Ergebnisse und Schlussfolgerung: 53 Patienten (83% FU) wurden 63,2 ± 4,7 Monate nach der Operation, 28 Patienten in der DB-Gruppe und 25 Patienten in der EB-Gruppe untersucht. IKDC subjective (EB: 92,8 ± 6,2, DB: 91,6 ± 7,1, p = 0,55) und IKDC objective (Grade A: EB / DB 20% / 25%, B: EB / DB 72% / 57%, C: EB / DB 8% / 18%, D: EB / DB 4% / 0%, p = 0,45) zeigten keine signifikanten Unterschiede zwischen den beiden Gruppen. Die Laxitester®-Messungen zeigten keinen signifikanten Unterschied in Bezug auf die ap-Translation in Neutralstellung, Innen- oder Außenrotation oder in den Rotationswinkeln (p = 0,79). Hinsichtlich der arthrotischen Veränderungen und der Tunnelerweiterung wurde kein Unterschied zwischen den Gruppen festgestellt.
Schlussfolgerung: Im 5-Jahres-FU zeigt die VKB-R in DB- gegenüber EB-Technik keinen Vorteil im ,,patient related" Outcome und objektiven Outcome.
Schlüsselwörter: Vorderes Kreuzband, Einzelbündeltechnik, Doppelbündeltechnik, 5-Jahresergebnisse

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Single versus double-legged jump biomechanics in patients following anterior cruciate ligament reconstruction

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Fragestellung: Jump task performance during rehabilitation of patients following anterior cruciate ligament reconstruction (ACLr) is a well-accepted indicator for return to physical activity. However, evaluation of loading asymmetries of these tasks has been overlooked. Knowing the relationship between cartilage modifications and altered loading thereby leading to early onset of knee osteoarthritis, evaluation of loading asymmetries needs to be addressed. This study therefore aims at evaluating general loading conditions during single and double legged jumps of ACLr patients using force platform derived parameters.
Methodik: Three-dimensional motion analysis of a drop vertical jump (DVJ) and a side-hop jump (SH) was performed in a rehabilitated cohort of 17 patients with unilateral ACLr (9 months since surgery, 6 bone-patellar-tendon-bone/11 hamstring grafts) and in 27 healthy age/BMI-matched controls. Landing from the jumps was performed on 2 separate floor-embedded force platforms sampling at 1000 Hz. DVJ was performed from a 40-cm box and the SH was realized over 30s. Lateral and medial jumps of the SH were separately evaluated. For both groups, involved and non-involved leg was considered (randomly attributed in controls). Peak vertical ground reaction force (vGRF, unit: *Bodyweight, BW), instantaneous and vertical loading rates (*BW/s) were computed and averaged over 3 DVJ, as well as lateral and medial jumps over 30s. A mixed model analysis of variance was independently used for each test to investigate differences between groups and legs ($p < 0.05$).
Ergebnisse und Schlussfolgerung: All loading parameters were found greater during the SH test in comparison with the DVJ. Overall, peak vGRF was twice as high during SH when compared to DVJ, 2.53BW and 1.25BW respectively. No significant group-by-leg interactions were found for any of the variables in any of the tests. However, significant leg effect was found for peak vGRF during medial jumps of the SH test. The largest difference was observed in patients with greater values at the non-involved leg (2.51 ± 0.27, 2.63 ± 0.38 for the involved and non-involved leg respectively). A tendency towards significant leg effect ($0.07 < p < 0.09$) was found for peak vGRF for the DVJ and lateral jumps of the SH. For each task, increased peak vGRF of the non-involved leg of ACLr patients was observed.
Our study illustrates that in rehabilitated patients, a tendency towards loading asymmetry during jump task is observed. Such finding illustrates that force platform could be a useful tool in clinical practice for the clinical decision making process. Achieving loading symmetry during jump task could be a therapeutic target to improve long-term patient outcome following ACLr.

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Lateral meniscal slope negatively affects post-operative anterior