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Supplementary Appendix

Rehabilitation Protocols:

- Patients were allowed to bear weight with an ACL brace locked in full extension as tolerated immediately after the operation.
- Open chain exercises and calf raise training were started on the first day after surgery. Progressive range of motion exercise was performed with a brace unlocked from 0° to at least 90° and full extension exercise was also performed loaded with 10 to 15 kilograms on the knee aiming for full flexion and extension by week 6.
- The brace was removed at 6 weeks after surgery. Squats against the wall, step-up exercises and a perturbation training were started at 7 weeks postoperatively.
- After the home-based rehabilitation, running was permitted 3 months after the operation in terms of the muscle strength and knee function.
- No specific return-to-sport criteria was used, while non-contact and competitive sports activities were allowed 6 months and 12 months after surgery separately.

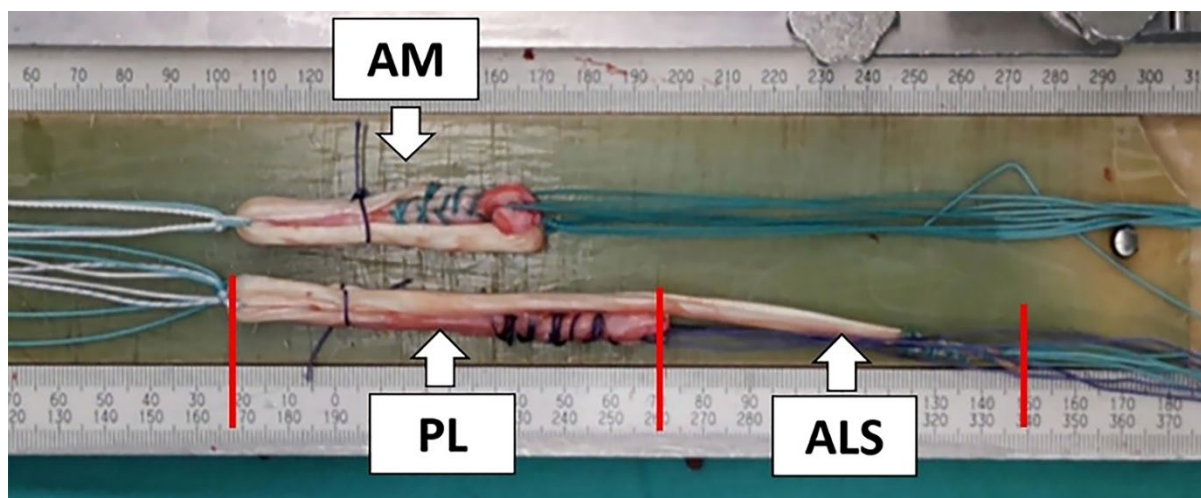


Figure S1. Grafts Preparation. Anteromedial bundle graft was made from ST, while a combined graft for posterolateral bundle and anterolateral structure from the GT and AHPLT.

AM, graft for AM bundle of ACL; AHPLT, the anterior half of the peroneus longus tendon; ALS, the two-stranded part of the combined tendon for ALS;

GT, gracilis tendon; PL, the four-stranded part of the combined tendon for ACL PL bundle; ST, semitendinosus tendon.

[Reprinted from *Arthrosc Tech*, 9(8), Zhao J, Qiu J, Chen J, et al., Combined Double-Bundle Anterior Cruciate Ligament Reconstruction and Anterior Cruciate Ligament-Mimicking Anterolateral Structure Reconstruction, e1141-e1146, Copyright (2020), with permission from Elsevier]