

# Guideline



## CCHMC Trauma Services Guidelines

Title: Tranexamic Acid (TXA) Usage in Trauma

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### 1.0 SCOPE

- 1.1. Hemorrhagic shock is the most preventable cause of death in trauma. In adult patients with hemodynamic instability and ongoing bleeding, tranexamic acid has proven effective if administered within the first three hours of the trauma. <sup>1,2</sup> Tranexamic acid is an antifibrinolytic that reversibly binds to plasminogen at the lysine binding site, thus preventing the binding of plasmin to fibrin and the subsequent degradation of fibrin. <sup>3</sup> The Royal College of Paediatrics and Child Health developed an evidence statement in 2012 on the use of tranexamic acid in children based on the CRASH-2 trial and implemented in the United Kingdom and Canada. <sup>4</sup>

### 2.0 DEFINITIONS

- 2.1. Hemoglobin – Hgb
- 2.2. Systolic blood pressure - SBP
- 2.3. Tranexamic acid – TXA
- 2.4. Traumatic Brain Injury - TBI

\*Age-Appropriate Vital Signs (VS)  
Modified from PALS 2016 American Heart Association

### 3.0 GUIDELINE

- 3.1. Consider TXA for children with evidence of severe internal or non-compressible external hemorrhage as evidenced by three or more of the following:
- 3.1.1. SBP < 80 mmHg in children <5 years or <90 if ≥5 years of age
  - 3.1.2. Sustained tachycardia for age
  - 3.1.3. Tachypnea for age
  - 3.1.4. Cool pale skin with cap refill >2 seconds
  - 3.1.5. Hgb <11
- 3.2. Contraindications to TXA include:
- 3.2.1. Time of injury to administration is ≥ 3 hours
  - 3.2.2. Patients with TBI
- 3.3. In children <12
- 3.3.1. The loading dose is 15 mg/kg IV (max 1g) given over 10 minutes
    - 3.3.1.1. The maintenance infusion of 2 mg/kg/hour for at least 8 hours or until bleeding stops
- 3.4. In children ≥ 12 years
- 3.4.1. The loading dose is 1 g IV over 10 minutes (max 1 g)
    - 3.4.1.1. Maintenance infusion 1 g over 8 hours

	Heart Rate	Respiratory Rate	Systolic Blood Pressure
<b>Infant (1 – 12 month)</b>	90 – 180	30 – 53	>70
<b>Toddler (1 – 2 years)</b>	80 – 140	22 – 37	>70
<b>Preschool (3 – 5 years)</b>	65 – 120	20 – 28	>80
<b>School-Age (6 – 12 years)</b>	58 – 118	18 – 25	>85
<b>Adolescent (12+ years)</b>	50 - 100	12 - 20	>90

#### 4.0 REFERENCES

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#### 5.0 APPROVALS

All revisions of this guideline are approved by the Trauma Service. This guideline is reviewed every three years or sooner if deemed necessary. Authority for this document resides with the Trauma Service. This guideline is approved by the Trauma Services Manager and the Director of Trauma Services.

<b>HISTORY</b>	
<b>Original Date</b>	07/2017
<b>Revision Date</b>	
<b>Review Date</b>	06/18, 06/21