

2-Gram Tranexamic Acid (TXA) in Trauma Care

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Executive Summary

This guideline provides evidence-based recommendations for the use of 2-gram tranexamic acid (TXA) in trauma patients at risk of significant hemorrhage. TXA is supported by the Joint Trauma System (JTS) as a core component of damage control resuscitation. While early trials used lower-dose regimens, subsequent trauma, military, and critical-care literature has evaluated higher cumulative TXA exposures, including 2-gram strategies, particularly in patients with severe hyperfibrinolysis.

2. Introduction

Uncontrolled hemorrhage is a leading cause of preventable trauma mortality. Antifibrinolytic therapy with TXA has demonstrated a decrease in mortality when administered early. JTS guidelines emphasize TXA as part of modern hemorrhage control strategies. Emerging literature has explored whether higher cumulative TXA exposure may be beneficial in select patients with persistent fibrinolysis.

3. Scope & Target Population

- **Population:** Trauma patients with suspected or confirmed significant hemorrhage or high risk of hemorrhage.
- **Settings:** Prehospital, emergency department, operative, and critical care environments.



- **Exclusions:** Patients without clinical concern for bleeding or with contraindications per institutional policy.

4. Guideline Development Process

- Multidisciplinary panel including trauma surgery, emergency medicine, critical care, neurosurgery, orthopedics, nursing, and prehospital medicine.
- Evidence review prioritized JTS CPGs, ATS-relevant literature, and major trauma trials.

5. Recommendations

- 2-gram TXA should be considered for trauma patients with suspected significant hemorrhage or high risk of hemorrhage, consistent with JTS guidance and institutional protocols.

5.2 Consideration of Higher Cumulative TXA Exposure

- Some trauma and critical-care studies, including those referenced by JTS, have evaluated higher cumulative TXA exposures, such as 2-gram strategies, in patients with severe hyperfibrinolysis or prolonged evacuation times.

5.2 Rationale

- Early antifibrinolytic therapy reduces mortality.
- Persistent fibrinolysis has been documented in severe trauma.
- ATS-relevant literature supports the mechanistic rationale for evaluating higher TXA exposures.

5.3 Benefits vs. Harms

- Benefits: Reduced mortality, improved fibrinolysis control.
- Potential Harms: Rare thromboembolic events



6. Algorithms & Decision Pathways

1. Identification of trauma patient with suspected significant bleeding.
2. Initiate hemorrhage control measures.
3. Begin damage control resuscitation.
4. Consider 2-gram TXA early in accordance with institutional protocol and JTS guidance.
5. Reassess for persistent fibrinolysis or ongoing hemorrhage.

7. Special Populations

- **Pediatrics:** 15mg/kg IV/IO Bolus Max 1gram
- **Older adults:** Consider comorbidities.
- **Pregnancy:** May be considered in life-threatening hemorrhage.
- **Anticoagulated patients:** TXA may be beneficial as part of hemorrhage management.

10. Implementation Considerations

- Provide CPG for pre-hospital and hospital teams.
- 1-gram TXA vials in ED pyxis along with a TXA kit (2, 1-gram TXA vials and a 100ml NS bag)

11. Monitoring & Evaluation

- Track TXA amount and use within trauma audit filters. Including any administration of TXA prehospital per EMS
- Monitor outcomes such as mortality, disposition, and complications.



References

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