Tranexamic Acid
(Cyklokapron)
For use in the Trauma Patient

**Drug Class:** Antifibrinolytic

- A competitive inhibitor of plasminogen activation and at much higher concentrations a noncompetitive inhibitor of plasmin, thus implying that tranexamic acid interferes with plasminogen not allowing fibrin to activate or plasmin to form therefore decreasing the ability for the body to break up formed clots
- Eliminated by glomerular filtration, excretion being about 90% at 24 hours after intravenous administration. The dose of tranexamic acid should be reduced in patients with renal impairment because of the risk of accumulation
- Half-life of 2 hours
- Passes through to the placenta and blood-brain barrier

**Indications:**

1. Hemorrhage associated with trauma (consider use on all patients receiving blood products during initial resuscitation within 3 hours of injury)
2. Hemorrhage or risk of hemorrhage in increased fibrinolysis or fibrinogenolysis

**Contraindications:**

- **TREATMENT GIVEN MORE THAN 3 HOURS AFTER INJURY SIGNIFICANTLY INCREASE THE RISK OF DEATH.**
- The risk benefit must be considered in patients with active thromboembolic disease such as deep vein thrombosis, pulmonary embolism and cerebral thrombosis.
- The risk benefit must be considered in patients with subarachnoid hemorrhage as anecdotal experience indicates that cerebral edema and cerebral infarction may be caused.
- Hypersensitivity to Tranexamic acid or any of its ingredients.
- Cyklokapron should not be administered concomitantly with Factor IX Complex concentrates or Anti-inhibitor Coagulant concentrates, as the risk of thrombosis may be increased.
**Adverse Effects:**
- Gastrointestinal tract: nausea, vomiting, diarrhea
- Skin and subcutaneous tissue: allergic skin reactions
- Nervous system disorders: convulsion, dizziness
- Eye disorders: chromatopsia
- Vascular disorders: embolism, hypotension (after fast injection)

**Administration:**
- Give as early as possible in the bleeding trauma patient
- Treatment given 1 hour or less from time of injury significantly reduces the risk of death.
- Treatment given between 1-3 hours from time of injury also reduces death.

**Dosage**

**Adult**
- 1 gram loading dose over 10 minutes followed by 1 gram over the next 8 hours.
- Loading dose should be diluted in 50-250 ml saline or dextrose and administered over 10 minutes on a pump.
  - If given faster can cause hypotension.
- Max dose rate 100mg/min.

**Pediatrics age 12 and older:** (Physician discretion may be used on younger patient)
- Loading Dose – 15mg/kg (max 1g) diluted in a convenient volume of Sodium Chloride 0.9% or Glucose 5% and given over 10 minutes
- Maintenance infusion – 2mg/kg/hour. Suggested dilution 500mg in 500ml of sodium chloride 0.9% or glucose 5% given at a rate of 2mls/kg/hour. For at least 8 hours or until bleeding stops.

**Monitoring:**
- During loading dose monitor for hypotension
- Notify MD
- Hypotension
- Changes to vision or color vision
- Decrease in level of consciousness