

Anterior Cruciate Ligament Reconstruction Technique Using Outside-In Tibial Tunnel Drilling and Suspensory Fixation Devices

Byung Hoon Lee¹, Yeokyung Kang², SANG-JIN LEE³, Jaeang Sim⁴

¹Gachon University, Gil Medical Center, ²CORENTEC, ³Department of Orthopaedics Surgery, ⁴Department of Orthopaedics Surgery, Gachon University Gil Med Center

Lack of consensus exists on the minimum acceptable hamstring autograft size, which generally ranges from 6 to 9 mm. With every 0.5 mm increase in diameter, there is a considerable reduction in the likelihood of revision surgery for hamstring tendon grafts. A recent meta-analysis suggests 7 mm as a cutoff value for graft diameter, substantially decreasing the graft failure rate; however, attaining the appropriate diameter is technically difficult, even if a small-diameter graft is harvested. A possible solution is folding the graft in more strands (ie, reconstruction with five- or six-strand grafts via outside-in tibial tunnel drilling and using two suspensory fixation devices as a tightrope in side and remnant preservation techniques). The five-strand graft preparation technique is shown, explaining how the graft can be folded. All-inside anterior cruciate ligament reconstruction was first introduced by Morgan in 1995. Since then, this technique has progressed and advanced with the development of instruments and adjustable-loop fixation devices. All-inside anterior cruciate ligament reconstruction is associated with some substantial advantages, such as less scarring and lower pain scores. This video introduces the authors' surgical techniques, including all-inside anterior cruciate ligament reconstruction using hamstring autograft and all-inside double-bundle anterior cruciate ligament reconstruction using tibialis anterior allograft.