Two-strand posterior cruciate ligament reconstruction with a quadriceps tendon-patellar bone autograft: technical considerations and clinical results

References:


Abstract: In patients with complete posterior cruciate ligament (PCL) ruptures in which 10 mm or more of increased posterior tibial translation is detected, associated knee disorders must be treated at the same time as the PCL injury. Varus malalignment and any abnormal medial or lateral ligament deficiency must be corrected before or with PCL reconstruction to avoid the risk of failure of the PCL graft. Gait retraining is recommended for patients with abnormal knee hyperextension patterns before ligament reconstruction is performed. Advances in PCL reconstruction include the use of a two-strand graft that may be placed using either a tibial inlay or an all-arthroscopic tibial tunnel technique. Biomechanical studies have shown a reduction in graft tension and improved load sharing in these constructs compared with single-strand reconstructions. The tibial inlay method can be used in athletic patients, and it also is required in PCL revisions in which a prior tibial tunnel must be avoided to achieve graft fixation. The tibial tunnel technique is used to treat dislocated knees for which reconstruction of multiple knee ligaments is required or when prior arterial injury or posterior skin or muscle damage limits the indications for a posterior open approach. Postoperative rehabilitation should protect the PCL graft from high forces and repetitive cyclic knee motions during the first 4 weeks postoperatively.