

CO0290

## Evolution of the anteroposterior laxity by GnRB at 6, 9 and 12 months post-surgical anterior cruciate ligament reconstruction



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**Objective** This study aimed to analyze the evolution of the tibiofemoral anterior laxity during the return to sport after anterior cruciate ligament reconstruction.

**Patients and methods** Twenty patients (11 women, 9 men) with mean age of  $22.4 \pm 5.1$  years, operated for ACL reconstruction by a hamstring technique, competitors in a pivot-contact sport, were enrolled between September 2014 and March 2016. They were evaluated at 6 ( $n=20$ ), 9 ( $n=13$ ) and 12 ( $n=13$ ) months postoperatively by laximetry to 250 N using laximètre GnRB® (GenouROB, Laval, France). The differential between laxity uninjured side and operated side in mm, and the difference in slope of the curve laxity according to the force applied between the two sides percentage, on each testing time, were selected. The average values at each time were compared using a *t*-test of Student.

**Results** The average differential laxity increases insignificantly by  $1.4 \pm 1$  mm to  $1.7 \pm 1.3$  mm between 6 and 9 months postoperatively ( $P=0.17$ ) and significantly decreased to  $0.95 \pm 0.5$  mm at 12 months postoperatively ( $P=0.02$ ). The slope difference increased from 9% to 15% between 6 and 9 months after surgery ( $P=0.05$ ). Between 6 and 12 months postoperatively, the difference in slope (9% and 11%, respectively) was not significant ( $P=0.1$ ). Residual laxity was significantly greater in women at 6 months postoperatively, 1.9 mm vs. 0.9 mm ( $P=0.002$ ); this difference was no longer significant at 9 and 12 months postoperatively.

**Discussion/Conclusion** Our study reported a significant change in the anterior-posterior laxity between 9 and 12 months postoperatively. These results suggest that the laxity is not only the result of isometric positioning of the transplant but probably also of the transplant ligamentisation phenomena by collagen remodeling to mechanical stress, but also the local muscle condition or exposure to hormonal factors. These results, which show a normalization of laximetry to 12 months postoperatively, make us cautious when a premature return to sport without satisfactory joint control. So, it seems that in sports recovery decision, the analysis of the ligament laxity is a relevant parameter to use.

**Keywords** Knee ligamentoplasty; GnRB; Return to sport

**Disclosure of interest** The authors declare that they have no competing interest.

<http://dx.doi.org/10.1016/j.rehab.2016.07.045>

CO0291

## How to evaluate precisely return to sport after anterior cruciate ligament tear with operative or conservative treatment on patients with moderate sport level?



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**Objective** Several ways exist to assess return to sport (RTS) after anterior cruciate ligament tear (ACLT): main sport or anterior level, pivoting contact sports or competition. Performing a relevant evaluation is difficult especially for moderate level patients. Our objective was to evaluate the reliability of these different outcomes after ACLT; then to assess the concordance between each other.

**Patients and methods** Fifty-eight patients with moderate sport level were included (mean age  $33.6 \pm 12.4$  years; 38 men vs. 20 women; 69% of operated, at  $17.1 \pm 5.3$  months; Tegner before injury at  $6.3 \pm 1.9$  vs.  $4.9 \pm 1.7$  after RTS). Return to sport was declarative patients answering yes/no to main sport, previous level, pivoting contact sport, competition. A global level of RTS was measured as the variation of Tegner score and weekly hours of practice before/after ACLT (Tegner score  $\times$  weekly hours of practice).

**Results** Fifty-one percent of patients returned to main sport, 28% to anterior level (of whom 56% to anterior level of main sport), 31% to same global activity level, 19% to competition, 43% to pivoting contact sport. "Tegner.hour score" has decreased by  $16.3 \pm 33.6$  after surgery. There was a strong discordance between declarative RTS and return to similar global activity level with Kappa coefficient respectively of 0.19, 0.17, 0.05 and 0.29 for main sport, previous level, pivoting contact sport, competition.

**Discussion/Conclusion** We confirmed low RTS rates with a clear discordance between different outcomes of RTS. Considering the global activity volume calculated with Tegner score (Tegner.hour) is an interesting alternative scale to evaluate RTS for moderate sport level patients.

**Keywords** Anterior cruciate ligament; Return to sport; Tegner  
**Disclosure of interest** The authors declare that they have no competing interest.

<http://dx.doi.org/10.1016/j.rehab.2016.07.046>

CO0292

## Functional tests can they help in the decision to return to sports after anterior cruciate ligament? Example with Hop tests



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