



Drug Therapy Protocols: Tranexamic acid

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Date	September, 2024
Purpose	To ensure a consistent procedural approach to tranexamic acid administration.
Scope	Applies to all Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless specifically mentioned.
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Tranexamic acid

September, 2024

Drug class

Antifibrinolytic^[1,2]

Pharmacology

Tranexamic acid (TxA) is a competitive inhibitor of plasminogen activation through the formation of a reversible complex displacing plasminogen from fibrin. This inhibits the process of fibrinolysis in addition to the protein breakdown caused by plasmin.^[1,2]

Metabolism

Hepatic metabolism with renal excretion.^[1]

Indications

- **Recent traumatic injuries**^[3] (3 hours or less) with a COAST score of 3 or greater
- **Management of uncontrolled primary post-partum haemorrhage** (3 hours or less)^[4]
- **Management of post-tonsillectomy haemorrhage** (evidence of active haemorrhage)

Contraindications

- Allergy AND/OR Adverse Drug Reaction

Precautions

- Nil

Side effects^[1,2]

- Headache
- Hypotension
- Nausea and/or vomiting
- Seizures

Presentation

- Ampoule, 1 g/10 mL *tranexamic acid*

Onset	Duration	Half-life
Minutes	Serum 7–8 hours	2 hours

Schedule

- S4 (Restricted drugs).

Special notes

- **The coagulopathy of severe trauma (COAST) score** is a highly specific predictor of acute traumatic coagulopathy (ATC) in adult blunt trauma.^[4] A score (0–7) is calculated by determining a collective value of each of the five variables.

COAST SCORE		
Variable	Value	Score
Entrapment (e.g. in vehicle)	Yes	1
	No	0
Systolic blood pressure (mmHg)	> 100	0
	90 – 100	1
	< 90	2
Temperature (°C)	> 35	0
	32 – 35	1
	< 32	2
Major chest injury likely to require intervention (e.g. decompression, chest tube)	Yes	1
	No	0
Likely intra-abdominal or pelvic injury	Yes	1
	No	0

Special notes (cont.)

- Ambulance officers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the *QAS Clinical Consultation and Advice Line*.
- All cannulae and IV lines must be flushed thoroughly with sodium chloride 0.9% following each medication administration.
- The use of tranexamic acid in trauma and obstetric cases is consistent with national guidelines.
- There is no role for the use of tranexamic acid during traumatic cardiac arrest.

Adult dosages ^[1-4]

- **Recent traumatic injuries** (≤ 3 hours) with a COAST score ≥ 3
- **Management of uncontrolled primary post-partum haemorrhage** (≤ 3 hours)
- **Management of post-tonsillectomy haemorrhage** (evidence of active haemorrhage)

ACP2 CCP	IV	1 g Slow push over 10 minutes. Single dose only.
ACP2 CCP	IV INF	1 g over 10 minutes. Single dose only. <i>Infusion preparation: Mix 1 g of tranexamic acid in a 100 mL bag of sodium chloride 0.9%. Ensure bag is appropriately labelled. Administer over 10 minutes (approx. 3 drops/second).</i>
CCP	IO	1 g Slow push over 10 minutes. Single dose only.
CCP	IO INF	1 g over 10 minutes. Single dose only. <i>Infusion preparation: Draw up 1 g (10 mL) of tranexamic acid in a 30 mL SPRINGFUSOR[®] syringe. Ensure the syringe is appropriately labelled. Administer the infusion via the SPRINGFUSOR[®] at a rate of 60 mL/hr (over 10 minutes).</i>

Paediatric dosages ^[1-3]

- **Recent traumatic injuries** (≤ 3 hours) with a COAST score ≥ 3

ACP2 CCP	IV	QAS Clinical Consultation and Advice Line approval required in all situations. 15 mg/kg Slow push over 10 minutes. Single dose only. Total maximum dose 1 g.
CCP	IO	QAS Clinical Consultation and Advice Line approval required in all situations. 15 mg/kg Slow push over 10 minutes. Single dose only. Total maximum dose 1 g.
Management of post-tonsillectomy haemorrhage (evidence of active haemorrhage)		
ACP2 CCP	IV	15 mg/kg Slow push over 10 minutes. Single dose only. Total maximum dose 1 g.
CCP	IO	15 mg/kg Slow push over 10 minutes. Single dose only. Total maximum dose 1 g.