



Central Ohio  
Trauma System

An affiliate of the Columbus Medical Association

## Tranexamic Acid (TXA) Guideline Developed by Medical Review Executive Committee (MREC)

### Rationale:

- Tranexamic Acid (TXA) is an anti-fibrinolytic that inhibits both plasminogen activation and plasmin activity, thus preventing clot breakdown.
- TXA has been used around the world to safely control bleeding since the 1960's. Recent studies have shown survival benefit in bleeding trauma patients if the drug is given within the first three (3) hours from injury.
- TXA, an inexpensive therapy, is incorporated into some trauma care protocols for the treatment of trauma patients receiving blood during transport, patients given blood upon arrival, and patients meeting criteria for initiation of Massive Transfusion Protocol (MTP).

**Currently**, data is not clear on the utility of pre-hospital TXA use. Until further data is available, the Central Ohio Trauma System **cannot recommend** the pre-hospital use of TXA.

### COTS Recommendations:

- 1) Transport agencies that have transport times greater than one (1) hour to a trauma center or other hospital which will provide TXA should work with their medical directors and contact an affiliated COTS trauma center to decide if TXA is appropriate for their agency.
- 2) Hospitals receiving injured patients with prolonged transport times to trauma centers should consider having a protocol for administration of an initial dose of TXA.
- 3) All trauma centers should have a protocol in place for initiation and continuation of TXA dosing.
- 4) TXA usage and its effects in pediatric patients is unknown currently. COTS does not recommend TXA administration to patients under the age of 16.

### ADDENDUM A

**SAMPLE TXA Protocol** – to assist you in working with your medical director and/or trauma center to develop a protocol.

\*These are only EXAMPLES

## **ADDENDUM A: Sample TXA Protocols**

### **In – House protocol EXAMPLE:**

1. The initiating physician determines if TXA is appropriate to use in the patient and orders it from the pharmacist:
  - 1.1. Patients that arrive < (3) hours from the time of injury will be given tranexamic acid (TXA) if they meet one (1) of the following criteria:
    - 1.1.1. Receiving blood transfusion during transport.
    - 1.1.2. Received TXA before arrival from EMS or the referring hospital.
    - 1.1.3. Initiation of blood transfusion in the trauma bay.
    - 1.1.4. Initiation of the massive transfusion protocol (MTP).
  - 1.2. The dosage of TXA is:
    - 1.2.1. Initially one (1) gram given IV over ten (10) minutes.
    - 1.2.2. Followed by (1) gram IV given over the next eight (8) hours.
  - 1.3. Contraindications:
    - 1.3.1. Anticoagulated patients.
    - 1.3.2. Patients receiving blood transfusion PRIOR to arrival but requiring no further blood components.
    - 1.3.3. Cardiopulmonary arrest.
    - 1.3.4. Arrival more than (3) hours after injury

### **Pre-hospital Protocol EXAMPLE:**

1. Administer **Tranexamic Acid (TXA) (1) gm in 100 ml 0.9 NS IV bolus over ten (10) minutes** in patients with suspected internal hemorrhage and who have either:
  - 1.1. BP systolic < 90 mmHg
  - 1.2. HR > 120
  - 1.3. Are receiving packed red blood cells
2. **Contraindications to TXA:**
  - 2.1. Isolated head injury
  - 2.2. History of pulmonary embolism (PE), deep vein thrombosis (DVT), or other coagulation disorders
  - 2.3. Shock from non-hemorrhagic causes including obstructive, neurogenic, and septic shock.
  - 2.4. Injury > (3) hours
  - 2.5. Patients on anticoagulants including warfarin (Coumadin), dabigatran (Pradaxa), rivaroxaban (Xarelto), and apixaban (Eliquis)

**Approved by COTS Board of Trustees Board 02/28/17; 8/28/18**