

Research: Too-Short Sports Massage Not Effective for Delayed-Onset Calf Muscle Soreness

A study at the University of Virginia on the effect of a five-minute sports massage on intramuscular swelling and pain showed limited benefits. “Effects of Sport Massage on Limb Girth and Discomfort Associated with Eccentric Exercise” focused on the triceps surae muscles after an eccentric exercise session designed to induce delayed-onset muscle soreness (DOMS).

Ten men and nine women participated in the study, which was conducted in a university research laboratory. To induce DOMS in the calf muscles, the subjects performed 20 plantar-flexion contractions and four or five sets of 35 triceps surae contractions. The subjects then returned each day for three days to have limb girth and discomfort levels recorded and to receive the experimental treatment, which was five minutes of sports massage randomly assigned to one leg (the nonmassaged leg served as the control). The subjects also rode a stationary bicycle for five minutes as an active rest treatment immediately before the massage.

The sports-massage treatments consisted of 75 seconds of petrissage followed by 75 seconds of effleurage and repeated once for a total of five minutes. A certified athletic trainer performed all massage treatments. Each petrissage stroke and effleurage stroke was timed to maintain a pace of about one stroke per second. This protocol was designed to be easily reproduced in an athletic training room containing many athletes, where longer treatment durations might not be practical.

Measurements of limb girth (as a proxy for intramuscular swelling) and pain levels were recorded before and after each treatment session. Results seem to indicate that the passage of time, more than the short massage, was responsible for the reduction in pain and swelling. Some lowering of pain and swelling was observed during the massage, but not in statistically significant amounts.

The authors conclude that these results “provide no scientific evidence that a short sport massage treatment including effleurage and petrissage expedites recover from DOMS over the effects of active rest alone,” and that the brevity of the treatment may account for the limited benefits.

— *University of Virginia; Temple University. Authors: Joseph M. Hart; C. Buz Swanik; Ryan T. Tierney. Originally published in Journal of Athletic Training, Vol. 40, No. 3, September 2005, pp. 181–185.*