

CRITERIA OF THE RETURN TO SPORT AFTER RECONSTRUCTION OF THE ANTERIOR CRUCIATE LIGAMENT

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Abstract

Background: Despite the progress of reconstruction techniques for the anterior cruciate ligament (LCA), the return to sport after this surgery remains a challenge. The absence of good knowledge in the measures of appropriate results after ACL rehabilitation can lead the patients to return to play prematurely, making them in front of a high risk of injury again later. Over one-third of athletes are unable to resume their sport at the same level and almost one fifth will suffer from new accident during this recovery, either on the operated knee or contralateral knee. While the fear of another accident remains the biggest obstacle to return to sport, persistent functional deficits is the leading cause of recurrence tear.

Objective: to conduct an environmental study of clinical practice surgeons and physiotherapists decision making in the return to sport (RTS) after ACL ligament; and to gain a better understanding of how clinicians take the suitable decision to back to the sport.

Participants: 34 physiotherapists and 11 orthopedic surgeons are included in this study.

Interventions: Lebanese surgeons and physiotherapists completed distinct and validated questionnaires which consisted of 10 closed questions, each including a sections on demography, outcome measurement, treatment and procedures including the decisions of the RTS.

Data collection: The main measures were the descriptive and subjective collected from orthopedic surgeons and physiotherapists. The use of measures of clinical outcomes by the two groups is qualitatively analyzed for similarities between the professions and criteria recently proposed consensus used to decide the RTS. The level of agreement for the definition of success for the RTS following a ligamentoplasty ACL was explored by the frequency of response for each item.

Results: Analysis of the results show that 90% of participants consider that physiotherapists have a vital role in the decision making to return to sport after ACL reconstruction. In addition, several measurement scales are mostly used for evaluation of ACL as the jump test, Lachman test, pain ... while the analysis of the Pearson correlation between the number of patients taken by year and the criteria of success of the decision to return to ground shows a very weak correlation ($P < 0.452$), which reflects the poor experience of Lebanese physiotherapists in the selection of the factors influencing the return to sport.

Conclusion: The results show a lack of scientific knowledge in the participants on valid tests that can be used for clinical decision-making to return to sport after ACL reconstruction. Future studies are recommended to verify these results with a large number of participants.

Keywords: Anterior cruciate ligament, surgery

Methodology of the research

Hypothesis:

A small number of orthopedic surgeons, physiotherapists and even members of the medical team know the factors that influence on the resumption of sport and clinical rating scales after rehabilitation.

Methods:

- 10 validated and closed questions were asked exploratory surgeons and physiotherapists to consider initial support for the concept of the possibility of expanding the role of physiotherapists in decision making after surgery.
- Items on demographics, measurement scales, treatment protocols and the decision of the RS.

- The statistic was performed based on the analysis of the correlation between the different items that influence decision making back to the sport using the Pearson correlation.

Criteria:

- Inclusion criteria:
 - Specialized in orthopedic knee surgery.
 - Specialized physiotherapists.
 - Physiotherapists who work in specialized centers.
 - Informed Consent.
- exclusion criteria:
 - Non-specialized in orthopedic ACL.
 - Non-specialized physiotherapists ACL.
- Primary choice about the type of the surgery:
 - Kenneth-Jones technique: Most popular with 81,8% of the cases.
 - Graft of hamstring’s and Patella’s tendon: second choice with 9.1 %.

Results:

Fig 1: List by the scales of measure used and that affect the decision.

Fig 2: role of physical therapist in the decision in RTS.

Fig 3: Functional stability: importance factors for the performance.

	Functiona l stability	Participatio n without pain	Participatio n with pain	Canno t do sport	Sport reduce d	Functiona l limitation	Performanc e reduced	None deficit
Nb of patient s	Pea = 0.34 P = 0.049	Pea = 0.185 P = 0.318	Pea = 0.212 P = 0.23	Pea= 0.012 P 0.948	Pea =-0.108 P 0.544	Pea= 0.183 P = 0.309	Pea =-0.416 P= 0.014	Pea = 0.452 P=0,00 7

Pea: pearson

Table showing the corelation between Professional experience pf the physical therapist and the factors that influence the sucess of RTS.

Discussion of results:

- Time: more than 6 months for the Kenneth-Jones (36.4% MD and 32.4% PT) for hamstring's grafting (54.4% MD and 44.1% PT).
- 26.5% of physiotherapists reported more than 5 months for RS.
- Results do not reflect the real situation due to the small number of integrated orthopedic.
- More than 90% of participants consider that physiotherapists have an important role in clinical decision making in the recovery of the sport.
- The standardized terminology for the success of RS facilitates comparisons between studies and provides meaningful goals for the patient during rehabilitation.
- The return to play was not clearly defined in regard to the frequency or type of sport participation. Lynch et al. (2013).
- The definition of return to sport among orthopedists and physical therapists in Lebanon remains a major problem that influences the decision to recover from an ACL injury.
- The Pearson correlation between the number of patients per year and the selection of the SR of success criteria varies in a range of 0.012 and 0.452: not acceptable and reflects the lack of correlation. So no fixed and stable criteria or clear definitions on the resumption of sport.

Scale of measure:

- Participants use a minimum of 4-5 outcome measures.
- Essential tests: jump testing, Biodex, range of motion, Lachman test, pain, edema and functional movements
- Tests Unused: IKDC tests, Marx activity scale Knee, Tegner scale, Lyshlom scale, KT-1000 and ACL - RSI scale
- Contradiction on the criterion of knowledge: bad pain sucked in the criteria of the RTS or even their definition.
- Time constraints clinicians: obstacle to participation in research and perhaps contributed to the low survey response.
- Despite a minimal number of questions, the non-response rate was high for all groups.
- We cannot say that these results objectively reflect the real situation of all physiotherapists and orthopedic surgeons Lebanon.

Conclusion

- The role of physiotherapist in the clinical decision remains unclear and is not well known.
- Most orthopedic and physiotherapist uses more than four analytical scales such as jumping tests, Biodex, range of motion, Lachman test, pain, swelling and functional movements

- Lack of information regarding analytical test and overall test (IKDC Knee. Marx), and even the psychological test (ACL RSI-scale).
- The functional stability: an important factor in making sports recovery decision in participants.
- Contradiction between the participants about the other factors.
- The KJ and hamstring graft are the two most widely used techniques with a delay of more than six months for the resumption of sport

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