## Paper #12



## Tranexamic Acid was Safe in THA & TKA Patients with a History of VTE: A Matched Outcome Trial

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**Introduction:** In contemporary THAs and TKAs, tranexamic acid (TXA) has proved efficacious. Many surgeons are interested in expanding its use, including patients with a prior venous thromboembolic event (VTE). Most randomized trials of TXA have excluded patients with prior VTE, leaving meta-analyses and systematic reviews unable to comment on TXA safety in the setting of prior VTE. We determined a matched, retrospective outcome study to be the best available methodology to determine safety of TXA in patients with prior VTE. We specifically asked: in patients with prior VTE, was the rate of recurrent VTE greater in patients who received IV TXA during primary THA or TKA compared to those who did not receive IV TXA?

**Methods:** We retrospectively reviewed 1262 patients (1620 cases) with a history of VTE who underwent primary THA or TKA between 2000 and 2012. Intravenous TXA was given in 258 (16%) of the cases and not given in 1362 (84%). VTE rates were evaluated at 90 days postoperatively. Given the rarity of recurrent VTE, patients who experienced a recurrent VTE were 2:1 retrospectively matched against patients who did not experience a recurrent VTE using age ( $\pm$  5 years), sex, body mass index ( $\pm$  5 kg/m2), type of surgery, ASA score, and type of chemoprophylaxis.

**Results:** In patients with prior VTE, the rate of recurrent VTE was not significantly greater in patients who received IV TXA (2.3%; 6/258) compared to in those who did not receive IV TXA (1.8%; 25/1362; p = 0.6). Of the 31 patients who experienced a recurrent VTE, the 2:1 matched control identified 62 patients who did not have a recurrent VTE. That matched outcome analysis demonstrated that IV TXA did not increase the risk of recurrent VTE (OR 0.9; p=0.9).

**Conclusions:** Patients with a history of VTE had a low risk of recurrent VTE (2%) after contemporary THA and TKA, and that rate was not increased with the use of IV tranexamic acid.

