



**Tranexamic acid or epsilon aminocaproic acid is recommended during on-pump cardiac surgical procedures.**

Class (Strength) of Recommendation	Class I (Strong)
Level (Quality) of Evidence	Level A

### Main Points

- Tranexamic acid (TXA) or epsilon aminocaproic acid (EAA) reduce bleeding by inhibiting the lysis of polymerized fibrin by reversibly blocking the lysine binding site of plasminogen.
- Most of the cardiac surgical data on antifibrinolytic therapy is for TXA.
- Evidence from large randomized controlled trials has shown a reduction in blood product transfusion in patients given intra-operative TXA.
- Higher doses of TXA have been associated with an increased risk of post-operative seizure. It is recommended to avoid TXA doses in excess of 4-6g, or 100mg/kg, particularly in patients > 50 years of age.

### Key References

1. Besser MW, Ortmann E, Klein AA. Haemostatic management of cardiac surgical haemorrhage. *Anaesthesia*. 2015;70 Suppl 1:87-95, e29-31.
2. Levy JH, Koster A, Quinones QJ, Milling TJ, Key NS. Antifibrinolytic Therapy and Perioperative Considerations. *Anesthesiology*. 2018;128:657-670.
3. Koster A, Faraoni D, Levy JH. Antifibrinolytic Therapy for Cardiac Surgery: An Update. *Anesthesiology*. 2015;123:214-221.
4. Myles PS, Smith JA, Forbes A, et al. Tranexamic Acid in Patients Undergoing Coronary-Artery Surgery. *The New England journal of medicine*. 2017;376:136-148.
5. Tengborn L, Blomback M, Berntorp E. Tranexamic acid--an old drug still going strong and making a revival. *Thrombosis research*. 2015;135:231-242.

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