

Effectiveness of arthroscopically assisted surgery for ankle fractures: a meta-analysis

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Introduction/Purpose: This meta-analysis was performed to determine whether the arthroscopically assisted open reduction and internal fixation (ORIF) for ankle fractures is more beneficial than the conventional ORIF.

Methods: Articles in electronic medial databases were searched between March 1983 and August 2016, including Pubmed and SCOPUS. We included the studies with comparative design comparing the surgical outcomes between the arthroscopically assisted ORIF for ankle fractures and the conventional ORIF. Finally, two RCTs and two retrospective comparative studies were included for analysis. Mean and standard deviation (SD) of postoperative functional scores, number of subjects, and P-values were extracted from the studies. In addition, postoperative follow-up period, fracture type, and study quality were collected.

Results: The pooled effect size of the four studies 0.535 (95% CI, 0.247 to 0.823) in Hedges's g, which favored the arthroscopically assisted ORIF over conventional ORIF. There was no evidence of publication bias in funnel plot and in Egger's test ($p=0.534$).

Conclusion: The arthroscopically assisted ORIF for ankle fractures were more beneficial than the conventional ORIF in the current evidences. However, since it needs more medical cost and longer operation time, possible additional complications and cost effectiveness are to be validated in future studies.

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