

## Clinical outcomes of double-vs single-bundle anterior cruciate ligament reconstruction: A systematic review of randomized control trials

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### Abstract

**Background:** Clinical outcomes of anterior cruciate ligament (ACL) reconstruction with double-bundle and single-bundle techniques are still controversial. We therefore performed a systematic review to compare postoperative outcomes between the two techniques.

**Method:** Randomized control trials comparing the outcomes between the two techniques were identified from Medline and EMBASE since inception to April 27, 2011. Data were independently extracted by two reviewers.

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**Results:** Thirteen of 318 studies were eligible; and 9, 11, 7, and 8 studies were pooled for rotation, translation, function, and complication outcomes, respectively. The double-bundle technique was approximately four times (95% CI: 2.65, 11.99) and two times (95% CI: 1.16, 5.21) more likely to show a normal pivot shift and normal International Knee Documentation Committee (IKDC) grading compared with the single-bundle technique. However, there were nonsignificant differences in KT grading (OR = 1.66, 95% CI: 0.77, 3.82), IKDC score (0.29, 95% CI: -1.17, 1.75), Lysholm knee score (-0.87, 95% CI: -2.66, 0.93), Tegner activity score (0.37, 95% CI: -0.05, 0.79), and complications (OR = 1.11, 95% CI: 0.48, 2.57). Heterogeneity was present in some outcomes but there was no evidence of publication bias for any outcome.

**Conclusion:** The double-bundle may be better than the single-bundle ACL reconstruction technique in rotational stability but not for function, translation, and complications.

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