Reviewer's report

Title: Anterior cruciate ligament (ACL) reconstruction with quadriceps tendon autograft and press-fit fixation using an anteromedial portal technique

Version: 2 Date: 2 April 2012

Reviewer: David Logerstedt

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Major Compulsory Revisions

1. The results section provides very little data to accurately determine the success or failure of this technique. The only data presented is IKDC scores (not able to interpret the meaning). Did all subjects regain full ROM, normal strength, normal functional performance, normal patient-reported outcomes? Were there any complications (i.e. persistent effusion)? Did any subjects return to their previous level of activity? Were there any graft failures?

2. The authors stated this was a prospective study with pre-operative, 6 weeks, 6 and 12 months follow-up. Why is this data not presented?

3. Page 7, line 15: Research is clear that quadriceps function is more affected after ACL reconstruction than hamstring function, even if a hamstring graft is used (deJong 2007, Keays 2001). Secondly, quadriceps function is related to overall knee function, whereas only a low relationship between hamstrings function and overall knee function has been established. (Eitzen 2010, Lewek 2002, Ardern 2010, Risberg 2009) The use of a quadriceps tendon graft can have an effect on the extensor mechanism and impact overall quadriceps function. So why is the main goal is to preserve hamstring function?

4. Page 8, line 7-8: What do the IKDC grading mean? Six times A and one time B. Does this mean there are only objective scores on 7 patients?

5. The authors provide a rationale that the press-fit technique using a anteromedial approach can be performed. However, they provide no data that this technique is superior or even equal to other press-fit techniques. Please provide data on ROM, thigh strength, and passive joint laxity with arthrometry, if available.

6. They state one of the major goals was to preserve hamstrings function but provide no data on any muscle function. Please provide data if available.

7. Additionally, the authors only used one outcome measure to determine success however do not discuss their results to other published results on press-fit techniques. Please provide additional outcome measures if available.

Minor Essential Revisions
1. Page 3, line 8: Provided a statement that press-fit quadriceps grafts were inserted using a transtibial approach, but no clear rational why anteromedial approach may be better.

2. Page 3, line 10: Goal or purpose of this study is different from the goal stated on page 7, line 15.

3. Past tense should be used throughout the methods and results.

4. Page 4, line 14: # should be in words as it starts the sentence.

5. Page 7, line 7: What is considered a standardized rehab protocol? Were there any ROM limitations? Were there any other limitations placed on patients to prevent graft pull-out?

6. Page 7, line 7: Why was partial weight-bearing used? How much partial weight-bearing (% of weight-bearing)? Others have used early full weight-bearing without graft pull-out. How earlier were guidelines from return to activity?

7. Page 7, line 11: remove “sporty”

8. Page 7, line 20: Define reconstructive cartilage repair. Were restorative (microfracture, OATS) included and reparative (ACI) excluded? Not sure which as on page 3, line 16, “cartilage surgery may have been performed”.

9. Page 8, line 7: What does “stable knee” mean? There is no clinical or arthrometry measurements to suggest that passive knee stability was present. Additionally, there were no data presenting giving way episodes.

Discretionary Revisions

1. Please have the authors number the lines.

2. Page 3, line 16: What type of meniscus or cartilage surgery was performed? Performing an additional concomitant repairs could affect the overall results of the study.

3. Page 7, line 7: How earlier were guidelines from return to activity?

4. Page 7, line 22: Which IKDC form was used? Based on their results, it would be the IKDC objective (four grades) scores.

5. It is not clear if this was the one-year follow-up. I assume it was as 13 patients were not evaluated at this time point.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable
**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests