ORANGE COUNTY EMERGENCY MEDICAL SERVICES
BASE HOSPITAL TREATMENT GUIDELINES
GENERAL INJURY AND TRAUMA (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. Patients meeting trauma triage criteria should be routed to the nearest open OCEMS designated Trauma Center.

3. Trauma victim destination is determined by the Base Hospital.

GENERAL:

1. A person sustaining blunt or penetrating injury with the presence of any of the following is considered to meet trauma triage criteria
   A. Abnormal Vital Signs:
      - Unable to follow commands with an acute decrease in usual mental status (motor GCS <6)
      - Respiration:
        RR <10 or >29 breaths per minute
        Respiratory distress or need for respiratory support or
        Room-air pulse oximetry <90%
      - Systolic Blood Pressure:
        Age 0-9 years: Systolic BP <70mmHg + (2 X age in years)
        Age 10-64 years: SBP <90mmHg
        Age ≥ 65 years: SBP <110mmHg
      - Heart Rate:
        For age ≥ 10 years: Heart rate > systolic pressure

ALS STANDING ORDER

AUTO ACCIDENT WITH AIRBAG DEPLOYMENT:

1. For eye irritation, brush off any powder around upper face and irrigate copiously with water.
   → Ask patient if wearing contact lenses and if yes, ask patient to remove lenses if still in place.

2. Pulse oximetry; if oxygen saturation less than 95% give:
   ▶ *High-flow oxygen by mask or nasal cannula at 6 l/min flow rate as tolerated.*

3. For respiratory distress with wheezes, administer *albuterol:*
   ▶ *Albuterol, Continuous nebulization 6 mL (5 mg) concentration as tolerated.*

4. Make base contact for any patient who meets Trauma Triage Criteria (OCEMS Policy # 310.30)

5. If patient does not meet Trauma Triage Criteria, transport to nearest available ERC (ALS escort if Albuterol required for stabilization).

EXTERNAL BLEEDING / HEMORRHAGE:

1. Apply direct pressure to bleeding site to control blood loss
   - For continued bleeding after application of direct pressure, consider use of approved hemostatic dressing.
   - Use of a tourniquet is appropriate when upper or lower extremity hemorrhage cannot be controlled by applying direct pressure or hemostatic dressing to the site of bleeding.
   - Make base contact for any patient who meets Trauma Triage Criteria (OCEMS Policy # 310.30).

Approved: Carl Schultz, MD

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BASE GUIDELINES

2. When transporting women who are estimated to be 20 weeks or more gestation (2nd and 3rd trimester) tilt the backboard to the patient's left to maintain a modified left-lateral position.
3. *Needle Thoracostomy (Procedure PR-60)* for rapidly deteriorating patient with severe respiratory distress who has signs and symptoms of life-threatening tension pneumothorax which may include:
   - → Progressively worsening dyspnea
   - → Hypotension
   - → Decreased or diminished breath sounds on affected side
   - → Distended neck veins
   - → Tracheal deviation away from the affected side

AIRBAG DEPLOYMENT:

1. Consider potential for eye injuries, blunt force trauma chest injuries.

EXTERNAL BLEEDING / HEMORRHAGE:

1. Continue Normal Saline IV as a wide open infusion to maintain perfusion.

EYE INJURY:

1. *For continued pain, may repeat or give Fentanyl 50 mcg IV/IM (or 100 mcg IN) or Morphine Sulfate 5 mg IV, repeat once after 3 minutes for continued pain if systolic BP greater than 90.*

2. If not suspected or known to be pregnant, consider Ondansetron ODT or IV per ALS SO on left.

ALS STANDING ORDER

2. Pulse oximetry; if oxygen saturation less than 95% give:
   - ▶ *High-flow oxygen by mask or nasal cannula at 6 l/min flow rate as tolerated.*
3. IV access if hypotensive or per paramedic judgment, do not delay transport to establish IVs.
   - ▶ *250 mL Normal Saline IV, continue Normal Saline as a wide open infusion to maintain perfusion.*
4. Base contact required if hypotensive or normal saline infusion required for stabilization.

EYE INJURY:

1. Cover injured eye without applying pressure to the globe.
2. Elevate head 30 degrees or more if spinal motion restriction is not required.
3. *Morphine sulfate* or *Fentanyl* as needed for pain, if BP greater than 90 systolic:
   - ▶ *Morphine sulfate 5 mg (or 4 mg carpuject) IV/IM, may repeat once in 3 minutes to control pain;*
     OR,
     Fentanyl 50 mcg IV/IM or Fentanyl 100 mcg IN, may repeat once in 3 minutes to control pain
4. For nausea or vomiting , and not suspected or know to be pregnant:
   - ▶ *Ondansetron (Zofran™) 8 mg (two 4 mg ODT tablets) to dissolve orally on inside of cheek*
     OR,
     4 mg IV, may repeat 4 mg IV once after approximately 3 minutes for continued nausea or vomiting.
5. Transport to nearest appropriate ERC (ALS escort if medications required).

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BASE GUIDELINES

ISOLATED SKELETAL TRAUMA (Fractures or Amputations) NOT MEETING TRAUMA TRIAGE CRITERIA:

1. For extremity fractures, always note presence or absence of peripheral pulses and sensation.
2. *For continued pain, may repeat or give Fentanyl 50 mcg IV/IM (or 100 mcg IN) or Morphine Sulfate 5 mg IV, repeat once after 3 minutes for continued pain if systolic BP greater than 90.*

IMPALED OBJECTS NOT MEETING TRAUMA TRIAGE CRITERIA:

1. *For continued pain, may repeat or give Fentanyl 50 mcg IV/IM (or 100 mcg IN) or Morphine Sulfate 5 mg IV, repeat once after 3 minutes for continued pain if systolic BP greater than 90.*
2. Generally, do not remove impaled objects. May remove impaled objects when necessary to maintain airway control or as needed to transport with Base Hospital Physician order.

ALS STANDING ORDER

ISOLATED SKELETAL TRAUMA (Fractures or Amputations) NOT MEETING TRAUMA TRIAGE CRITERIA:

1. Splint or immobilize fractured extremities (note any breaks of skin or open wounds).
2. May place cold packs over splinted fracture sites for comfort.
3. *Morphine sulfate or Fentanyl* as needed for pain, if BP greater than 90 systolic:
   - *Morphine sulfate 5 mg (or 4 mg carpuject) IV/IM, may repeat once in 3 minutes to control pain;*
     OR,
     Fentanyl 50 mcg IV/IM or Fentanyl 100 mcg IN, may repeat once in 3 minutes to control pain
4. Transport to nearest available ERC (ALS escort if morphine or fentanyl given).

IMPALED OBJECTS NOT MEETING TRAUMA TRIAGE CRITERIA:

1. Stabilize impaled object in place when possible unless this causes a delay in extrication or transport.
2. DO NOT Remove impaled objects in face or neck unless ventilation is compromised.
3. *Morphine sulfate or Fentanyl* as needed for pain, if BP greater than 90 systolic:
   - *Morphine sulfate 5 mg (or 4 mg carpuject) IV/IM, may repeat once in 3 minutes to control pain;*
     OR,
     Fentanyl 50 mcg IV/IM or Fentanyl 100 mcg IN, may repeat once in 3 minutes to control pain.
4. Transport to nearest available ERC (ALS escort if morphine or fentanyl given).

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BASE GUIDELINES

SUSPECTED TRAUMATIC BRAIN INJURY (TBI):

- The goal of managing these patients in the prehospital setting is to prevent hypotension or hypo perfusion state.
- Have a low threshold for supporting respiratory status with oxygen, airway adjuncts, BVM and/or ETT/iGel.

Note VS differences for TBI:

1. Pulse Oximetry
   a. Note P.O. >90% as the value to maintain.
2. Systolic Blood Pressure
   a. Maintain blood pressure for adult (<65 yo) at 100 mmHg. If below please follow SO.
   b. >65 years of age SBP needs to be maintained at >110 mmHg.

ALS STANDING ORDER

SUSPECTED TRAUMATIC BRAIN INJURY (TBI):

1. Monitor all patients with continuous Pulse Oximetry.
   - ▶ *Provide supplemental oxygen via nasal cannula at 6L/min flow rate or high flow oxygen by face mask and maintain P.O. > 90%*

     If unable to maintain P.O. > 90% with oxygen alone, reposition airway as appropriate (consider c-spine precautions). If P.O. now > 90%, continue monitoring.

     If P.O. still < 90%, deliver positive pressure ventilation with bag-valve-mask in conjunction with airway adjuncts. If P.O. now > 90%, continue monitoring.

     If P.O. still <90%, place a supraglottic airway or endotracheal tube if possible. Continue monitoring.
2. Monitor all patients with continuous End Tidal CO_2.
   - ▶ *Maintain $ETCO_2$ between 35 and 45 mmHg if possible, especially for ventilated patients.*
3. Monitor systolic blood pressure for all patients every 5 minutes.
   - ▶ If systolic blood pressure drops below 100 mmHg, administer 250mL Normal Saline IV, and continue as wide open infusion to maintain systolic BP > 100 mmHg.
   - ▶ For patients 65 years of age or older, initiate IV fluids when systolic blood pressure drops below 110 mmHg, with goal of maintaining systolic BP >110 mmHg.
4. Assess GCS in all patients.
   - ▶ *In patients with a GCS of 8 or less, establish an airway by the most appropriate means available.*
5. Transport to trauma center.

Approved: [signature]

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BASE GUIDELINES

ALS STANDING ORDER

TREATMENT GUIDELINES:

GENERAL**:**

- When transporting women on a backboard who are estimated to be 20 weeks or more gestation (2nd or 3rd trimester) tilt the backboard to the patient's left to maintain a modified left-lateral position.
- Base contact is required for any patient meeting Trauma Triage Criteria to determine appropriate receiving PTRC.

AIRBAG DEPLOYMENT:

- Watch for side airbag or secondary airbag deployment.
- Consider potential for eye injuries, blunt force trauma chest injuries.

ISOLATED SKELETAL TRAUMA (Fractures or Amputations) NOT MEETING TRAUMA TRIAGE CRITERIA:

- For extremity fractures, always note presence or absence of peripheral pulses and sensation.

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