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# TXA administered intravenously and by injection reduces blood loss after knee replacement

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A new study appearing in the *Journal of Bone and Joint Surgery* found that administering tranexamic acid (TXA) both intravenously (IV) and injected at the surgical site (intra-articular administration, or IA) reduced blood loss by 37 percent, compared to IV alone, following total knee replacement (TKR).

Administering TXA through IV or IA has been shown to reduce blood loss in several studies; however, researchers had yet to investigate the impact of combining the delivery methods. In this study out of Denmark, 60 patients scheduled for TKR were randomly assigned to receive either TXA IV alone, or TXA IV and an IA dose. The TXA IV was administered at the same time as anesthesia, and the TXA IA, just prior to closing the surgical site.

The patient group receiving TXA IV and IA had a 37 percent greater reduction in blood loss at 24 and 48 hours post-surgery, compared to the patients who received TXA IV only. No thromboembolic complications were observed in any of the patients within 90 days postoperatively. One patient in the IV-only group required a postoperative blood transfusion.

"The clinically relevant reduction in blood loss was achieved simply, cost-effectively, and without compromising safety, potentially reducing the negative effects of blood loss on early functional recovery, the number of blood transfusions and related costs," said study author Henrik

Husted, MD, PhD, associate professor and head of orthopaedics at Copenhagen University Hospital Hvidore in Copenhagen, Denmark.

**More information:** C. S. Nielsen et al. Combined Intra-Articular and Intravenous Tranexamic Acid Reduces Blood Loss in Total Knee Arthroplasty: A Randomized, Double-Blind, Placebo-Controlled Trial, *The Journal of Bone & Joint Surgery* (2016). DOI: 10.2106/JBJS.15.00810

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