

POLICY: 554.84  
TITLE: Crush Injury

EFFECTIVE: 09/01/2026  
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SUPERCEDES:

APPROVAL SIGNATURES ON FILE IN EMS OFFICE

PAGE: 1 of 2

**CRUSH INJURY**

I. AUTHORITY

Health and Safety Code, Division 2.5, California Code of Regulations, Title 22, Division 9

II. PURPOSE

To serve as a patient treatment standard for EMR's, EMT's AEMTs, and Paramedics within their scope of practice.

III. PROTOCOL

**Provider Key: F= First Responder/EMR E= EMT O=EMT Local Optional SOP**  
**P= Paramedic A=Advanced EMT D= Base Hospital Physician Order Required**

|                                                                                                                                                                                                      | F | E | O | A | P | D |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|
| <b>ASSESSMENT</b>                                                                                                                                                                                    | X | X | X | X | X |   |
| <b>CONTROL OBVIOUS BLEEDING</b>                                                                                                                                                                      | X | X | X |   | X |   |
| <b>BLS AIRWAY:</b> okay if airway patent. Support ventilations with appropriate airway adjuncts.                                                                                                     | X | X | X | X | X |   |
| <b>ADVANCED BLS AIRWAY:</b> if patient's GCS is less than 8 and not rapidly improving, consider SGA.                                                                                                 |   |   | X | X | X |   |
| <b>ADVANCED ALS AIRWAY:</b> if patient's GCS $\leq$ 8 and not rapidly improving, consider ETI.                                                                                                       |   |   |   |   | X |   |
| <b>PULSE OXIMETRY:</b> apply and monitor.                                                                                                                                                            |   | X | X | X | X |   |
| <b>CAPNOGRAPHY:</b> apply and monitor.                                                                                                                                                               |   |   |   |   | X |   |
| <b>OXYGEN:</b> if pulse oximetry <94% or signs of hypoperfusion or respiratory distress.                                                                                                             | X | X | X | X | X |   |
| <b>ECG MONITOR:</b> as soon as access allows. Lead placement may be delegated. Treat as indicated.                                                                                                   |   |   |   |   | X |   |
| <b>PRIOR TO RELEASE OF COMPRESSION</b>                                                                                                                                                               |   |   |   |   |   |   |
| <b>VASCULAR ACCESS:</b> P - IV/IO, rate as indicated. AEMT - IV only.                                                                                                                                |   |   |   | X | X |   |
| <b>FLUID BOLUS:</b> administer 250 mL NS boluses as indicated to SBP $\geq$ 90. Reassess after each bolus.                                                                                           |   |   |   | X | X |   |
| <b>*TRANEXAMIC ACID:</b> 2 gm rapid IV/IO push if indicated.                                                                                                                                         |   |   |   |   | X |   |
| <b>APPROVED BETA-2 AGONIST:</b> choose <b>ONE</b> of the following beta-2 agonists. If patient intubated, administer inhaled medication through aerosol holding chamber. Repeat as indicated.        |   |   |   | X |   |   |
| <ul style="list-style-type: none"> <li><b>ALBUTEROL:</b> 2-10 inhalations via metered dose inhaler or 2.5 mg via nebulizer. If patient intubated, administer dose through aerosol holding</li> </ul> |   |   |   |   | X |   |

|                                                                                                                                                                                                                                                                                                                       |   |   |   |   |   |   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|
| chamber.<br>• <b>LEVALBUTEROL:</b> 1.25 mg via nebulizer.                                                                                                                                                                                                                                                             |   |   |   |   |   |   |
| <b>BASE CONTACT:</b> consult if able prior to release of compression for orders                                                                                                                                                                                                                                       |   | X | X | X | X | X |
| <b>DURING OR AFTER RELEASE OF COMPRESSION</b>                                                                                                                                                                                                                                                                         | F | E | O | A | P | D |
| <b>REASSESS:</b> control obvious bleeding                                                                                                                                                                                                                                                                             | X | X | X | X | X |   |
| <b>HYPERKALEMIA: DO NOT GIVE MEDICATIONS IN SAME IV LINE</b><br>Suspect if compression $\geq$ 2 hours and peaked "T" wave, absent "P" wave, or widened "QRS".<br>• <b>CALCIUM CHLORIDE:</b> 1 gm IV/IO over 5 minutes, followed by 20 mL NS flush<br>• <b>SODIUM BICARBONATE:</b> mix 100mEq in 1000 mL NS wide open. |   |   |   |   | X |   |
| <b>SPINAL MOTION RESTRICTION:</b> if indicated.                                                                                                                                                                                                                                                                       | X | X | X | X | X |   |
| <b>POSITION:</b> Trendelenburg if tolerated. If long spine board is indicated, tilt spine board 30 degrees. If patient is > 6 months pregnant, place patient in left lateral decubitus position.                                                                                                                      | X | X | X | X | X |   |
| <b>TRANSPORT:</b> per trauma triage protocol.                                                                                                                                                                                                                                                                         | X | X | X | X | X |   |
| <b>DRESS &amp; SPLINT:</b> as needed                                                                                                                                                                                                                                                                                  | X | X | X | X | X |   |
| <b>PAIN MANAGEMENT:</b> Refer to MCEMSA PAIN MANAGEMENT #554.44                                                                                                                                                                                                                                                       |   |   |   | X | X |   |

\*TXA should be administered to trauma patients who meet the following criteria, unless otherwise indicated:

1. Systolic BP of < 90 mmHg.
2. Uncontrolled Bleeding.
3. Time of injury < 3 hours.