

Supplementary Table 1: Global fractional anisotropy (FA) values measured with the three different methods in acute or sub-acute mild traumatic brain injury (mTBI defined as GCS  $\geq$  13, GCS  $\geq$  13 and post traumatic amnesia (PTA)  $\leq$  24 h, GCS  $\geq$  13 and PTA  $>$  24 h) vs controls. Age was used as covariate.

Study group	FA skeleton, single-fiber only		FA skeleton		FA tractogram	
	mean $\pm$ SD	F-value (P-value)	mean $\pm$ SD	F-value (P-value)	mean $\pm$ SD	F-value (P-value)
All mTBI (GCS $\geq$ 13)	0.576 $\pm$ 0.042	13.427	0.412 $\pm$ 0.025	6.868	0.521 $\pm$ 0.047	9.132
Controls	0.591 $\pm$ 0.034	0.0003	0.419 $\pm$ 0.021	0.010	0.534 $\pm$ 0.043	0.003
mTBI (GCS $\geq$ 13 & PTA $\leq$ 24 h)	0.582 $\pm$ 0.040	10.968	0.416 $\pm$ 0.022	5.135	0.527 $\pm$ 0.048	6.868
Controls	0.591 $\pm$ 0.034	0.001	0.419 $\pm$ 0.021	0.025	0.534 $\pm$ 0.043	0.010
mTBI (GCS $\geq$ 13 & PTA $>$ 24 h)	0.556 $\pm$ 0.042	11.934	0.399 $\pm$ 0.030	7.224	0.501 $\pm$ 0.040	8.371
Controls	0.591 $\pm$ 0.034	0.001	0.419 $\pm$ 0.021	0.010	0.534 $\pm$ 0.043	0.006