Electronic Supplementary Material (ESI) for Biomaterials Science.
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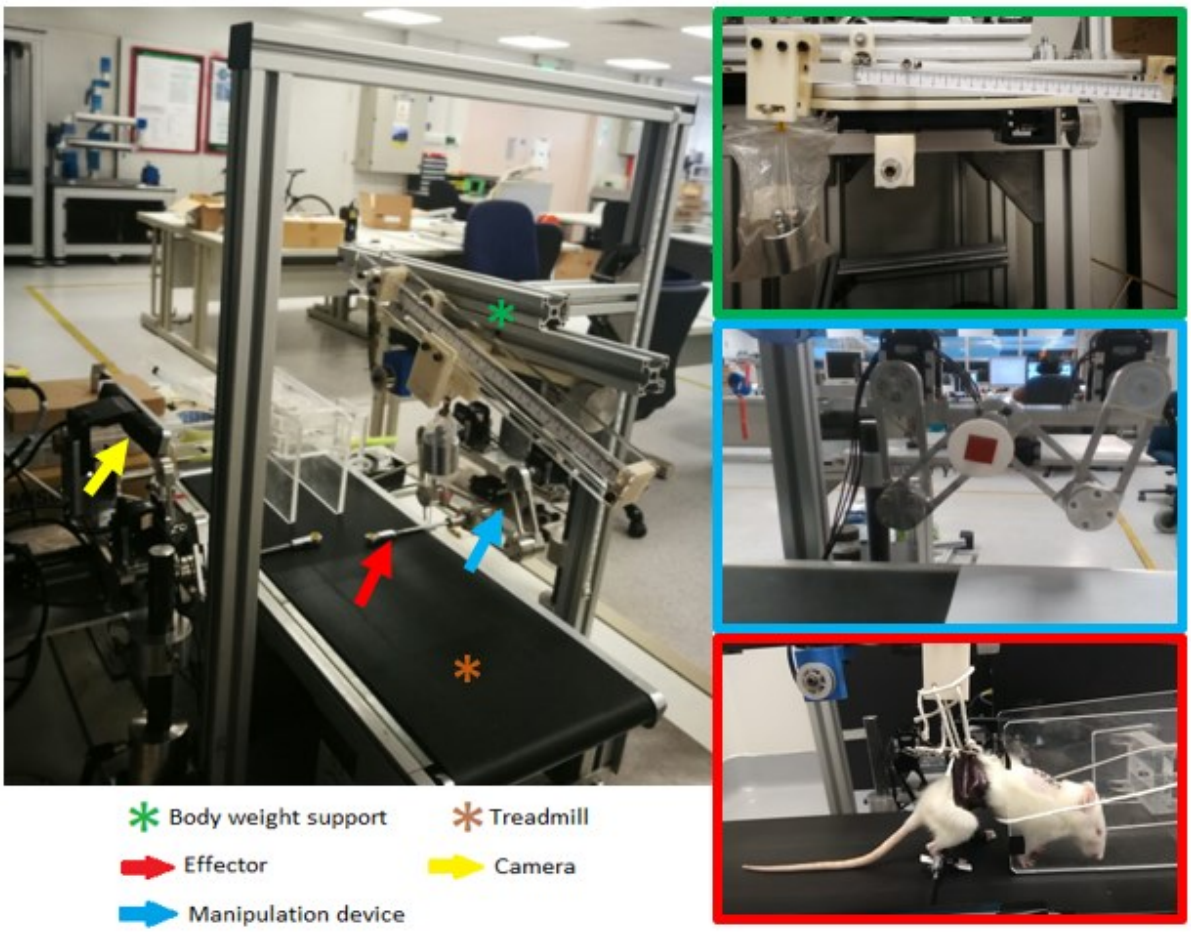
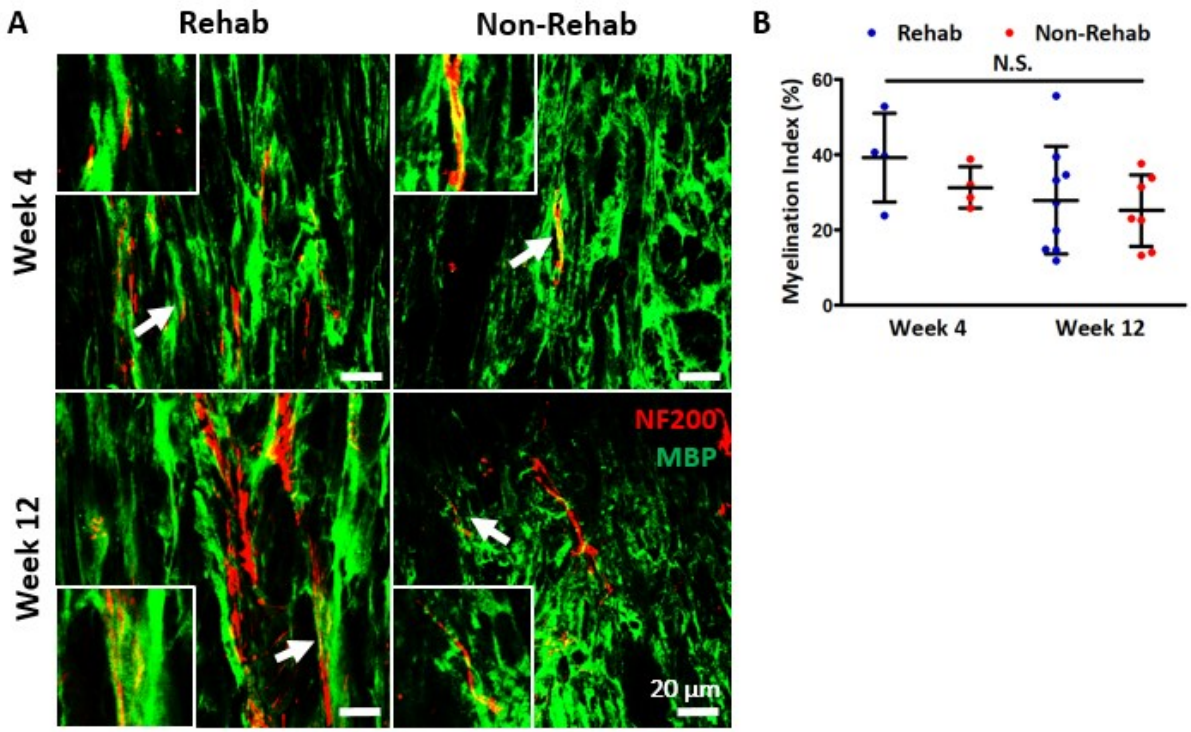
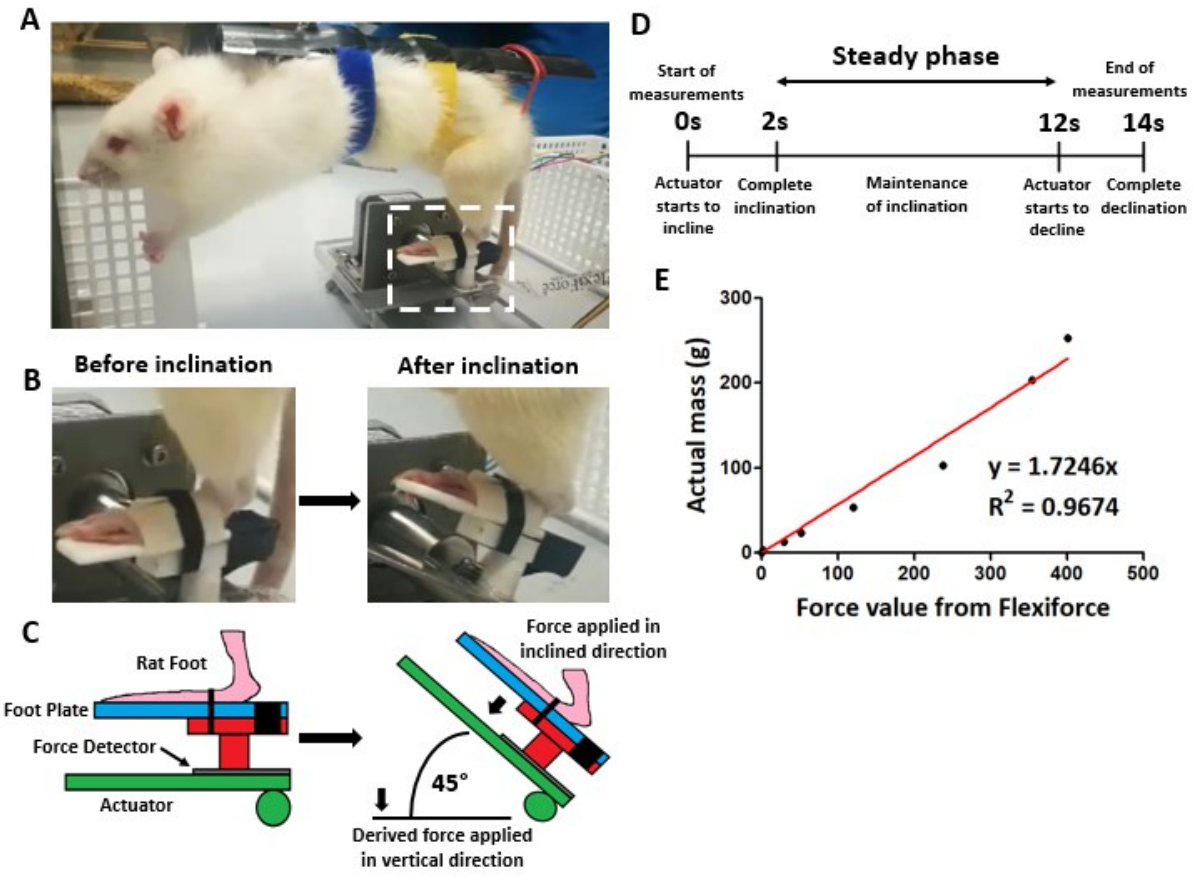
Supplemental Figures



Supplemental Figure 1. Rehabilitation machine was customized to impart healthy gait in injured rats. Complete view of the rehabilitation machine with the various labelled components. A magnified view of the body weight support and the manipulation device is shown in the box with the green and blue frame respectively. A magnified view of the rehab rat fitted onto the rehab machine and effector powered by the manipulation device is depicted in the box with red frame.



Supplemental Figure 2. Rehabilitation did not enhance myelination of axons in scaffold. (A) Representative images of NF200 and MBP staining in scaffold at both Week 4 and 12. White arrows denote region of axon that is co-localized with myelin, suggesting myelination. **(B)** Quantification of the myelination index within the scaffold. ANOVA, N.S. = Not Significant. All data are shown as mean ± SD; n = 4 for both rehab and non-rehab rats at Week 4; n = 7 and 9 for rehab and non-rehab rats respectively at Week 12.



Supplemental Figure 3. Rats were successfully mounted onto the ankle flexion device for assessment. (A) Setup of ankle flexion device. **(B)** Magnified view of the rat's hindlimb before and after inclination. **(C)** Simplified diagram depicting the components of the device. **(D)** Timeline of assessment protocol. **(E)** Graph showing the conversion of the force value from the force detector (Flexiforce) into grams. All data are shown as mean ± SD.