

Topical use of topical fibrin sealant can reduce the need for transfusion, total blood loss and the volume of drainage in total knee and hip arthroplasty: A systematic review and meta-analysis of 1489 patients.

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Abstract:

Objective To evaluate the efficacy and safety of fibrin sealant for the reduction of postoperative blood loss and transfusion requirements in patients undergoing total hip arthroplasty (THA) and total knee arthroplasty (TKA). **Methods** Electronic databases including PubMed, Embase, CENTRAL (Cochrane Controlled Trials Register), Web of Science and Google Scholar were searched from database inception to February 2016. All randomized controlled trials evaluating the efficacy and safety of topical administration of fibrin glue during primary THA or TKA were included in our meta-analysis. Transfusion requirements, total blood loss, length of hospital stay and the occurrence of infection were calculated using Stata 12.0 software. **Results** A total of nineteen clinical trials with 1489 patients (405 hips and 1084 knees) were finally included for meta-analysis. The results indicated that the topical administration of fibrin sealant can decrease the need for transfusion (RR = 0.33, 95%CI 0.28-0.40, $P < 0.001$), total blood loss (MD = -138.25, 95% CI -203.49 to -75.00), blood loss in drainage (MD -321.44, 95% CI -351.96 to -290.92, $P < 0.001$) and hospital stay length (MD -0.98, 95% CI -1.35 to -0.62, $P < 0.001$) without increasing the occurrence of infection (RR = 0.87, 95% CI 0.33 to 2.27, $P = 0.775$). **Conclusion** The topical use of fibrin sealant can effectively reduce the need for transfusion, total blood loss and the volume of drainage without increasing the rate of infection.