

研究業績 英文表記

和文	
表題	遅発性筋痛のある筋肉に対する振動付きフォームローラー圧迫による効果の検討
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英文	
Title	The Effect of Static Compression via Vibration Foam Rolling on Eccentrically Damaged Muscle
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Abstract	<p>Previous research has shown that vibration foam rolling (VFR) on damaged muscle can result in improvements in muscle soreness and range of motion (ROM). Furthermore, static compression via VFR (i.e., VFR without rolling) can increase the ROM and decrease the muscle stiffness of non-damaged muscle. Therefore, it is likely that static compression via VFR on eccentrically damaged muscle can mitigate muscle soreness and the decrease in ROM, and the decrease in muscle strength. The purpose of this study was to investigate the acute effects of a 90 s bout of VFR applied as a static compression on an eccentrically damaged quadriceps muscle, measuring ROM, muscle soreness, muscle strength, and jump performance. This study was a single-arm repeated measure design. Study participants were sedentary healthy male volunteers (n = 14, 20.4 ± 0.8 years) who had not performed habitual exercise activities or any regular resistance training for at least 6 months before the experiment. All participants performed a bout of eccentric exercise of the knee extensors with the dominant leg and then received a 90 s bout of static compression via VFR of the quadriceps 48 h after the eccentric exercise. The knee flexion ROM, muscle soreness at palpation, and countermovement jump height were measured before the eccentric exercise (baseline), before (pre-intervention) and after the VFR intervention (post-intervention), and 48 h after the eccentric exercise. The results showed that the static compression via VFR significantly ($p < 0.05$) improved the knee flexion ROM ($6.5 \pm 4.8\%$, $d = 0.76$), muscle soreness at palpation (-10.7 ± 8.6 mm, $d = -0.68$), and countermovement jump height ($15.6 \pm 16.0\%$, $d = 0.49$). Therefore, it can be concluded that static compression via VFR can improve muscle soreness and function.</p>
keyword	countermovement jump height; muscle soreness; muscle strength; pain pressure threshold; range of motion.

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