研究業績　英文表記

和文	
表題	4 週間のスタティックストレッチングが腓腹筋筋腱複合体の他動的性質に及ぼす効果の検討
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英文	
Title	Effects of a 4-week static stretch training program on passive stiffness of human gastrocnemius muscle-tendon unit in vivo.
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Abstract	Static stretch is commonly used to prevent contracture and to improve joint mobility. However, it is unclear whether the components of the muscle-tendon unit are affected by a static stretch training program. This study investigated the effect of a four-week static stretch training program on the viscoelastic properties of the muscle-tendon unit and muscle. The subjects comprised 18 male participants (mean age 21.4 ± 1.7 years). The range of motion (ROM), passive torque, myotendinous junction (MTJ) displacement and, muscle fascicle length of the gastrocnemius muscle were assessed using both ultrasonography and a dynamometer while the ankle was passively dorsiflexed. After the initial test, the participants were assigned either to a group that stretched for 4 weeks (N = 9) or to a control group (N = 9). The tests were repeated after the static stretch training program. The ROM and MTJ displacement significantly increased, and the passive torque at 30° significantly decreased, in the stretching group after the study period. However, there was no significant increase in muscle fascicle length. These results suggest that a 4-week static stretch training program changes the flexibility of the overall MTU without causing concomitant changes in muscle fascicle length.
keyword	Static stretch, Long-term effects, Ultrasonography, Muscle tendon unit, Gastrocnemius

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