Foam rolling decreases muscle soreness but has no effects on running performance

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ABSTRACT

Muscle soreness is a concern for endurance athletes, as it may limit the ability to train and influence performance in competitions. Many athletes use foam rolling (FR) as a recovery tool, but it is unclear whether FR is effective for treating soreness in trained runners when compared to a placebo. Previous studies showing the efficacy of FR in athletes could have been confounded by a placebo effect because participants were aware that they were performing active recovery. Downhill running (DHR) has been shown to induce soreness and to impair running economy (RE).

METHODS

Eight well-trained distance runners (weekly mileage ≥30 for the preceding 3 months) completed the study. The average age was 30.6 ± 9.0 years. Subjects had a mean VO2peak of 57.0 ± 7.1 ml kg⁻¹ min⁻¹.

RESULTS

Subjects reported their soreness, then performed a RE test and TT. The crossover took place 2-4 weeks after visit 4. At visits 5 through 7, subjects performed the first of two recovery protocols: FR or sham recovery protocol.

CONCLUSION

Downhill running (DHR) caused delayed-onset muscle soreness in both conditions, as seen by increased passive and active soreness immediately and 48 h post-DHR. Foam rolling (FR) effectively attenuated this increase in soreness compared to the sham lights. However, running economy as measured by VO2peak, respiratory exchange ratio, rating of perceived exertion, or 3 km time trial time. These results suggest that FR can diminish increases in soreness from exercise-induced muscle damage but does not influence running performance in well-trained runners.