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Ligaments and the Sensory-Motor Control of Knee Motion and Stability

Muscular co-contraction and control of knee stability

S. Hirokawa, M. Solomonow, Z. Luo, Y. Lu, R. D'Ambrosia

Bioengineering Laboratory, Department of Orthopaedic Surgery, Louisiana State University Medical Center, New Or U.S.A.

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Abstract

A computerized radiographic technique was used to determine the effect of hamstrin co-contraction on the stability of the joint during isometric knee extension. Data collected fro knees showed that significant anterior displacement and internal rotation of the tibia oc isolated quadriceps loading, whereas significant reduction in anterior displacement and rota upon simultaneous low-level loading of the hamstrings in the range of motion of 15° Hamstrings co-contraction was ineffective in the range of 0°–15° of flexion. Larger ham resulted in more pronounced reduction in the anterior displacement and rotation of the tibia. W that hamstring co-contraction has significant effect on maintaining knee stability, providir action to the anterior cruciate ligament (ACL) by preventing excessive anterior displacemen rotation of the tibia. We also concluded that hamstring strength training is essentia conservative treatment of ACL-deficient knees, as an adjunct therapy to ligament repair pr as preventive therapy in high-performance athletes subject to potential risk of ligamentous inj

Keywords

Co-contraction; Knee; Ligament; Movement

Address correspondence and reprint requests to Dr. M. Solomonow at Department o Orthopaedics, LSU Medical Center, New Orleans, LA 70112, U.S.A.