

**Table S1.** All 2-way ANOVA Results.

<b>Myelin Classifications</b>				
<b>Measurement</b>	<b>Age (Main effect)</b>	<b>Injury (Main Effect)</b>	<b>Interaction Effect</b>	<b>Figure</b>
Axons with Compact Myelin (%)	$F_{(1,16)} = 27.36, p < 0.0001$	$F_{(1,16)} = 2.388, p = 0.1418$	$F_{(1,16)} = 3.912, p = 0.0654$	3a
Axons with moderately decompacted myelin (%)	$F_{(1,16)} = 16.20, p = 0.0010$	$F_{(1,16)} = 0.4280, p = 0.5223$	$F_{(1,16)} = 0.3559, p = 0.5592$	3b
Axons with severely decompacted myelin (%)	$F_{(1,16)} = 66.91, p < 0.0001$	$F_{(1,16)} = 4.100, p = 0.0599$	$F_{(1,16)} = 10.80, p = 0.0046$	3c
Unmyelinated axons (%)	$F_{(1,16)} = 5.871, p = 0.0276$	$F_{(1,16)} = 0.4292, p = 0.5217$	$F_{(1,16)} = 0.1694, p = 0.6861$	3d
<b>Morphology of Axons with Compact Myelin</b>				
<b>Measurement</b>	<b>Age (Main effect)</b>	<b>Injury (Main Effect)</b>	<b>Interaction Effect</b>	<b>Figure</b>
Myelin Thickness ( $\mu\text{m}$ )	$F_{(1,16)} = 21.05, p = 0.0003$	$F_{(1,16)} = 0.001438, p = 0.9702$	$F_{(1,16)} = 8.525, p = 0.0100$	4a
Axon Diameter ( $\mu\text{m}$ )	$F_{(1,16)} = 1.627, p = 0.2204$	$F_{(1,16)} = 0.1320, p = 0.7211$	$F_{(1,16)} = 0.001, p = 0.9904$	4b
Fibre Diameter ( $\mu\text{m}$ )	$F_{(1,16)} = 2.793, p = 0.1141$	$F_{(1,16)} = 0.04561, p = 0.8336$	$F_{(1,16)} = 0.1746, p = 0.6816$	4c
G Ratio	$F_{(1,16)} = 0.3602, p = 0.5568$	$F_{(1,16)} = 0.07953, p = 0.7815$	$F_{(1,16)} = 1.130, p = 0.3036$	4d
<b>Diameter of Axons with Decompacted Myelin</b>				
<b>Measurement</b>	<b>Age (Main effect)</b>	<b>Injury (Main Effect)</b>	<b>Interaction Effect</b>	<b>Figure</b>
Axons with Moderately Decompacted Myelin ( $\mu\text{m}$ )	$F_{(1,16)} = 6.096, p = 0.0252$	$F_{(1,16)} = 2.703, p = 0.1196$	$F_{(1,16)} = 0.07367, p = 0.7895$	4e
Axons with Severely Decompacted Myelin ( $\mu\text{m}$ )	$F_{(1,16)} = 1.807, p = 0.1977$	$F_{(1,16)} = 2.191, p = 0.1582$	$F_{(1,16)} = 0.7760, p = 0.3914$	4f
Axons with Completely Decompacted Myelin ( $\mu\text{m}$ )	$F_{(1,14)} = 0.1275, p = 0.7264$	$F_{(1,14)} = 0.5569, p = 0.4679$	$F_{(1,14)} = 2.709, p = 0.1220$	4g
Unmyelinated Axons ( $\mu\text{m}$ )	$F_{(1,13)} = 0.02401, p = 0.8792$	$F_{(1,13)} = 4.47, p = 0.0542$	$F_{(1,13)} = 0.1578, p = 0.6977$	4h
<b>Population Analyses</b>				
<b>Measurement</b>	<b>Age (Main effect)</b>	<b>Injury (Main Effect)</b>	<b>Interaction Effect</b>	<b>Figure</b>
Median Diameter of Axons with Compact Myelin	$F_{(1,16)} = 1.059, p = 0.3186$	$F_{(1,16)} = 0.1351, p = 0.7180$	$F_{(1,16)} = 0.7784, p = 0.3907$	5e
Median Diameter of Axons with Decompacted Myelin	$F_{(1,16)} = 1.247, p = 0.2807$	$F_{(1,16)} = 1.086, p = 0.3129$	$F_{(1,16)} = 0.0886, p = 0.7697$	5f