研究業績　英文表記

和文	
表題	フォームローリング介入が他動的性質や脊髄興奮性に及ぼす影響の検討
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英文	
Title	Local and nonlocal effects of foam rolling on passive soft tissue properties and spinal excitability
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Abstract	In sports and clinical settings, roller massage (RM) interventions are used to acutely increase range of motion (ROM); however, the underlying mechanisms are unclear. Apart from changes in soft tissue properties (i.e., reduced passive stiffness), neurophysiological alterations such as decreased spinal excitability have been described. However, to date, no study has investigated both jointly. The purpose of this trial was to examine RM's effects on neurophysiological markers and passive tissue properties of the plantar flexors in the treated (ROLL) and non-treated (NO-ROLL) leg. Fifteen healthy individuals (23 ± 3 years, eight females) performed three unilateral 60-s bouts of calf RM. This procedure was repeated four times on separate days to allow independent assessments of the following outcomes without reciprocal interactions: dorsiflexion ROM, passive torque during passive dorsiflexion, shear elastic modulus of the medial gastrocnemius muscle, and spinal excitability. Following RM, dorsiflexion ROM increased in both ROLL (+19.7%) and NO-ROLL (+13.9%). Similarly, also passive torque at dorsiflexion ROM increased in ROLL (+15.0%) and NO-ROLL (+15.2%). However, there were no significant changes in shear elastic modulus and spinal excitability ($p > 0.05$). Moreover, significant correlations were observed between the changes in DF ROM and passive torque at DF ROM in both ROLL and NO-ROLL. Changes in ROM after RM appear to be the result of sensory changes (e.g., passive torque at DF ROM), affecting both rolled and non-rolled body regions. Thus, therapists and exercise professionals may consider applying remote treatments if local loading is contraindicated.
keyword	H/M ratio; cross-transfer effect; dorsiflexion range of motion; roller massage; shear elastic modulus.

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