Reviewer's report

Title: Biomechanical comparison between single-bundle and double-bundle anterior cruciate ligament reconstruction with hamstring tendon under cyclic loading condition

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Reviewer number: 2

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The SMARTT Editorial
MS: 196578989573093
Biomechanical comparison between single-bundle and double-bundle anterior cruciate ligament reconstruction with hamstring tendon under cyclic loading condition

Major Compulsory Revisions

The author must respond to these before a decision on publication can be reached.

Authors compared the anterior tibial translation (ATT) of the anterior cruciate ligament (ACL) reconstructed-knee between single-bundle and double-bundle ACL reconstruction under cyclic loading. They concluded that deformation of hamstring tendon after cyclic loading might result in deterioration of knee stability after ACL reconstruction, and is one of disadvantages of soft tissue graft and that the double-bundle technique might be preferable for ACL reconstruction with the hamstring tendon graft. This manuscript is clinically reasonable, and convincing in many points with appropriate references. However, the authors should address the following points before publication in SMARTT.

Page 5, line 10
Did authors measured rotational instability before and after cyclic loading?

Page 5, line 12
It is still difficult to understand “ATT” and “Laxity increase”. Authors should explain more detail about “ATT” and “Laxity increase” to convince the importance of both parameters.

Page 5, line 12
Did authors measure ACL intact knee after 500 cycles? Even ACL intact knee may get loosen after 500 cycles of anterior tibial loads.

Page 5, line 22
Were cross-sectional areas of the graft of each bundle measured? The
cross-sectional area should be equal in both SB and DB reconstruction. Otherwise, “thicker graft is better” may be only the message of this article.

Page 8, line 3-4
“ATT in ACL-deficient knee was significantly improved in both SB (11.8±3.6 mm) and DB reconstruction (10.1±4.0 mm)”
These numbers looks a little bit greater than intact knee. Did Your ACL reconstruction restore normal knee kinematics?

Page 8, line 12
It is still difficult to understand “ATT” and “Laxity increase”. Authors should explain more detail about “ATT” and “Laxity increase” to convince the importance of both parameters.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.