REQUEST FOR APPROVAL

Check One: ☒ Local Optional Scope of Practice ☐ Trial Study

EMS Medical Director: Zita Konik, MD **Date:** 04/12/2018

Local EMS Agency: Napa County EMS Agency

Proposed Procedure or Medication: ALS use of TXA

Please provide the following information. For information provided, check "yes" and describe. For information not provided, check "no" and state the reason it is not provided.

Yes	No	
☒	☐	**1. Description of the procedure or medication requested:**

Administration Of Tranexamic Acid

Tranexamic Acid is a Lysine analogue that works to inhibit the formation of plasmin, which is a molecule responsible for clot degradation. It has had multiple medical applications in the past including pre-operative use, menorrhagia, hemophilia and hereditary angioedema TXA, in multiple recent studies, has been shown, to reduce mortality in trauma patients meeting specific physiologic criteria or who have obvious signs of massive hemorrhage.

☒ ☐ **2. Description of the medical conditions for which the procedure/medication will be utilized:**

Paramedics would follow established guidelines for administration set forth in the Napa County EMS Field Treatment Guidelines.

- Adults, age ≥15 years old and;
- Any sustained blunt or penetrating trauma with signs and symptoms of hemorrhagic shock within 3 hours and one or more of the following:
  - Systolic blood pressure of less than 90 mmHg at scene of injury, during ground medical transport, or on arrival to designated trauma centers.
  - Bleeding uncontrolled by direct pressure or tourniquet.
  - Significant blood loss and a heart rate greater than 120 BPM.

☒ ☐ **3. Patient population that will benefit:**

- Adults, age ≥15 years old and;
- Any sustained blunt or penetrating trauma with signs and symptoms of hemorrhagic shock within 3 hours and one or more of the following:
  - Systolic blood pressure of less than 90 mmHg at scene of injury, during ground medical transport, or on arrival to designated trauma centers.

- Bleeding uncontrolled by direct pressure or tourniquet.
- Significant blood loss and a heart rate greater than 120 BPM.

☐ ☒ **4. Description of proposed study design including the scope of the study, research question, method of evaluating the effectiveness of the procedures or medications and the expected outcome:**

This is not a Trial Study

☒ ☐ **5. Alternatives (Please describe any alternate therapy[ies] considered for the same conditions and any advantages and disadvantages):**

While other antifibrinolytics do exist, they have not been shown to be appropriate or efficacious for pre-hospital use

☒ ☐ **6. Estimated frequency of utilization:**

Approximately 3 – 4 times/month

☐ ☒ **7. Other factors or exceptional circumstances:**

None

☒ ☐ **8. Any supporting data, including relevant studies and medical literature:**

The recently completed trial study showed that paramedics are able to identify patients who will benefit from the administration of TXA. It also showed that they are able to successfully and to efficiently administer the medication.

9. Recommended policies/procedures to be instituted regarding:

☒ ☐ **Use:**

See Attachment A

☒ ☐ **Medical Control:**

Responding paramedics will follow standing orders to administer this medication, but may contact their assigned base hospital for any medical direction if needed.

Dr Zita Konik, EMS Medical Director will provide retrospective medical control

Queen of the Valley Medical Center Base Hospital will provide direct medical control.

☒ ☐ **Treatment Protocols:**

See Attachment A

☒ ☐ **Quality assurance of the procedure or medication:**

The Napa County QA system includes oversight from our three ALS agencies, our base hospital coordinator and base hospital physicians. Additionally, our Medical Advisory Committee (MAC), Prehospital Trauma Advisory Committee (PreTAC), and or CQI committee, which serve as advisory groups to the LEMSA, will review all

potential adverse events and/or protocol violations and will report them to the Napa County EMS Agency for review.

☒ ☐ **10. Description of the training and competency testing required to implement the procedure or medication:**

Prehospital personnel were trained in the use of TXA as part of participating in the trial study. Additional training will occur through each individual agency and a Field Care Audit prior to the implementation of the revised indications.

☒ ☐ **11. Copy of the local EMS System Evaluation and Quality Improvement Program plan for this request:**

On file at EMSA

☐ ☒ **12. Make up of local medical advisory committee, appointed by the medical director, to assist with the evaluation of the trial study:**

This is not a Trial Study

Major Hemorrhage Control

FIELD TREATMENT GUIDELINE T-03

INDICATION

- When direct pressure and elevation cannot control bleeding, use of a tourniquet device and/or hemostatic can minimize blood loss and safely and effectively assist in the care of patients with uncontrollable bleeding in extremities.

BLS

- Follow **General Trauma Care T-01**
  - Indications for tourniquet placement include: Injuries in which pressure/dressings do not control bleeding.
  - Injuries with an impaled foreign body and ongoing extremity bleeding.
  - A multi-casualty incident (MCI) where immediate bleeding control is needed so you can move onto the next patient.
  - Significant extremity hemorrhage accompanied by:
    - Need for airway management.
    - Circulatory shock.
    - Need for other emergent interventions or assessment.
    - Significant bleeding from multiple locations.
- Consider applying a tourniquet (without tightening) for any stable patient whose bleeding appears to be easily and quickly controlled by direct pressure.
  - This can be especially important when a wound has the potential for uncontrolled hemorrhage, e.g., GSW, stabbing, crushing or mangling of extremities.
  - When in doubt, apply the tourniquet so that it may be easily deployed if the patient's condition deteriorates.
- The SWAT-T Tourniquet is approved for Tactical EMS Operations and declared MCIs.
- Indications for use of a hemostatic agent:
  - Bleeding is not completely controlled with the use of a tourniquet or where tourniquets are not indicated (e.g. head, neck, trunk, etc).
    - Identify the source of the hemorrhage.
    - Pack the QuikClot® Gauze in the wound over the point of hemorrhage.
    - If possible, pack the entire dressing.
    - Apply direct pressure for 2-3 minutes.
    - Replace pressure dressing / tourniquet. If no tourniquet is available, maintain manual pressure with hand over gauze or wrap with available bandage.

ALS

Consider **TRANEXAMIC ACID** if:

- Indication:
  - Adults, age ≥15 years old and;
  - Any sustained blunt or penetrating trauma with signs and symptoms of hemorrhagic shock within 3 hours and one or more of the following:
    - Systolic blood pressure of less than 90 mmHg at scene of injury, during ground medical transport, or on arrival to designated trauma centers.
    - Bleeding uncontrolled by direct pressure or tourniquet.
    - Significant blood loss and a heart rate greater than 120 BPM.
- Administration
  - Administer TXA 1 gram in 100 mL NS IV/IO over 10 min **(NO IV PUSH)**.
  - Follow IV fluid resuscitation; refer to **Fluid Challenge AP-09**.

KEY CONCEPTS

- Early notification to Receiving Facility is required when using tourniquets, hemostatic agents, or **TRANEXAMIC ACID**.
- Scene time for major trauma patients should be limited to < 10 minutes whenever possible.
- In cases of amputated extremities, place the amputated part in dry, sterile dressing and place in sealed plastic container/bag; place on top of ice or cold packs.

NAPA COUNTY EMS AGENCY

Tranexamic Acid

MEDICATION REFERENCE CARD

INDICATION	• Adults, who sustained blunt or penetrating trauma with signs and symptoms of hemorrhagic shock within 3 hours and one or more of the following:
	  • Systolic blood pressure of less than 90 mmHg at scene of injury, during ground medical transport, or on arrival to designated trauma centers.
	  • Bleeding uncontrolled by direct pressure or tourniquet.
	  • Significant blood loss and a heart rate greater than 120 BPM.

CONTRAINDICATION	• Age < 15 years old. • Any patient with an active thromboembolic event (within the last 24 hours), i.e., active stroke, myocardial infarction or pulmonary embolism. • Any patient with a hypersensitivity or anaphylactic reaction to TXA. • Any patient more than three (3) hours post injury. • Traumatic arrest with greater than five (5) minutes of CPR without return of vital signs. • Penetrating cranial injury. • Traumatic brain injury with brain matter exposed. • Isolated drowning or hanging victims. • Documented cervical cord injury with motor deficit.
SIDE EFFECTS	• Thromboembolism (DVT and pulmonary embolism) • Gastrointestinal effects including nausea, vomiting and diarrhea • Headache • Fatigue • Dizziness • Visual disturbances
ADULT DOSE	• 1 gram in 100 mL NS IV/IO over 10 min (**NO IV PUSH**).
PEDIATRIC	*****NOT LOCALLY INDICATED FOR PEDIATRIC PATIENTS*****
CAUTION	• Patients with thromboembolism risk • Patients with renal impairment • Patients with history of upper urinary tract bleeding
ACTIONS	• A synthetic derivative of lysine that inhibits fibrinolysis by blocking the lysine binding sites on plasminogen. • Inhibits both Plasminogen activation and Plasmin activity thus preventing clot breakdown.
GUIDELINE	• **T-03** Major Hemorrhage Control