

研究業績 英文表記

和文	
表題	異なる時間の Foam Rolling 介入が関節可動域, 筋ステイフネス, 筋力に与える即時効果と持続効果の検討
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英文	
Title	The acute and prolonged effects of different durations of foam rolling on range of motion, muscle stiffness, and muscle strength
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Abstract	<p>"Foam Rolling" has been used in sports settings to increase range of motion and decrease muscle stiffness without decreasing muscle strength and athletic performance. However, there has been no study investigating the acute and prolonged effect of different durations of foam rolling intervention on muscle stiffness, and the minimum foam rolling intervention duration required to decrease muscle stiffness is unclear. Therefore, the purpose of this study was to investigate the acute and prolonged effect of different durations of foam rolling intervention on ROM, muscle stiffness, and muscle strength. The 45 participants were randomly allocated to 1 of 3 groups (30 s × 1 times group vs 30 s × 3 times group vs 30 s × 10 times group). The outcome measures were dorsiflexion range of motion, shear elastic modulus of medial gastrocnemius, and muscle strength before, 2 min and 30 min after foam rolling intervention. There were no significant differences before and 2 min after foam rolling intervention in 30 s × 1 time group, whereas dorsiflexion range of motion was increased in both 30 s × 3 times group ($p = 0.042$, $d = 0.26$) and 30 s × 10 times group ($p < 0.01$, $d = 0.33$). However, the increase in dorsiflexion range of motion was returned to baseline value after 30 minutes in both 30 s × 3 times group and 30 s × 10 times group. In addition, there were no significant changes in shear elastic modulus and muscle strength in all groups. This study suggested that foam rolling for more than 90 s or more of foam rolling was effective in order to increase the range of motion immediately without changing muscle stiffness and muscle strength.</p>
keyword	Shear elastic modulus; dorsiflexion; gastrocnemius muscle; isometric muscle strength.

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