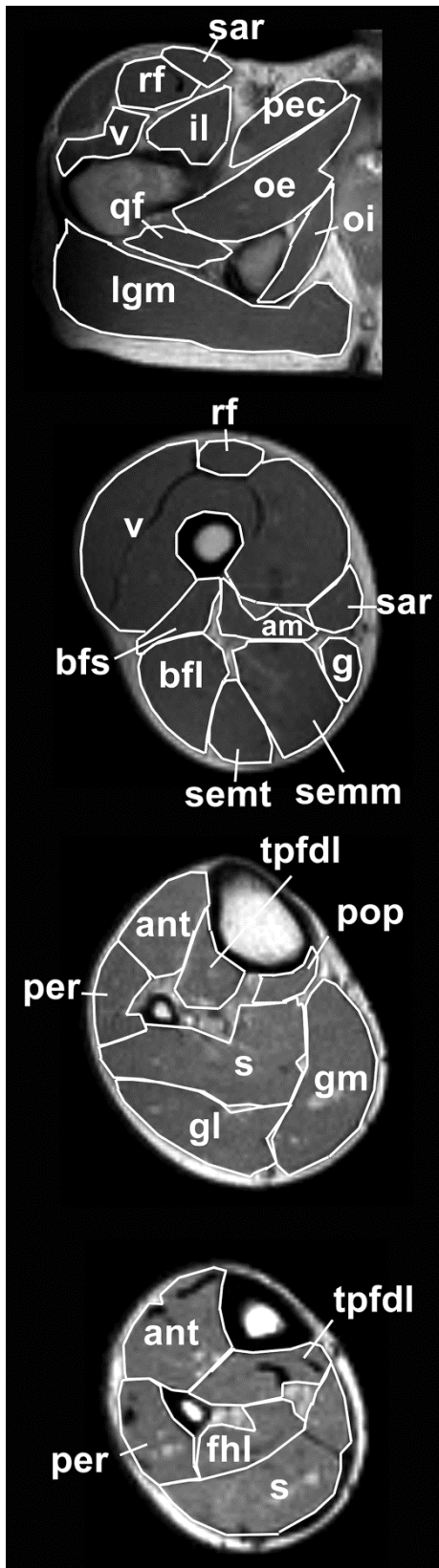


Supplemental Figure 1: Magnetic resonance imaging of the musculature



Sixty transverse plane images were taken from the superior aspect of the head of the femur down to the proximal tibia (slice thickness 8mm, interslice distance: 0mm, repetition time: 2000ms, echo time: 20ms, field of view 480x480mm interpolated to 256x256 pixels). Another set of sixty images were taken from the distal femur to beyond the lateral malleolus at the ankle (slice thickness 8mm, interslice distance: 0mm, repetition time: 2000ms, echo time: 20ms, field of view 350x350mm interpolated to 256x256 pixels). The following muscles were measured: iliopsoas (il), obturator externus (oe), obturator internus with gemelli (oi), quadratus femoris (qf), adductor brevis (not shown), adductor longus (not shown), adductor magnus (am), gracilis (g), sartorius (sar), lower gluteus maximus (lgm), biceps femoris long head (bfl), biceps femoris short head (bfs), semimembranosus (semm), semitendinosus (semt), popliteus (pop), vasti (v), rectus femoris (rf), anterior tibial muscles (tibialis anterior with extensor digitorum longus; ant), flexor digitorum with tibialis posterior (tpfdl), flexor hallucis longus (fhl), gastrocnemius lateralis (gl), gastrocnemius medialis (gm), peroneals (per) and soleus (s). Using data from prior work (19, 21), we calculated a high (between-day correlation co-efficient >0.90) reproducibility for the muscle volume measurements. However, for some smaller muscles, specifically adductor brevis ($r=0.74$), obturator externus ($r=0.87$), reproducibility was not as high. Furthermore, based on experience from prior work (19, 21), measuring only one leg is sufficient for most muscles.