研究業績　英文表記

和文	
表題	異なる振動付きフォームローラー方法が腓腹筋筋腱複合体に及ぼす影響の検討
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英文	
Title	Acute effect of vibration roller with and without rolling on various parts of the plantar flexor muscle
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Abstract	A single use of a vibration foam roller likely increases the range of motion (ROM) without decreasing muscle strength and athletic performance. However, to date, no study compared the effects of a vibration roller with and without rolling on various parts of the plantar flexor muscle. Therefore, this study aimed to compare the effects of the vibration foam roller with rolling or without rolling at the muscle-tendon junction (MTJ) or the muscle belly on dorsiflexion (DF) ROM, passive torque at DF ROM, shear elastic modulus, muscle strength, and jump performance. Fifteen healthy young males performed the following three conditions: (1) vibration rolling over the whole muscle-tendon unit, (2) static vibration on muscle belly, and (3) static vibration on MTJ for three-set 60-s vibration in random order. In this study, DF ROM, passive torque, shear elastic modulus, muscle strength, and single-leg drop jump were measured before and immediately after the interventions. The DF ROM and passive torque at DF ROM were increased after all three conditions, whereas the shear elastic modulus was decreased after vibration rolling and static vibration on the muscle belly, but not following static vibration of the MTJ. In addition, there were no significant changes in muscle strength and jump performance in any group. Our results showed that vibration with rolling or static vibration on muscle belly could be effective to improve ROM and muscle stiffness without adverse effects of muscle strength and athletic performance.
keyword	concentric strength; drop jump; foam rolling; maximal voluntary isometric contraction; shear elastic modulus

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