



ORANGE COUNTY EMERGENCY MEDICAL SERVICES  
BASE HOSPITAL TREATMENT GUIDELINES  
CRUSH INJURIES (ADULT/ADOLESCENT)

**BASE GUIDELINES**

1. Determine ALS Standing Order treatments/procedures rendered prior to base hospital contact. Use ALS standing order as guidelines for treatments/procedures not initiated prior to base hospital contact.
2. BH-T-20/SO-T-20 Crush Injuries- Adult/Adolescent orders apply to crush injury of muscular regions of the legs, pelvis, arms, and shoulders and do not apply to isolated crush injuries of hands or feet. Treat hand or foot crush injuries as isolated skeletal fractures per *BH-T-05/SO-T-05 General Injury and Trauma-Adult/Adolescent*.
3. For continued signs of hypovolemia or poor perfusion;
  - ▶ *Continue Normal Saline as a wide open infusion to attain or maintain perfusion.*
4. For continued uncontrolled pain when BP greater than 90 systolic:
  - ▶ May repeat or give Fentanyl 50 mcg IV/IM/IO (or 100 mcg IN) or Morphine Sulfate 5 mg IV/IM/IO, repeat once after 3 minutes for continued pain if systolic BP greater than 90 (maximum total dose of Fentanyl 200 mcg, Morphine 20 mg).

**ALS STANDING ORDER**

1. Assist ventilation with BVM when indicated.
2. Obtain pulse oximetry; if oxygen saturation less than 95%, administer:
  - ▶ *High flow oxygen by mask or nasal cannula at 6l/min flow rate as tolerated.*
3. IV access in unaffected limb and administer (IO access acceptable if unconscious or hypotension without IV attainable):
  - ▶ *250 mL Normal Saline bolus, prior to release of compression force.*
4. For signs of hypovolemia or poor perfusion;
  - ▶ *Continue Normal Saline as a wide open infusion to attain or maintain perfusion.*
5. For possible hyperkalemia secondary to crush injury release of potassium from injured tissue:
  - ▶ *Albuterol, continuous nebulization 6 mL (5 mg) concentration as tolerated.*
6. If crush injury duration greater than one (1) hour:
  - ▶ *Sodium bicarbonate (NaHCO<sub>3</sub>) one 50 mL prefilled syringe IV or IO (if already established for saline infusion)*
7. Morphine sulfate or Fentanyl as needed pain, if BP greater than 90 systolic:
  - ▶ *Morphine sulfate 5 mg (or 4 mg carpule) IV/IM; or IO (if already established for saline infusion); may repeat once in 3 minutes to control pain.*
  - OR**
  - ▶ *Fentanyl 50 mcg IV/IM or Fentanyl 100 mcg IN, may repeat in after 3 minutes to control pain.*
8. Release compression and extricate patient.
9. For uncontrolled bleeding, apply direct pressure or hemostatic dressings.
10. Non-compressive splints as needed.
11. ALS escort, contact Base Hospital for TC designation/destination.

Approved: