

Tranexamic acid to reduce surgical bleeding

18 Oct 2022

18 October 2022: The Joint Royal Colleges Tranexamic Acid in Surgery Implementation Group has issued the below guidance on the use of TXA in surgery.

Please also see our [previous update](#), issued on 13 October 2022, and watch [our webinar](#) on the topic.

18 January 2023: [NHS Blood and Transplant have raised concerns](#) about the possible impact of Royal College of Nursing (RCN) strike action on their blood supply. In particular, they have highlighted they are in a pre-amber alert as a result of low levels for both red cells and group A platelets. A plea has been made for surgical teams' support to conserve stock from 16 to 30 January.

Tranexamic acid safely reduces surgical bleeding. Consistent with previous research, the POISE-3 (Peri-Operative Ischemic Evaluation-3) trial recently reported that tranexamic acid reduces major bleeding by 25% and reduces the need for blood transfusion, without increasing the risk of thromboembolic events.[1] Wider tranexamic acid use will improve surgical safety, avoid unnecessary blood use, reduce the risk of transfusion transmitted infections and save funds for other healthcare purposes.[2,3] The Joint Royal Colleges Tranexamic acid in Surgery Implementation Group recommends that tranexamic acid should be considered in all adults having in-patient surgery.[2]

1 gram of TXA should be given by slow intravenous injection at the start and end of surgery. [1] The first dose should be given just prior to skin incision and the last dose given just after skin closure.

TXA is eliminated by renal excretion and there is a risk of accumulation with repeated dosing in patients with renal impairment. However, there would not be a risk of accumulation when giving a single 1g dose just prior to surgery.

Recent meta-analyses of randomised trials show no increased risk of thromboembolic events with tranexamic acid. [4,5]

Tranexamic acid in high doses causes seizures and high doses should be avoided.[6] There is no evidence of any increased risk of seizures with the doses recommended here. The recommended dose is sufficient to inhibit fibrinolysis and so there is no need for higher doses.

The RCPCH and NPPG Medicines Committee recommend a pragmatic paediatric dosage schedule for tranexamic acid use in paediatric trauma patients and this may be suitable for surgical use.[5] They recommended a dose of 15mg/kg tranexamic acid loading dose (max 1g) over 10 minutes followed by 2mg/kg per hour. This dosing regimen should also be suitable for paediatric surgery with the maintenance dose discontinued at the end of surgery. The RCPCH recommended that children over 12 years old should receive the adult dose.

Please share this with your colleagues, especially those in your perioperative, surgical and anaesthetic departments.

[Join our webinar](#) at 6pm on 21 November to hear Professor Neil Mortensen, President of RCS England, and other leading surgeons share important information about the use of Tranexamic acid. The webinar will feature a live Q&A.

References

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