

Network(s)
Midlands Trauma Networks
Publication:
Document name: Tranexamic Acid for IV Infusion in paediatric major haemorrhage trauma
Document purpose: This document contains guidance on the treatment of actual or suspected haemorrhage, associated with trauma.
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Additional circulation list:
Action required: Dissemination to MTC, TU, LEH personnel for action. Dissemination to Ambulance Provider Representatives for information.
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Indications for use:

Treatment of actual or suspected haemorrhage, associated with trauma.

Patient Inclusion Criteria:

- Patients who fulfil ANY of the following:
 - Significant haemorrhage
 - Systolic blood pressure less than the 5th centile (*see below*)
 - Heart rate greater than normal range (*see below*)
 - Transfusion of emergency blood, due to actual or suspected haemorrhage
- or are high risk groups:
 - Multiple rib fractures
 - Penetrating wounds
 - More than one proximal long bone fracture
 - Amputation proximal to the wrist / ankle

Age (Years)	Respiratory rate (breaths/min)	Systolic BP (50 th centile)	Systolic BP (5 th centile)	Pulse (beats/min)
<1	30-40	80-90	65-75	110-160
1-2	25-35	85-95	70-75	100-150
2-5	25-30	85-100	70-80	95-140
5-12	20-25	90-110	80-90	80-120
>12	15-20	100-120	90-105	60-100

Administration:

Presentation

Tranexamic Acid 100 mg in 1 ml (5 ml ampoules)

Prescribing

Dose: schedule based on CRASH2 trial.

Loading dose: prescribe on once only section of drug chart 15 mg/kg over 10 minutes (maximum 1 gram)

Maintenance dose: prescribe on the infusion section of drug chart (see example below) as tranexamic acid 1 gram, in 500ml sodium chloride 0.9% with glucose 5%. Infuse at 1ml/kg/hour, to give 2mg/kg/hour over 8 hours, or until bleeding stops. (maximum 1gram over 8 hours i.e. 62.5ml/hour)

*Dose reduction required in renal impairment.
See below in "Monitoring / other comments"*

Further doses can be given after the 8hr infusion if bleeding still persists, but this should only be considered **after** discussions between the patients responsible consultant and the haematology consultant.

Storage

Store at room temperature

Preparation/ Dilution

Loading dose: draw required dose via filter needle into 10ml syringe and dilute to 10ml using sodium chloride 0.9%.

Maintenance dose: draw 10ml tranexamic acid via filter needle into 10ml syringe. Change needle and add to 500ml bag of sodium chloride 0.9% with glucose 5%.

Route of Administration

Central or peripheral

Rate of Administration

Loading dose over 10 minutes

Maintenance infusion at rate of 2 mg/kg/hour, for 8hrs

Stability

Use immediately - assign 24 hour expiry to IV label for maintenance infusion.

Flushes

Sodium chloride 0.9%

Common compatibilities at terminal Y-site

Maintenance fluids containing sodium chloride/ glucose. Contact pharmacist for further advice.

Monitoring/ other comments

Monitor blood pressure- increased risk of hypotension with rapid injections.

Contra-indicated in patients with arterial or venous thrombosis. Caution in patients with history of seizures.

Increased risk of seizures in accumulation, therefore dose reduction in renal dysfunction recommended.

Suggested dose reduction in renal impairment:

mild renal impairment reduce infusion to 1.3 mg/kg/hour,

moderate renal impairment 1mg/kg/hour,

severe renal failure 0.5 mg/kg/hour.

Extravasation Risk

Extreme of pH	Hyperosmolar	Vasoactive	Vesicant
pH 6.5-8	Unknown	No	No

Links to other protocols/ guidelines

RCPCH Evidence Statement: Paediatric TXA for Major Trauma

*Please note that the RCPCH guidance **suggests** the maintenance fluids be reconstituted as a 500mg dose of TXA in 500mls fluid.*

BCH have opted for 1gram in 500mls fluid

Infusion calculation equation

Pump rate in ml/hr = (Dose in mg/kg/hour) x weight
2mg/ml (Concentration in mg/ml)

Calculation example

e.g. 25kg child presents in ED with major trauma with significant blood loss.

Prescribe 15mg/kg = 375mg over 10 minutes on once only section of drug chart. Followed by tranexamic acid 1 gram in 500ml, infusion at rate of 25ml/hour- as shown below:

Administer as follows:

Loading dose: Draw up 3.8mls tranexamic acid into 10ml syringe and dilute to 10mls using sodium chloride 0.9%.

Maintenance dose: Draw 10ml tranexamic acid into 10ml syringe and transfer to 500ml bag of sodium chloride 0.9% with glucose 5%. Label as per Trust policy. Attach to patient and set pump to run at 25mls/hour (The volume to be infused would be 25mls/hr for 8hrs = 200mls)