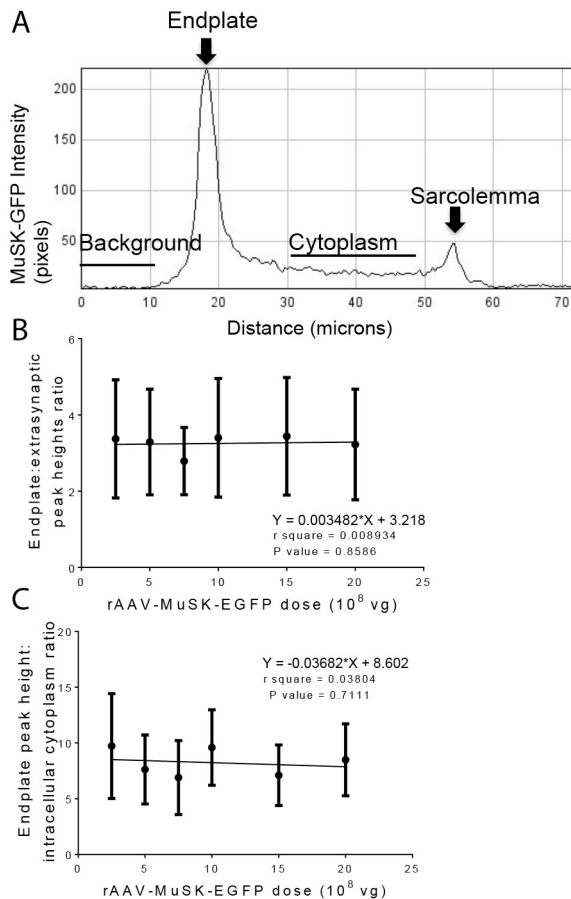
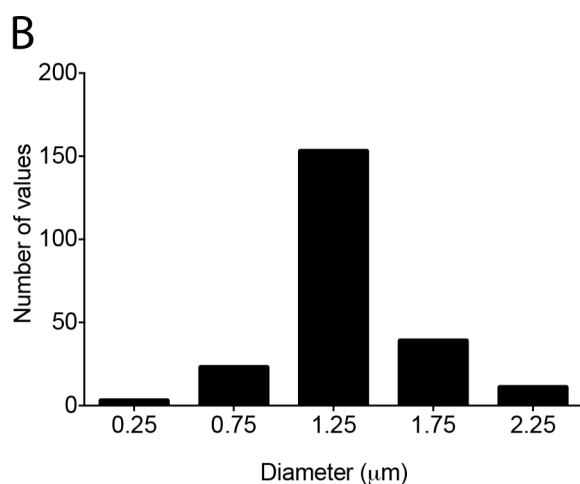
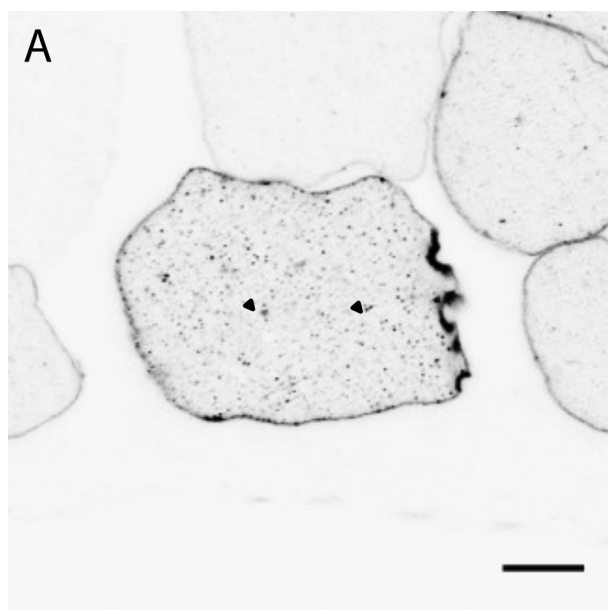


Supplementary Fig S1 Percentage of MuSK-EGFP-positive endplates increased with the dose of rAAV injected. The tibialis anterior muscle was injected with the indicated number of viral genomes (vg) of rAAV that encoded MuSK-EGFP. The percentage of AChR-stained endplates that were positive for MuSK-EGFP fluorescence was counted from sampled images.

MuSK rescues anti-MuSK impairment to the neuromuscular junction



Supplementary Fig S2 Dosage of rAAV-MuSK-EGFP did not alter the relative distribution of MuSK-EGFP at the motor endplate. Tibialis anterior muscles were injected with the indicated range of dosages of rAAV-MuSK-EGFP ($2.5 - 20 \times 10^8$ viral genomes per muscle). Three weeks later the mice were killed and muscles fixed for confocal imaging. (A) Peaks of MuSK-EGFP fluorescence intensity corresponding to the postsynaptic and extrasynaptic portions of the muscle fibre peripheral membrane were compared by a line drawn perpendicular to the motor endplate. (B) Ratio of peak endplate MuSK-EGFP fluorescence to peak fluorescence in the extrasynaptic sarcolemma. (C) Ratio of peak endplate MuSK-EGFP fluorescence to the average fluorescence intensity within the cytoplasm.



Supplementary Fig S3 Intracellular puncta of MuSK-EGFP. **(A)** Transverse section through a fibre expressing high levels of MuSK-EGFP at the endplate and in multiple cytoplasmic puncta. Note the lower levels of MuSK-EGFP expression, and fewer puncta evident, in neighbouring fibres. Such puncta, and sarcolemmal MuSK-EGFP fluorescence extended beyond the endplate portion of many fibres. This particular muscle was injected with 1×10^9 v.g. of rAAV-MuSK-EGFP. **(B)** Frequency histogram showing the Gaussian distribution for the diameter of EGFP fluorescent cytoplasmic puncta ($1.38 \pm 0.36 \mu\text{m}$; $n=229$ puncta).