

# A Systematic Review on the efficacy of Tranexamic acid in Head and Neck Surgery

Warda Jamshaid<sup>1</sup>, Maryam Jamshaid<sup>2</sup>, Jameel Muzaffar<sup>3</sup>, Hannah Nieto<sup>4</sup>, Chris Coulson<sup>3</sup>, and Neil SHARMA<sup>4</sup>

<sup>1</sup>University of Birmingham

<sup>2</sup>Cardiff University

<sup>3</sup>Queen Elizabeth Hospital

<sup>4</sup>University Hospitals Birmingham NHS Foundation Trust

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## Abstract

Background: Intra and post-operative blood loss is a major risk in head and neck (H&N) surgery. Recently the use of tranexamic acid (TXA) has been investigated by multiple studies for reducing intra and post-operative bleeding, however reported results are variable. Objectives: To determine the safety and efficacy of tranexamic acid use in Head and Neck surgery. Methods: Systematic review of MEDLINE, EMBASE, CINAHL, Cochrane Library, PubMed, ClinicalKey and Clinicaltrials.gov according to the PRISMA guidelines. Studies were included if they reported on intraoperative bleeding, volume or duration of post-operative drain or return to theatre rate for post-operative haemorrhage in adult populations following use of TXA. Risk of bias assessment with Cochrane Risk of Bias (RoB2) tool for RCTs and NOS tool for non-randomised studies. Results: 16 studies were identified (114, 407 patients). 8 studies evaluated TXA in major H&N surgery and 8 studies in tonsillectomy. Primary outcomes were reduction in intraoperative or post-operative bleeding. Secondary outcomes included the duration of post-operative drain placement and return to theatre rate. No adverse events were reported in any patients. TXA is effective in reducing intra-operative blood loss in tonsillectomy. However, the effect on post-tonsillectomy haemorrhage was unclear. Insufficient evidence exists of benefit of TXA on intra-operative bleeding in major H&N procedures. Post-operative bleeding rates were substantially reduced in most major H&N studies. The duration of drain placement and risk of blood transfusion was unchanged in most cases. Conclusion: TXA use is safe in H&N patients. Whilst sufficient evidence exists to support the use of TXA in tonsillectomy, insufficient evidence exists to recommend use in major H&N surgery. Key words: Tranexamic acid, Head and Neck surgery, thyroidectomy, tonsillectomy

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