

Supplemental Figures

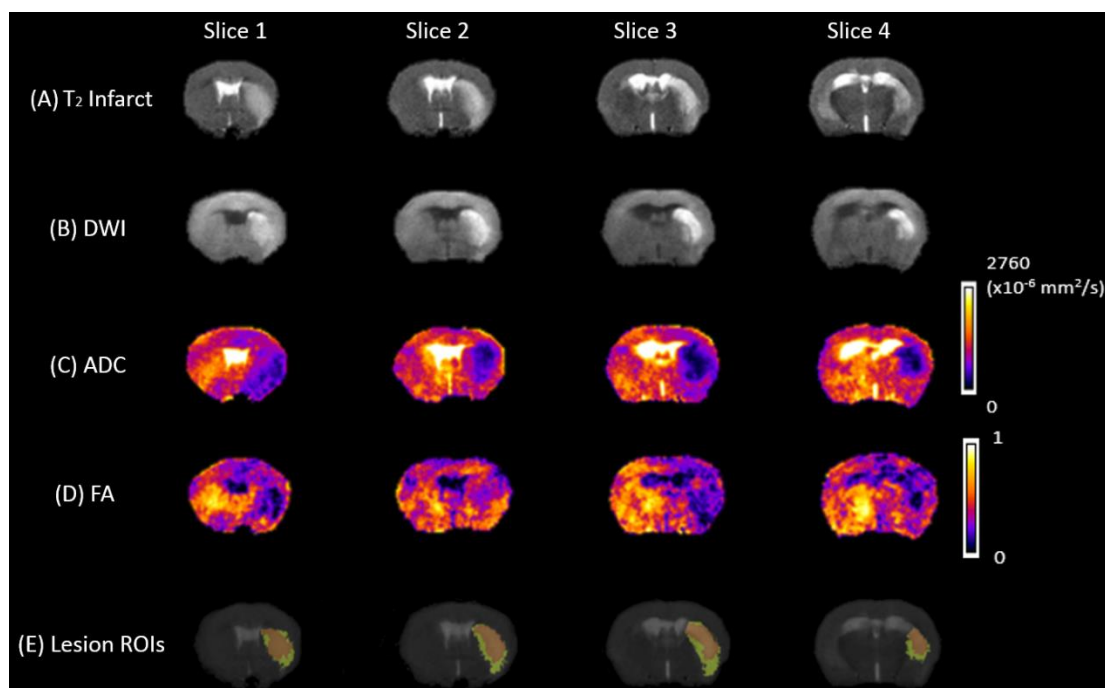


Fig. S1. Sample MRI images acquired at 48-hour post-MCAO. T2w images were used to assess lesion volume (A). DWI allowed identification of the lesion core (B). ADC and FA maps were used to assess severity of tissue damage within the lesion (C, D). Combination of T2w and DWI allowed identification of core (red) and penumbra (green) regions of interest (E).

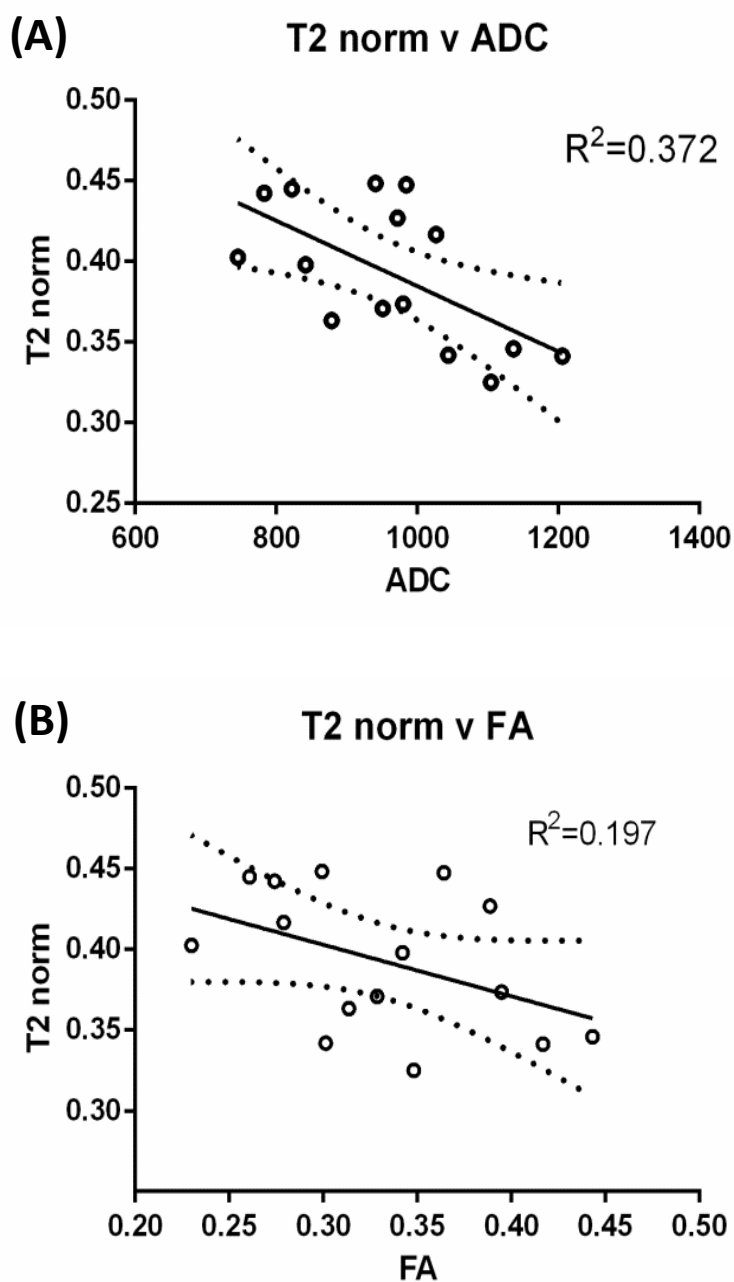


Fig. S2. Relationship between lesion T2 hyperintensity and diffusion parameters. T2 signal was significantly negatively correlated with ADC ($p=0.016$; A). T2 signal was not significantly negatively correlated with FA ($p=0.097$; B). Dashed lines show 95% confidence band of the best fit line. These plots suggest that reductions in both ADC and FA correspond to increased degree of ischemic injury, assessed by T2 signal intensity within the lesion.

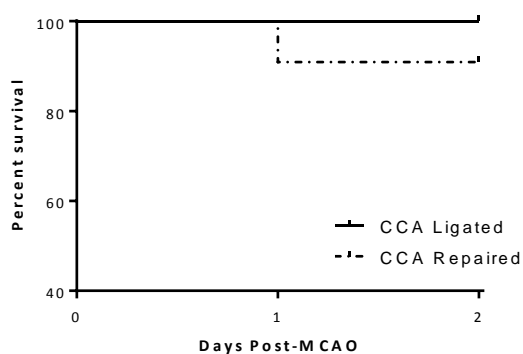


Fig. S3. Survival rates following MCAO. In the CCA repaired group 1 mouse (from a total of 13) died at 24 hours post-MCAO with no deaths occurring in the CCA ligated group.

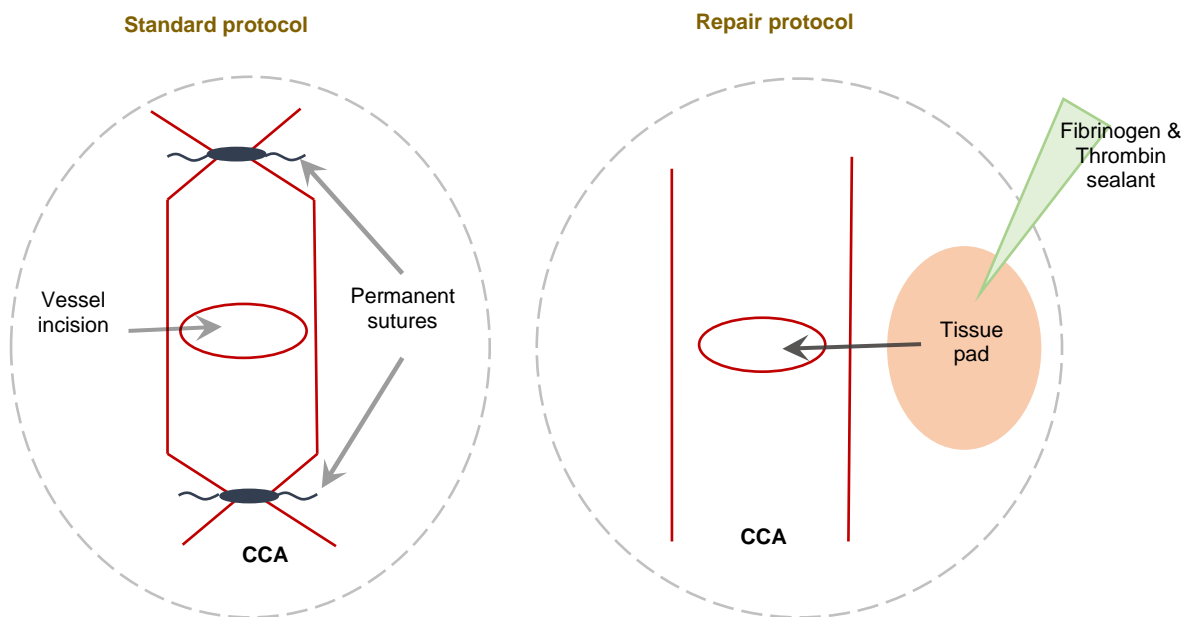
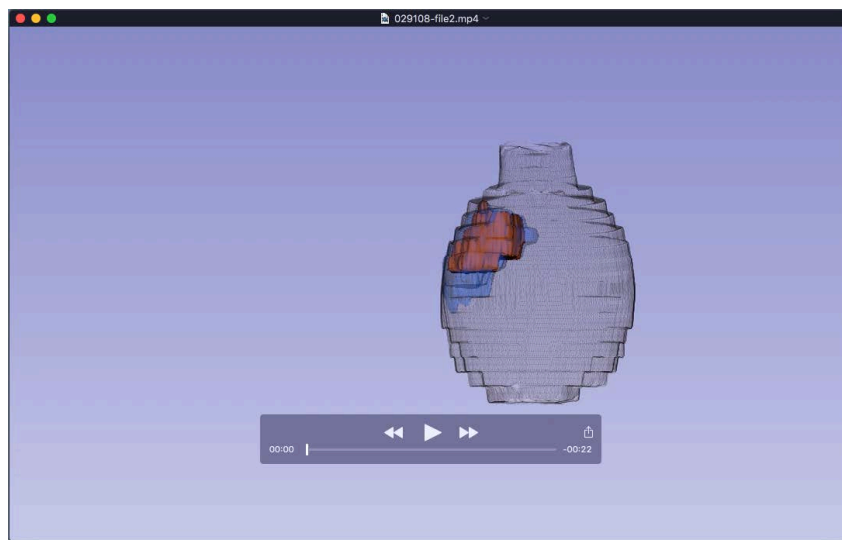


Fig. S4. Experimental method following filament removal post-MCAO. CCA ligated using standard protocol i.e. permanent sutures applied either side of the vessel incision which results in permanent occlusion of the right CCA (A). CCA repair where a small tissue pad coated in fibrinogen and thrombin sealant is placed over the incision to produce a seal and allow full reperfusion of the CCA (B).



Movie 1.

3D reconstruction of co-registered T2w and diffusion-weighted images showing lesion core (red) and penumbra (blue) regions.