Increased Knee Laxity With Hamstring Tendons Autograft Compared to Patellar Tendon Autograft. (*A cohort study of 5462 patients with primary anterior cruciate ligament reconstruction)*

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Introduction: The graft choice for the anterior cruciate ligament reconstruction (ACLR) remains controversial. The purposes of this study were to analyze differences in knee laxity after ACLR with bone-patellar-tendon-bone autograft (BPTB) and Hamstring tendons autograft (HT) and whether graft choice or post-operative knee laxity affect patient-reported outcome measures (PROMs).

Patients and methods: In total 8,125 patients have undergone a primary ACLR at Capio Artro Clinic from 1 January 2000 to 31 October 2015. After applying all the exclusion criteria, data from an eligible cohort of 5462 patients, composed by 692 BPTB and 4770 HT were analyzed. Anterior knee laxity was assessed pre-operatively and at 6 months post-operative follow-up, using the KT-1000 arthrometer. Subjective knee function was evaluated at1 year follow-up using 3 PROMs: *KOOS*, *Lysholm score* and *EQ5-D index.*

Results: Both grafts show a significant reduction of the pre-operative anterior knee laxity, but HT results in significantly higher post-operative laxity compared to BPTB. A significant difference in improvement in four out of five KOOS subscales was found in favor of HT. No correlation was found between post-operative anterior knee laxity and both KOOS and Lysholm score.

Discussion: In the recent years graft choice for ACLR is shifted toward favoring HT. We have showed that BPTB give better post-operative laxity although is not correlated with better subjective knee function. The potential effects of a greater laxity in the ACL-reconstructed knees are unknown.

Conclusions: The data presented in this study give reason to reconsider the use of BPTB for ACLR.