

## **ACL ARTHROSCOPIC RECONSTRUCTION WITH DOUBLE-STRANDED HAMSTRING TENDONS**

**R. Buda, E. Vemi, M. Guzzardella, E. Montanari and S. Giannini**  
**Clinica Ortopedica-Istituto Ortopedico Rizzoli-Via G.C. Pupilli,**  
**I- 40136 –Bologna, Italy**

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**INTRODUCTION:** In the past the ACL reconstruction was performed using patellar tendon. This technique involved several advantages like post operative good stability and easy tendon gathering. Nevertheless it causes some disadvantages like pain during the act of kneeling, longer period of rehabilitation because of the tendon stiffness and dysfunction of the patella movement that can provoke patellar-femoral osteoarthritis. This is the reason why a lot of authors tried to find out other techniques that could avoid these complications. We practised the ACL reconstruction using doubled semitendinosus and gracilis tendons because it is demonstrated that they have a biological structure and biomechanical behaviour more similar to normal ACL. In this sense the use of these tendons must include tensibility closer to normal ACL, larger surface of revascularization and low risk of joint stiffness after surgery. The purpose of the present study is to evaluate clinical results using this technique in patients involved both in not professional and professional sports.

**METHODS:** Sixty patients involved either in recreational or professional sports were consecutively treated in 1995. 20 patients were professional athletes while 40 practised amateur sports or physically demanding works. The patients had chronic antero-lateral laxity and the time lapse between injury and surgery was more than 6 months. The surgical technique involved detaching the tendons proximally, leaving them inserted at the tibial level. The tendons were passed through the joint and into a tibial tunnel. Then going "over the top", they were fixed in the external femoral retrocondylar site by a metal staple. Finally, they were tipped up backwards through the joint and into tibial bone tunnel and sutured onto the distal insertion of the hamstring tendons. Clinical and instrumental data were collected with a mean 4 years follow-up associated with the IKDC guidelines

**RESULTS AND DISCUSSION:** The results were: 24 A, 30 B, 5 C, 1 D. In 16 patients (13 B, 3 C) there was a pivot-shift grade 1+ (glide); 3 patients (2 C, 1 D) had grade 2+ (clunk). All the professional athletes returned to their own activity at the same level pre-injury. All the reminders (recreational sports) returned to their own activity except 5: 4 (1 B, 3 C) changed type of sport after surgery, and 1 patient could not return to sport.

**CONCLUSION:** Doubling the graft provides better mechanical resistance and a lower risk of laxity in the long term. The biological characteristics of the new ligament, encouraging early revascularisation, enable faster functional recovery. We perform this technique for ACL replacement successfully not only in non-professional athletes, but overall in the professional ones.