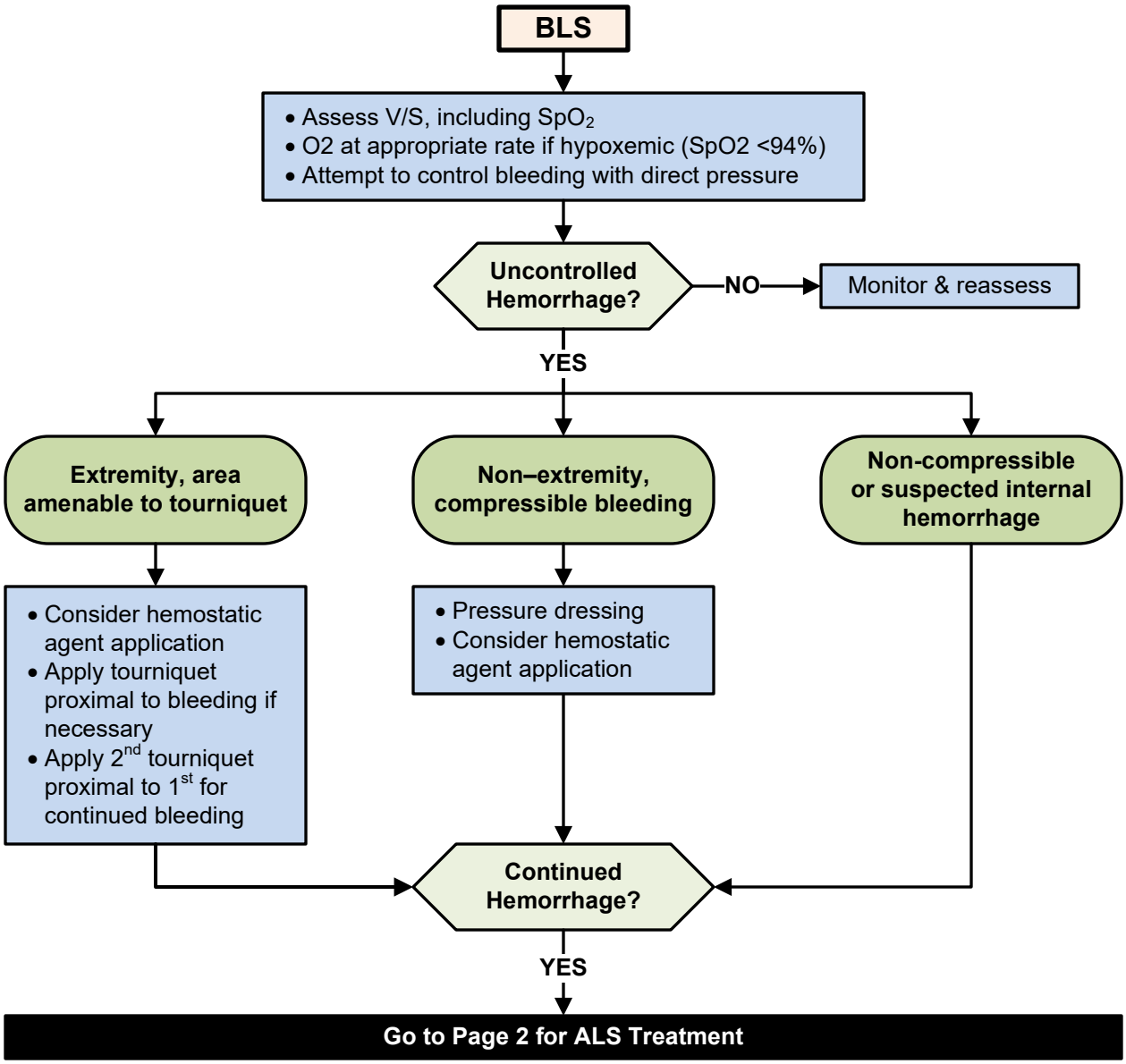
Sierra – Sacramento Valley EMS Agency Treatment Protocol	T-4
Hemorrhage	
Approval: Troy M. Falck, MD – Medical Director	Effective: 10/01/2026
Approval: John Poland – Executive Director	Next Review: 07/2029

Tourniquet Devices:

- Any windlass style device included on the current Committee on Tactical Combat Casualty Care (CoTCCC) recommended Limb Tourniquets (non-pneumatic) list may be utilized by EMS personnel.
- Tourniquets applied by lay rescuers or other responders shall be evaluated for appropriateness and may be adjusted or removed if necessary – improvised tourniquets should be removed by prehospital personnel.
- If application is indicated & appropriate, a commercial tourniquet should not be loosened or removed by prehospital personnel unless time to definitive care will be greatly delayed (>2 hrs).

Hemostatic Dressings:

- Any hemostatic agent that is incorporated into gauze (no loose granules/particles) included on the current CoTCCC recommended Hemostatic Dressings list may be utilized by EMS personnel.



- In trauma pts with suspected active hemorrhage, control life-threatening bleeding before routine airway or blood pressure augmenting interventions.
- Push-dose epinephrine is not routinely indicated for hemorrhagic shock & may worsen bleeding by increasing BP before hemorrhage control is achieved.
- Routes for TXA other than IV/IO (e.g., nebulized, topical) may be considered (with base/modified base hospital order) for bleeding from epistaxis, lacerations, or oral trauma.
- For post-partum hemorrhage, refer to Childbirth Protocol (OB-G1).

ALS

- Cardiac monitor, $EtCO_2$ monitoring
- Establish vascular access
- Do not aggressively administer fluids – control volume resuscitation:
  - For pts in hemorrhagic shock from trauma – target SBP 80-100
  - For pts in hemorrhagic shock with suspected moderate/severe TBI or spinal cord injury – target SBP >100
- If hemorrhagic shock persists, evaluate for Tranexamic Acid (TXA)

TXA INCLUSION CRITERIA

Does pt meet the following inclusion criteria?

- Blunt or penetrating traumatic injury with signs/symptoms of hemorrhagic shock: including SBP <90 or <100 in pts ≥65 yo

OR

- Significant hemorrhage (either of the following):
  - Significant blood loss with HR >120
  - Hemorrhage not controlled by direct pressure, hemostatic agents, or commercial tourniquet application

NO → Monitor & reassess

YES

TXA EXCLUSION CRITERIA

Does pt. meet any of the following exclusion criteria?

- Extremity hemorrhage controlled by tourniquet
- Time since injury >3 hrs
- Isolated traumatic brain injury
- Thromboembolic event (i.e., stroke, MI, PE) in past 24 hrs
- Hypotension secondary to suspected cervical cord injury with motor deficit or spinal shock

YES → Monitor & reassess

NO

BASE/MODIFIED BASE HOSPITAL ORDER ONLY

Tranexamic Acid (TXA) IV/IO

- Mix 2 gm TXA in 100mL D_5W or NS and infuse over 10 mins