

# Rat Model For Muscle Regeneration After Soft Tissue Trauma

Penetrating soft tissue injuries that may be caused by bullet wounds, motor vehicle accidents or exposure to explosive devices in military settings, can cause muscle loss resulting in functional disability and cosmetic deformity. Efforts underway to develop tissue engineering solutions to repair and replace damaged and lost muscle will benefit greatly from the availability of robust animal models to test these therapeutic strategies.

A new rat model that simulates traumatic or surgical muscle tissue loss in humans is described in an article in *BioResearch Open Access*, a bimonthly peer-reviewed open access journal from Mary Ann Liebert, Inc., publishers. Xiaowu Wu, MD, Benjamin T. Corona, PhD, Xiaoyu Chen, PhD, and Thomas J. Walters, PhD, United States Army Institute of Surgical Research (Fort Sam Houston, TX), Wake Forest Institute for Regenerative Medicine (Winston-Salem, NC), and University of Texas Health Science Center at San Antonio, provide a detailed description of the methods used to create an animal model with approximately 20 percent volumetric muscle loss (VML) from the middle third of the tibialis anterior muscle. The authors demonstrate successful repair of the injury using a biological scaffold and present their findings in "[A Standardized Rat Model of Volumetric Muscle Loss Injury for the Development of Tissue Engineering Therapies](#) [1]."

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[1] <http://online.liebertpub.com/doi/full/10.1089/biores.2012.0271>