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Is There a Higher Failure Rate of Allograft when Compared to Autograft in Anterior Cruciate Ligament Reconstruction: A Systematic Review of Overlapping Meta-Analyses

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Summary:
According to this systematic review of overlapping meta-analyses comparing autograft and allograft for ACLR, the current best available evidence suggests no differences in rupture rates and clinical outcomes

Abstract:
PURPOSE
Multiple meta-analyses of randomized-controlled trials, the highest available level of evidence, have been conducted to determine whether autograft or allograft tissue provides superior clinical outcomes and structural healing in anterior cruciate ligament reconstruction (ACLR); however, results are discordant. The purpose of this study was to conduct a systematic review of meta-analyses comparing ACLR with autograft and allograft in order to elucidate the cause of discordance and to determine which meta-analyses provide the current best available evidence.

METHODS
In this study we evaluated available scientific support for autograft versus allograft use in ACLR by systematically reviewing the literature for published meta-analyses. Data was extracted from these meta-analyses regarding patient outcomes and structural healing. Meta-analysis quality was assessed using the Oxman-Guyatt and Quality of Reporting of Meta-analyses (QUOROM) systems. The Jadad algorithm was then applied to determine which meta-analyses provided the highest level of evidence.

RESULTS
Eight meta-analyses containing a total of 15,819 patients met the eligibility criteria, of which two included level II evidence and six included level III and/or IV evidence. Four meta-analyses found no differences between autograft and allograft for patient outcomes, while four found autograft superior in one or more respects. Four meta-analyses reported higher graft rupture rates in the allograft group, and two found superior hop test performance in autograft-treated patients. Six meta-analyses had low Oxman-Guyatt scores (<4) indicative of major flaws.

CONCLUSIONS
According to this systematic review of overlapping meta-analyses comparing autograft and allograft for ACLR, the current best available evidence suggests no differences in rupture rates and clinical outcomes. Lower-quality meta-analyses indicate that autograft may provide a lower rerupture rate, better hop test performance, and better objective knee stability than allograft.