



MONOGRAPH

Tranexamic Acid

Scope (Staff):	Medical, Pharmacy, Nursing, Anaesthetic Technicians
Scope (Area):	All Clinical Areas

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [DISCLAIMER](#)

QUICKLINKS

Dosage/Dosage Adjustments	Administration	Compatibility	Monitoring
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DRUG CLASS

Antifibrinolytic^(1, 2)

Antihaemorrhagic⁽²⁾

Tranexamic acid inhibits the breakdown of clots by blocking binding of plasminogen and plasmin to fibrin⁽¹⁾

INDICATIONS AND RESTRICTIONS

Hereditary angioedema⁽²⁻⁵⁾

Reduction of bleeding in:

- Dental procedure in patients with mild-to-moderate coagulopathy (e.g. in haemophilia)^(2, 3, 5)
- Post tonsillectomy haemorrhage^(6, 7)
- Major trauma^(4, 5, 8)
- Heavy menstrual bleeding⁽³⁻⁵⁾
- Major surgery e.g. cardiac, craniofacial and spinal surgery^(4, 9, 10)
- Management of excessive bleeding in patients on Extracorporeal Membrane Oxygenation (ECMO)⁽¹¹⁾

CONTRAINDICATIONS

- Active intravascular clotting⁽¹⁾

PRECAUTIONS

- Predisposition to thrombosis - increases risk of thrombotic adverse effects^(1, 5, 9)
- Subarachnoid haemorrhage - may increase cerebral ischaemic complications^(1, 9)
- Menorrhagia - before initiating treatment for menorrhagia, exclude structural or histological causes or fibroids causing distortion of uterine cavity⁽⁵⁾
- Acquired disturbances of colour – cease treatment if colour disturbances occur ^(12, 13)
- History of convulsions - Seizures have been reported with tranexamic acid use, particularly in patients receiving tranexamic acid during cardiovascular surgery. Consider EEG monitoring in patients with a history of seizure disorder or who experience myoclonic movements, twitching, or show evidence of focal seizures. Discontinue tranexamic acid if seizures occur^(5, 9, 12, 13)
- Tranexamic acid therapy is not indicated in haematuria caused by diseases of the renal parenchyma. Intravascular precipitation of fibrin frequently occurs in these conditions and may aggravate the disease⁽¹²⁾

FORMULATIONS

Listed below are products available at PCH, other formulations may be available, check with pharmacy if required:

- Tranexamic acid 500 mg tablet
- Tranexamic acid 1 g/10 mL ampoule

Imprest location: [Formulary One](#)

DOSAGE & DOSAGE ADJUSTMENTS

Inhibition of fibrinolysis including hereditary angioedema, management of post tonsillectomy bleeding and prevention of excessive bleeding after dental procedures in patients with mild – moderate coagulopathy such as haemophilia^(3, 5, 10, 12)

Oral (4 weeks – 18 years):

- 15 – 25 mg/kg (maximum 1.5 g) 2 or 3 times daily
 - Round doses to the nearest portion of a tablet where appropriate.

Intravenous (4 weeks – 18 years):

- 10 mg/kg (maximum 1 g) 2 or 3 times daily

Additional notes:

- Prevention of excessive bleeding after dental procedures in patients with mild-to-moderate coagulopathy
 - A single oral or IV dose may be given preoperatively.
 - Use for up to 8 days post-surgery.

- Post Tonsillectomy Bleeding
 - Please refer to the [Post Tonsillectomy Haemorrhage](#) guideline for initial management.

Prevention of bleeding during major surgery^(4, 14-16)

Intravenous (4 weeks – 18 years)

Non-cardiac surgery:

- IV loading dose 10 – 30 mg/kg (maximum 1 g)
- Follow loading dose with a continuous IV infusion at 5 – 10 mg/kg/hour for the duration of the surgery.

Cardiopulmonary bypass surgery:

- IV loading dose 10 – 100 mg/kg (maximum 1 g) over 1 hour
- Follow loading dose with a continuous IV infusion at 10 mg/kg/hour for the duration of the surgery.

Treatment of Haemorrhage (e.g. following major trauma or post-operative bleed)^(4, 5, 8, 9, 15, 17, 18)

Intravenous (4 weeks – 18 years)

Non-cardiac surgery:

- IV loading dose 15 mg/kg (maximum 1 g) given as soon as possible (ideally within 3 hours of injury/bleed).
- Follow loading dose with a continuous IV infusion at up to 2 mg/kg/hour (maximum 125 mg/hour) for greater than 8 hours or until bleeding stops.

For bleeding post cardiac surgery, varying doses are suggested depending on bleeding severity.

- IV loading dose of 10 – 30 mg/kg (maximum 1 g) may be used.
 - Higher loading doses may be required at the recommendation of a cardiothoracic surgeon or consultant
- Loading dose may be followed with a continuous IV infusion of 1 – 10 mg/kg/hour depending on severity of bleeding.
- Specialist advice is recommended regarding dosing and duration of treatment

Heavy menstrual bleeding^(4, 5)

Oral (12 – 18 years):

- 1 g 3 times a day for up to 5 days, to be initiated when menstruation has started, dose can be increased, if necessary, up to maximum 4 g per day.

Management of excessive bleeding in patient on Extra Corporeal Membrane Oxygenation (ECMO) – See CAHS ECMO Guideline below:

- [Extracorporeal Membrane Oxygenation \(ECMO\) Guideline](#)

Renal impairment:

- Tranexamic acid is eliminated primarily via the kidney with more than 95% of the dose excreted unchanged⁽¹⁰⁾.
- Dose should be reduced in mild to moderate impairment⁽¹⁹⁾
- [eGFR calculator](#)

Hepatic impairment

- Dosage adjustment is not needed, as only a small fraction of the drug is metabolised^(4, 9)

RECONSTITUTION & ADMINISTRATION

Intravenous:

Intermittent Infusion:

- Inject undiluted or dilute the dose to a suitable volume with a compatible fluid
- Infuse over at least 10 minutes^(20, 21)
- Maximum rate: 100 mg/minute⁽²⁰⁾
- Rapid administration may cause hypotension^(5, 20, 21)

Continuous Infusion (For Critical Care Areas Use Only):

- For continuous IV infusion, the following concentrations are used and programmed on infusion pumps at PCH:

Patient's Weight	Concentration	Notes
10 kg or less	600 mg in 30 mL (20 mg/mL)	In a 3 kg patient, 2 mg/kg/hour = 0.3 mL/hr
Above 10 kg	5000 mg in 50 mL (NEAT 100 mg/mL)	In a 20 kg patient, 2 mg/kg/hour = 0.4 mL/hr

Oral:

- May be given with or without food⁽⁹⁾
- Tablets may be cut in half and/or crushed and mixed with yogurt or apple puree⁽¹³⁾

Intramuscular: Not recommended^(20, 21)

Subcutaneous: Not recommended^(20, 21)

COMPATIBILITY (LIST IS NOT EXHAUSTIVE)**Compatible fluids:**

Sodium Chloride 0.9%, Glucose 5%, Ringer's^(20, 21)

Compatible at Y-site:

Defibrotide, heparin, Plasma-Lyte 148⁽²¹⁾

Only commonly used drugs are listed below. This is not a complete list of incompatible drugs.

[Compatibilities of IV drugs](#) must be checked when two or more drugs are given concurrently.

INCOMPATIBLE drugs:

- Fluids: Do not mix with blood products⁽²¹⁾
- Drugs: Benzylpenicillin, penicillin, piperacillin-tazobactam⁽²¹⁾

MONITORING

- Regular liver function tests in long-term treatment of hereditary angioedema⁽⁵⁾
- Ophthalmic monitoring at regular intervals in patients expected to be treated for greater than 3 months⁽⁹⁾
- Closely monitor for seizures during surgery. Consider EEG monitoring for patients with history of seizures or who experience myoclonic movements, twitching, or show evidence of focal seizures^(9, 12)

ADVERSE EFFECTS

Common: Diarrhoea (reduce dose); nausea; vomiting^(1, 5)

Infrequent: Allergic dermatitis⁽⁵⁾

Rare: Visual disturbances including transient disturbance of colour vision (discontinue), embolism and thrombosis^(1, 5)

IV: hypotension and dizziness (particularly after rapid administration), seizures (dose-related)^(1, 5)

STORAGE

- Ampoules and tablets: Store below 25°C. Protect from light⁽²¹⁾
- Infusion solution: Stable for 24 hours below 25°C⁽²¹⁾

INTERACTIONS

This medication may interact with other medications; consult PCH approved references (e.g. [Clinical Pharmacology](#)), a clinical pharmacist or PCH Medicines Information Service on extension 63546 for more information

****Please note:** The information contained in this guideline is to assist with the preparation and administration of **tranexamic acid**. Any variations to the doses recommended should be clarified with the prescriber prior to administration**

Related CAHS internal policies, procedures and guidelines

[Emergency Department Guidelines](#)

[Medication Administration](#)

[Medication Preparation, Checking and Administration](#)

[Medication Safety](#)

[PCH Critical Bleeding And ROTEM Algorithm](#)

Related external legislation, policies and guidelines

[Apls Algorithms: Massive haemorrhage in trauma](#)

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Compassion

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