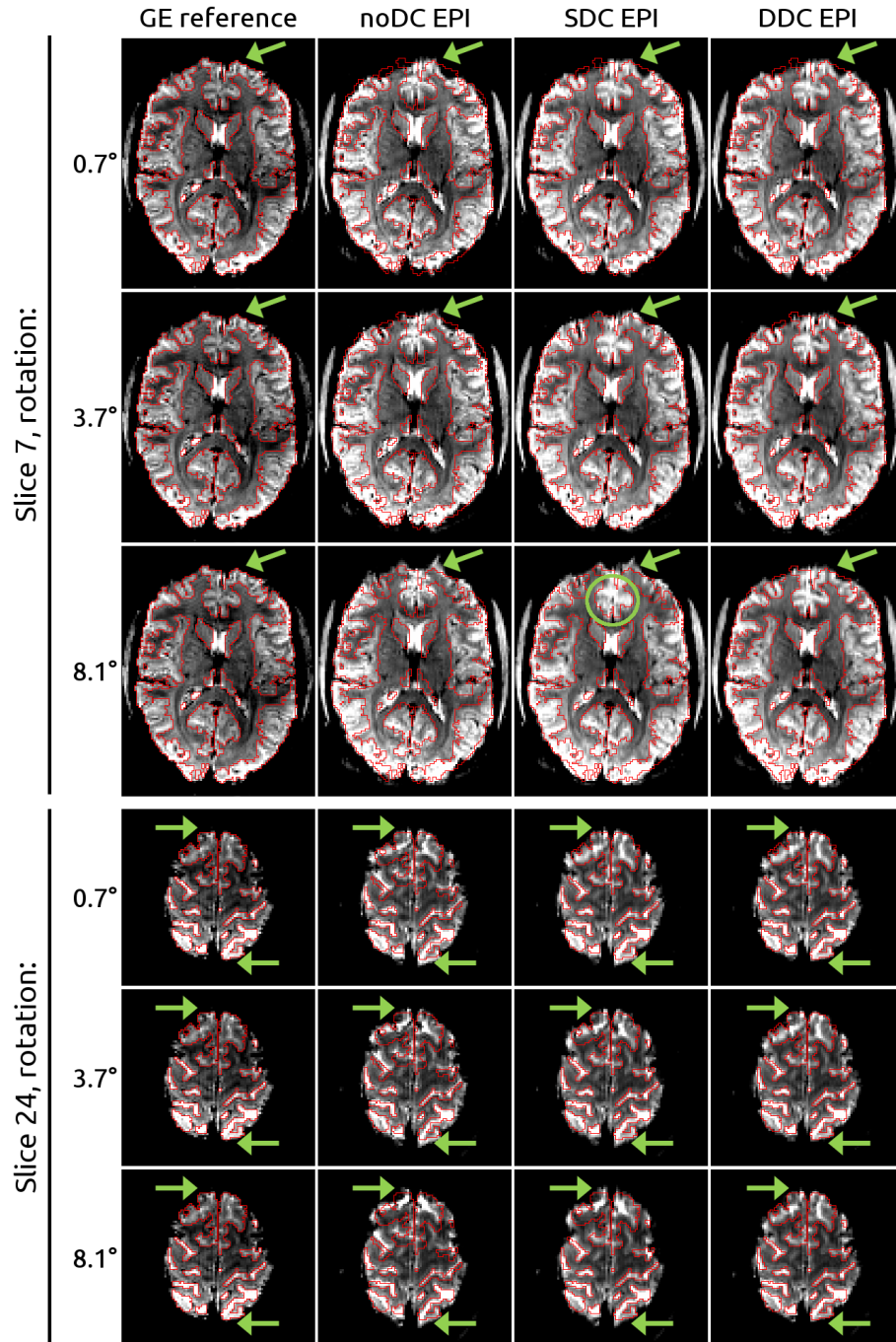
Fig. S2. The accuracy of static (SDC) and dynamic (DDC) distortion correction for volunteer V3 in comparison with original distorted (noDC) EPI and distortion-free reference GE. Two slices (7 and 24) are presented for 3 motion-corrected volumes with estimated rotations of 0.7°, 3.7°and 8.1°. Red outlines were drawn based on the GE reference. Green arrows point to regions where SDC was erroneous and DDC was accurate. A circle marks a region with substantial blurring occurring after SDC.
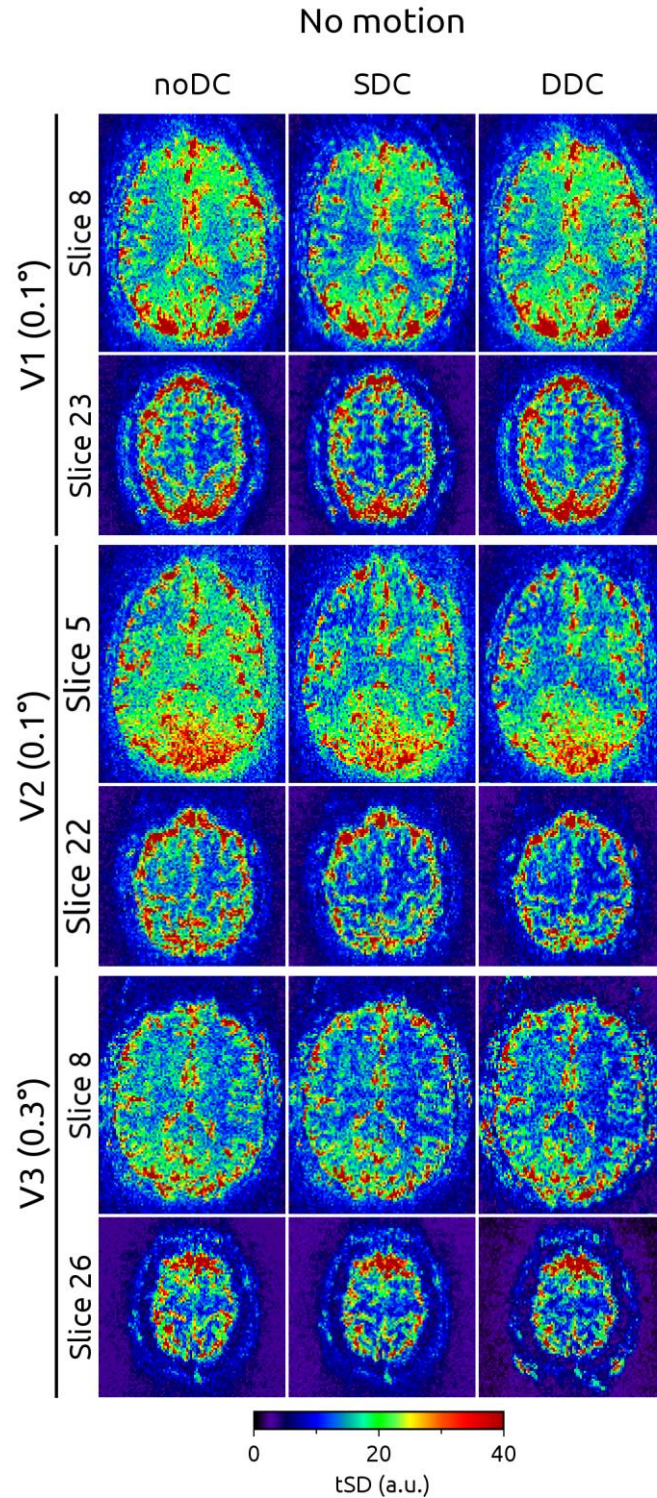
Fig. S3. Comparison of temporal standard deviation (tSD) for all three volunteers between EPI with no (noDC), static (SDC) and dynamic (DDC) distortion correction where there was no intentional motion (maximum rotation written in the brackets).
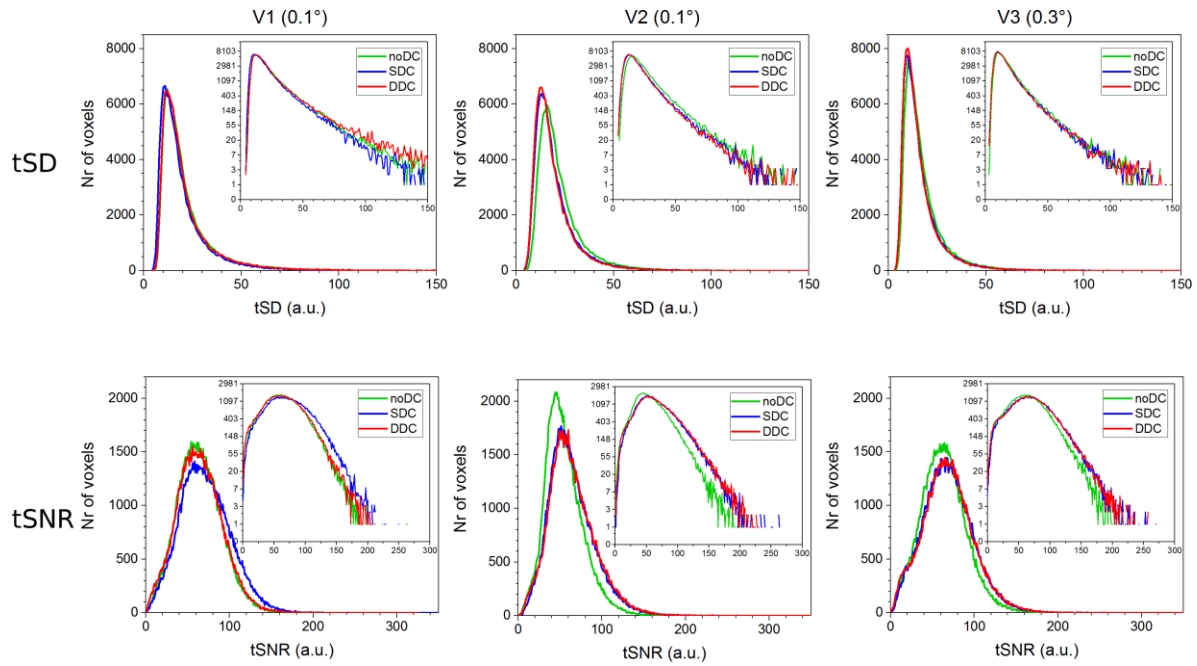
Fig. S4 Histograms comparing tSD (top row) and tSNR (bottom row) in a whole brain volume between EPI with no (noDC), static (SDC) and dynamic (DDC) distortion correction where there was no intentional motion (rotations up to 0.1° for V1 and V2, and 0.3° for V3). Inserts in the upper right corner of each graph show the same results on a logarithmic scale.