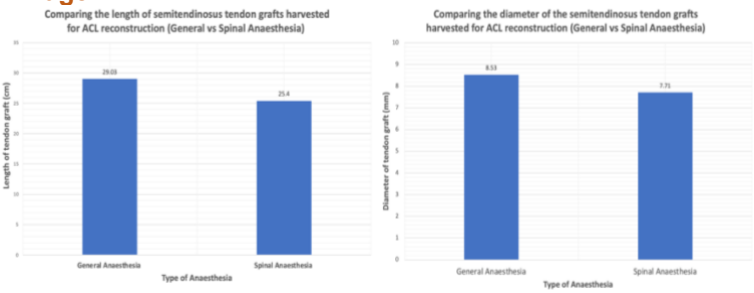
Influence of anesthesia on harvesting the semitendinosus tendon for ACL replacement

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Abstract (300 word limit)

Objective: Semitendinosus (ST) tendon is a commonly used graft for anterior cruciate ligament (ACL) repair. The longer the tendon, the more often can it be folded, yielding a bigger diameter and better stability. Our aim was to investigate, if the kind of anaesthesia is a relevant factor influencing the length of the harvested semitendinosus tendon.
Methods: This prospective, non-randomized study included patients undergoing ACL replacements at a single unit. The patients chose between spinal and general anaesthesia. If general anaesthesia was chosen, a short relaxation period was applied while harvesting the ST tendon. The data for tendon length, the folding factor and the diameter of the graft was collected. Except redo procedures and repairs with allograft, all patients undergoing an ACL replacement were included.
Results: 31 patients with general anaesthesia (GA) and 14 patients with spinal anaesthesia (SA) were examined. The ST tendon length was 29.03 cm ± 2.6 cm in the GA group and 25.4 cm ± 2.70 in the SA group (p=0.0001). The ST tendon could be quadrupled in 23 patients in the GA and 6 patients in the SA group ($\chi 2$=4.13, p=0.04). The graft diameter obtained was 8.53 mm ± 0.62 mm in the GA group and 7.71 mm ± 0.47 mm in the SA group (p<0.0001).
Conclusion: GA with short time relaxation while harvesting the ST tendon for ACL grafting allows to harvest longer ST tendons and consequently yields better results regarding the graft dimensions and should be offered to patients as a first choice.

Image



Recent Publications

1. Park SY, Oh H, Park S, Lee JH, Lee SH, Yoon KH. Factors predicting hamstring tendon autograft diameters and resulting failure rates after anterior cruciate ligament reconstruction. Knee Surg Sports Traumatol Arthrosc. 2013;21(5):1111-8.
2. Conte EJ, Hyatt AE, Gatt CJ, Dhawan A. Hamstring autograft size can be predicted and is a potential risk factor for anterior cruciate ligament reconstruction failure. Arthroscopy. 2014;30(7):882-90.
3. Mariscalco MW, Flanigan DC, Mitchell J, Pedroza AD, Jones MH, Andrish JT, et al. The influence of hamstring autograft size on patient-reported outcomes and risk of revision after anterior cruciate ligament reconstruction: a Multicenter Orthopaedic Outcomes Network (MOON) Cohort Study. Arthroscopy. 2013;29(12):1948-53.
4. Spragg L, Chen J, Mirzayan R, Love R, Maletis G. The Effect of Autologous Hamstring Graft Diameter on the Likelihood for Revision of Anterior Cruciate Ligament Reconstruction. Am J Sports Med. 2016;44(6):1475-81.
5. Boniello MR, Schwingler PM, Bonner JM, Robinson SP, Cotter A, Bonner KF. Impact of Hamstring Graft Diameter on Tendon Strength: A Biomechanical Study. Arthroscopy. 2015;31(6):1084-90.



Biography

Dr Borsky is a surgical trainee in the NHS, United Kingdom training to become a plastic surgeon and has recently passed her MRCS examination to become a Member of the Royal College of Surgeons. Besides her clinical work, she has a special interest in research and has just recently completed her MD at the University of Zurich. She has been involved in both orthopedics and plastic surgery research. Her main area of interest is anterior cruciate ligament reconstruction where she collaborates with a Swiss Orthopedic Centre in her research. Furthermore, she is part of an international research group MDRCollab that focuses on trend analysis.

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