

## **THE PROGRESSION OF JOINT WORKLOADS AND THE RECOVERY OF STRENGTH AFTER CARTILAGE INJURY AND REPAIR**

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Quadriceps weakness and loss of proprioception occur in those with knee osteoarthritis (OA). Proprioceptive deficits and quadriceps weakness have been implicated in the development of osteoarthritis. Altered efferent input also affect the reflexive activation of the quadriceps and could prevent appropriate muscle responses to joint loads. The association of weakness and OA was demonstrated by investigators who studied the effect of quadriceps femoris muscle weakness on the development of OA in elderly, community dwelling men and women. As would be expected, people with pain and radiographic evidence of OA had greater quadriceps strength deficits and functional limitations than those without pain or evidence of OA. Individuals with radiographic evidence of OA and no pain, however, also had significant quadriceps strength deficits.

This suggested that quadriceps weakness might precede the development of OA in the knee. Even relatively small increases in quadriceps femoris strength predicted a 20-30% decrease in the odds for having OA. Rehabilitation of strength and functional deficits in those with cartilage injury and after articular cartilage repair requires a gentle balancing of competing biological principles. Joint load must be modulated, while allowing for maintenance and improvement in muscle strength and function.

This presentation will present an evidence-based approach for the progression of joint workloads and the recovery of strength after cartilage injury and repair.

### **Bibliografia**

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