

## **Tranexamic Acid for Rotator Cuff Repair: A Systematic Review and Meta-Analysis of Randomized Controlled Trials**

Eoghan T Hurley<sup>1</sup>, Kaitlyn Ann Rodriguez<sup>2</sup>, Mark Phillip Karavan, Jay Micael Levin<sup>3</sup>, Joshua Kevin Helmkamp, Michael J Alaia<sup>4</sup>, Oke A Anakwenze<sup>5</sup>, Christopher Klifto

<sup>1</sup>Duke University, <sup>2</sup>Duke University School of Medicine, <sup>3</sup>Duke Health, <sup>4</sup>NYU Langone Orthopedic Center, <sup>5</sup>Duke Orthopedics Arrington

**INTRODUCTION:** The purpose of this study was to perform a systematic review of the randomized control trials (RCTs) in the literature to evaluate the use of tranexamic acid (TXA) on arthroscopic rotator cuff repair (ARCR).

**METHODS:** Two independent reviewers performed the literature search based on the PRISMA guidelines with a third author resolving any discrepancies. RCTs comparing TXA to a control in ARCR were included. Visualization, postoperative pain, operative time, pump pressures, and shoulder swelling. A p value < 0.05 was deemed statistically significant.

**RESULTS:** Six RCTs with 450 patients were included in this review. Overall, 6 studies evaluated intraoperative visualization with 4 studies finding a significant difference in favor of TXA. With TXA patients had a lower average postoperative VAS score of 3.3, and with the control, patients had an average VAS score of 4.1, which was statistically significant ( $p = 0.001$ ). With TXA the average weighted operation time was 79.3 minutes and with the control the average operation time was 88.8 minutes, which was statistically significant ( $p = 0.001$ ). No study found any difference in postoperative pump pressures or swelling.

**DISCUSSION AND CONCLUSION:** TXA improved visualization, operative time, and subsequent postoperative pain levels in patients undergoing ARCR.