

00314 Compare Fractional Anisotropy Values Generated by FMRIB Software Library Compared to Siemens Neuro 3D Software

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Aims: Establish if there are significantly different Fractional Anisotropy values obtained from different post processing software, FMRIB Software Library compared to Siemens Neuro 3D software.

Methodology: In this prospective IRB approved study, 21 teenagers who underwent Magnetic resonance imaging (MRI) Diffusion Tensor Imaging (DTI) had Fractional Anisotropy (FA) values generated via FMRIB Software Library (FSL) and Siemens Neuro 3D software. The FA values obtained FSL were generated by a research assistant with experience in computer programming while a MRI radiographer generated the FA values using Siemens Neuro 3D software. Regions of interests were placed in the posterior limbs of the right and left internal capsules to generate FA values for the right and left corticospinal tracks. The values generated via FSL and Siemens Neuro 3D software were checked for any statistical difference using paired t test.

Result: Using FSL, average Fractional Anisotropy values measure 0.545 +/- 0.071 in the right internal capsule, 0.557 +/- 0.071 in the left internal capsule. Using Siemens Neuro 3D software, average Fractional Anisotropy values measure 0.547 +/- 0.050 in the right internal capsule, 0.554 +/- 0.030 in the left internal capsule. There was no statistical difference between the Fractional Anisotropy values generated via FSL compared to Siemens Neuro 3D software (p=0.9).

Conclusion: Fractional Anisotropy values generated via FSL are not statistically different from Siemens Neuro 3D software.