

**J Child Orthop. 2013 Jun;7(3):245-9**

**The effect of tranexamic acid in blood loss and transfusion volume in adolescent idiopathic scoliosis surgery: a single-surgeon experience.**

**Lykissas MG, Crawford AH, Chan G, Aronson LA, Al-Sayyad MJ**

**PURPOSE:** Intraoperative blood loss in scoliosis surgery often requires transfusions. Autogenous blood decreases but does not eliminate risks typically associated with allogenic blood transfusion. Costs associated with transfusions are significant. Tranexamic acid (TXA) has been shown to decrease blood loss in cardiac and joint surgery. Few studies have examined its use in pediatric spine surgery, and the results are inconsistent. The aim of this study was to determine whether TXA decreases intraoperative blood loss and transfusion requirements in adolescent idiopathic scoliosis patients undergoing posterior spinal fusion by a single surgeon.

**METHODS:** The medical records and operative reports of surgically treated patients with adolescent idiopathic scoliosis between 2000 and 2009 were retrospectively reviewed. The inclusion criteria were: (1) patients who underwent instrumented posterior spinal fusion, (2) had complete medical records, and (3) were treated by the same surgeon. Forty-nine patients who met the inclusion criteria were divided into two groups: Group A (25 patients) received TXA, while Group B (24 patients) did not receive TXA.

**RESULTS:** After controlling for age at the time of surgery, gender, and number of vertebral levels fused, the mean intraoperative blood loss was significantly lower in Group A (537 ml) than in Group B (1,245 ml) ( $p = 0.027$ ). The mean volume of blood transfused intraoperatively was 426 and 740 ml for Group A and Group B, respectively. The difference was not statistically significant after controlling for age, gender, and number of levels fused ( $p = 0.078$ ).

**CONCLUSION:** TXA significantly decreased intraoperative blood loss in posterior spinal fusions performed for adolescent idiopathic scoliosis.