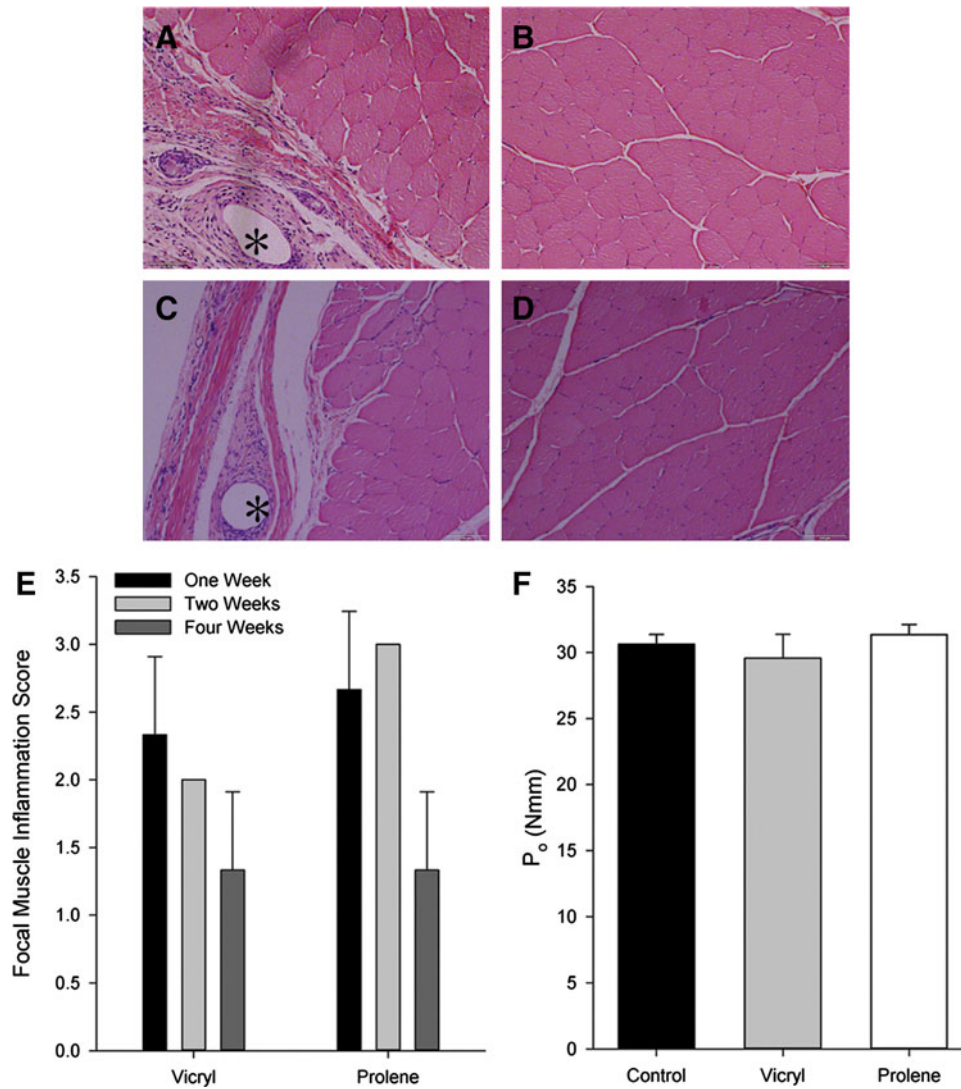


Supplementary Data



SUPPLEMENTARY FIG. S1. Effect of sham-volumetric muscle loss (VML) surgery on the histological and functional characteristics of the tibialis anterior (TA) muscle. Because of the invasive nature of the surgical procedure, we performed a sham-operation study to determine the effect of the surgical procedure without VML on TA muscle histological appearance and functional capacity. Additionally, in this preliminary study we assessed the impact of different suture materials (Vicryl vs. Prolene) for the closure of the fascia. In this study, nine rats underwent bilateral sham surgery, wherein the fascia was closed in one leg with prolene (6-0) and the contralateral leg with vicryl (6-0), and the muscles were harvested at 1, 2, or 4 weeks postinjury. Tissue sections were analyzed in a blinded manner by a trained pathologist. Additionally, at 4 weeks rats underwent *in vivo* muscle function testing (Supplementary Fig. S2). Histologically, the sham surgery resulted in inflammation at the superficial periphery: (A) Vicryl and (C) Prolene of the tissue and primarily in a focal nature around the prolene suture markers implanted in the muscle (*). At these sites of focal inflammation the pathologist scored the tissues with a moderate to mild inflammation; however, it is important to emphasize that these areas reflected less than 5% of the total area of the muscle section. The remainder of the muscle appeared without discernible inflammation or fibrosis: (B) Vicryl, (D) Prolene. (E) The mean \pm SD response of the focal inflammation pathology score revealed similar results regardless of suture type used to close the fascia. (F) At 1 month postinjury, *in vivo* peak isometric torque (P_o) of the sham-operated muscle was similar to that from uninjured muscle. The choice of suture used to close the fascia did not influence these observations.