**AIRWAY EQUIPMENT**

<table>
<thead>
<tr>
<th>Airways:</th>
<th>BLS Transport</th>
<th>ALS Fireline/ Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Oropharyngeal (Sizes 0 – 6)</td>
<td>2 each</td>
<td>1 each</td>
<td>1 each</td>
<td>2 each</td>
</tr>
<tr>
<td>· Nasopharyngeal, soft rubber (sizes 14Fr., 18Fr., 22Fr., 26Fr., 28Fr., 30Fr., 32Fr., 34Fr., 36Fr.)</td>
<td>2 each</td>
<td>1 each</td>
<td>1 each</td>
<td>2 each</td>
</tr>
</tbody>
</table>

| Atomizer for intranasal medication administration (MAD device) | 2 | 2 | 2 | 3 |

<table>
<thead>
<tr>
<th>Airway</th>
<th>BLS Transport</th>
<th>ALS Fireline/ Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Size 3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· Size 4</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· Size 5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

| Continuous Positive Airway Pressure Device | 0 | 0 | (optional) | 1 |

<table>
<thead>
<tr>
<th>Intubation Equipment</th>
<th>BLS Transport</th>
<th>ALS Fireline/ Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Laryngoscope handle (battery powered)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>· Additional batteries</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>· Blades (curved 1 - 4)</td>
<td>0</td>
<td>1 x #4</td>
<td>1 each</td>
<td>1 each</td>
</tr>
<tr>
<td>· Blades (straight 0 – 4)</td>
<td>0</td>
<td>1 x #4</td>
<td>1 each</td>
<td>1 each</td>
</tr>
<tr>
<td>· Bulbs (extra or disposable)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>· Magill forceps (adult and pediatric)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1 each</td>
</tr>
<tr>
<td>· Endotracheal tubes</td>
<td>0</td>
<td>Size 7.5 = 1</td>
<td>1 each</td>
<td>2 each</td>
</tr>
<tr>
<td>· Disposers (adult)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· End-Tidal CO2 Detectors</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· Adult – Colormetric</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· Capnograph or digital (optional)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>· Esophageal Detector Device (optional if Capnometer is utilized)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>· Endotracheal Tube Introducer (ETTI)</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· ET Tube Holder (adult)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· Meconium Aspirator DELETE</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Videolaryngoscopy (adult)</td>
<td>0</td>
<td>0</td>
<td>optional</td>
<td>optional</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nebulizer</th>
<th>BLS Transport</th>
<th>ALS Fireline/ Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Hand-held OR Patient activated</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· In-line nebulizer equipment with T-piece</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
### Oxygen Equipment and Supplies

- **Fixed tank in vehicle with regulator; M-tank or H-tank**
  - BLS: 1
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 0
  - ALS Transport: 1

- **Regulator**
  - BLS: 1
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 1
  - ALS Transport: 1

- **Portable tank (minimum D tank)**
  - BLS: 2
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 1
  - ALS Transport: 2

- **Adult face masks: transparent, non-rebreathing; Child/infant: simple or non-rebreathing**
  - BLS: 4 each
  - ALS Fireline/Tactical: 2
  - ALS First Responder: 0
  - ALS Transport: 2, 2

- **Nasal cannulas (adult, child, infant)**
  - BLS: 4 each
  - ALS Fireline/Tactical: 2
  - ALS First Responder: 0
  - ALS Transport: 2, 2

- **Portable Pulse Oximetry**
  - BLS: Optional
  - ALS Fireline/Tactical: Optional
  - ALS First Responder: Optional
  - ALS Transport: 1

### Pleural Decompression kit:

- **≥14g needle, ≥3 inches long; Heimlich valve; occlusive dressing; 10 ml syringe**
  - BLS: 0
  - ALS Fireline/Tactical: 1
  - ALS First Responder: 1
  - ALS Transport: 1

### Resuscitation bag-valve-mask (BVM)

- **Adult, pediatric, infant**
  - BLS: 1 each
  - ALS Fireline/Tactical: 1 adult
  - ALS First Responder: 1 each
  - ALS Transport: 2, 1, 1

### Suction Equipment and Supplies

- **Suction apparatus – Portable / battery powered**
  - BLS: 1
  - ALS Fireline/Tactical: 1 portable self contained unit
  - ALS First Responder: 1 portable self contained unit
  - ALS Transport: 1

- **Pharyngeal tonsil tip (rigid)**
  - BLS: 2 equivalent
  - ALS Fireline/Tactical: 2 equivalent
  - ALS First Responder: 2
  - ALS Transport: 2

- **Suction catheters: 6 Fr, 8 Fr, 10 Fr, 14 Fr, 16 Fr, 18 Fr**
  - BLS: 2 each
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 0
  - ALS Transport: 2 each

- **Suction canister (spares)**
  - BLS: 2
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 0
  - ALS Transport: 2

- **Suction tubing**
  - BLS: 2
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 0
  - ALS Transport: 2

### Dressing Materials

#### Bandages

- **Bulk non-sterile**
  - BLS: 1 box / pkg
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 0
  - ALS Transport: 1 box

- **4 x 4" sterile gauze pads**
  - BLS: 12
  - ALS Fireline/Tactical: 6
  - ALS First Responder: 12
  - ALS Transport: 12

- **10 x 30" universal dressings**
  - BLS: 2
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 2
  - ALS Transport: 2

- **ABD Pads**
  - BLS: 6
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 6
  - ALS Transport: 6

- **40" triangular bandage with safety pins**
  - BLS: 4
  - ALS Fireline/Tactical: 2
  - ALS First Responder: 2
  - ALS Transport: 4

- **Elastic bandage 3" (Ace)**
  - BLS: 2
  - ALS Fireline/Tactical: 2
  - ALS First Responder: 2
  - ALS Transport: 2

- **Occlusive dressing**
  - BLS: 4
  - ALS Fireline/Tactical: 2
  - ALS First Responder: 2
  - ALS Transport: 4

- **Hemostatic dressings (must be CA EMSA approved)**
  - BLS: optional
  - ALS Fireline/Tactical: optional
  - ALS First Responder: optional
  - ALS Transport: optional

- **Roller bandages (2", 3", 4", or 6")**
  - BLS: 6
  - ALS Fireline/Tactical: 2
  - ALS First Responder: 3
  - ALS Transport: 6

#### Band-Aids (Assorted)

- BLS: 1 box
  - ALS Fireline/Tactical: 0
  - ALS First Responder: 1 box
  - ALS Transport: 1 box

#### Burn Sheets (sterile) or commercial burn kit

- BLS: 2
  - ALS Fireline/Tactical: 2
  - ALS First Responder: 2
  - ALS Transport: 2

#### Cold Packs / Hot Packs

- BLS: 4 ea / 4 ea
  - ALS Fireline/Tactical: 2 each
  - ALS First Responder: 2 each
  - ALS Transport: 4 ea / 4 ea

#### Cryothermic Ice Packs

- BLS: optional
  - ALS Fireline/Tactical: optional
  - ALS First Responder: optional
  - ALS Transport: optional

#### Tape (1" and 2")

- BLS: 2 each
  - ALS Fireline/Tactical: 1" = 2 rolls
  - ALS First Responder: 1 each
  - ALS Transport: 2 each

#### Trauma shears

- BLS: 1
  - ALS Fireline/Tactical: 1
  - ALS First Responder: 1
  - ALS Transport: 1
<table>
<thead>
<tr>
<th>EQUIPMENT AND SUPPLIES</th>
<th>BLS Transport</th>
<th>ALS Fireline/Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol swabs</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Bedpan OR Fracture Pan/Covered Urinal</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Betadine swabs or solution</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Blanket - disposable</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Blood Pressure Cuffs (adult, large arm, thigh, pediatric, infant)</td>
<td>1 each</td>
<td>1 adult</td>
<td>1 x adult, thigh, pedi</td>
<td>1 each</td>
</tr>
<tr>
<td>Bulb Syringe</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Drinking Water (one gallon)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Emesis basin/ disposable bag/ Covered waste container</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>EMS Field Manual Patient Care (8000) Series</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Glucometer</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Irrigation Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· Saline (sterile) 1000 ml</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· Tubing for irrigation DELETE</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Length based color-coded resuscitation tape (most current)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Lubricant, water soluble</td>
<td>4</td>
<td>0</td>
<td>4 packs</td>
<td>4 packs</td>
</tr>
<tr>
<td>Mechanical CPR device</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Monitor/defibrillator equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· Cardiac monitor – (portable) must have strip recorder, defibrillator/transcutaneous</td>
<td>0</td>
<td>0</td>
<td>12-lead optional (pacing optional)</td>
<td>1</td>
</tr>
<tr>
<td>pacing ability for child / adult. May be biphasic or monophasic (biphasic preferred)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1 box</td>
</tr>
<tr>
<td>· ECG electrodes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1 set</td>
</tr>
<tr>
<td>· 12-lead ECG capability</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>OB Delivery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separate and sterile kit includes: Towels, 4” x 4” dressing, umbilical tape or clamp,</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>sterile scissors or other cutting utensil, bulb suction, sterile gloves, and blanket</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· Thermal absorbent blanket and head cover, aluminum foil roll, or appropriate heat-</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>reflective material (enough to cover newborn)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· Appropriate heat source for ambulance compartment</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pen Light</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sharps container</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sheet, pillow case, blanket, towel</td>
<td>4 each</td>
<td>0</td>
<td>0</td>
<td>4 each</td>
</tr>
<tr>
<td>Pillow</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2 or equivalent</td>
</tr>
<tr>
<td>Stethoscope</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Thermometer (with core temp capability)</td>
<td>Optional</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Tourniquet (CAT) and/or SWAT</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Triage tags</td>
<td>20</td>
<td>6</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Biohazard bags (large and small)</td>
<td>4 each</td>
<td>2 small</td>
<td>2 each</td>
<td>4 each</td>
</tr>
<tr>
<td>PPE kit (gloves, gown, booties, face shield, cap)</td>
<td>BLS Transport</td>
<td>ALS Fireline/Tactical</td>
<td>ALS First Responder</td>
<td>ALS Transport</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>---------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>2 per person</td>
<td>0</td>
<td>1 per person</td>
<td>2 per person</td>
</tr>
<tr>
<td>Item</td>
<td>BLS Transport</td>
<td>ALS Fireline/ Tactical</td>
<td>ALS First Responder</td>
<td>ALS Transport</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>---------------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Disposable gloves S/M/L</td>
<td>Box</td>
<td>6 pair</td>
<td>Box</td>
<td>Box</td>
</tr>
<tr>
<td>Face protection mask – N95 or P100</td>
<td>2 pp</td>
<td>0</td>
<td>1 pp</td>
<td>2 pp</td>
</tr>
<tr>
<td>Stair chair or equivalent</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Scoop stretcher or breakaway flat</td>
<td>Optional</td>
<td>0</td>
<td>0</td>
<td>Optional</td>
</tr>
<tr>
<td>Road Flares or Equivalent (30 min)</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Flashlight</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Marin County Map</td>
<td>1</td>
<td>0</td>
<td>Optional</td>
<td>1</td>
</tr>
<tr>
<td>Vehicle Emergency Lights</td>
<td>Set</td>
<td>0</td>
<td>Optional</td>
<td>Set</td>
</tr>
<tr>
<td>MERA Radio</td>
<td>1</td>
<td>Optional</td>
<td>Optional</td>
<td>1</td>
</tr>
<tr>
<td>Company Radio</td>
<td>1</td>
<td>Optional</td>
<td>Optional</td>
<td>1</td>
</tr>
<tr>
<td>Spare Tire</td>
<td>1</td>
<td>0</td>
<td>Optional</td>
<td>1</td>
</tr>
<tr>
<td>IMMOBILIZATION and RESTRAINT DEVICES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervical collars – adjustable</td>
<td>4, 2</td>
<td>1</td>
<td>2, 1</td>
<td>4, 2</td>
</tr>
<tr>
<td>Head immobilization device</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Pediatric Ambulance Transportation Device</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Spinal immobilization (radiolucent) backboard</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· Strap system, adult</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· K.E.D. or equivalent</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Splints (vacuum/cardboard/equivalent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· Short, medium, long</td>
<td>2 each</td>
<td>1 moldable</td>
<td>1 each</td>
<td>2 each</td>
</tr>
<tr>
<td>Traction splint, adult / pediatric</td>
<td>1 each</td>
<td>0</td>
<td>0</td>
<td>1 each</td>
</tr>
<tr>
<td>Quick release synthetic soft restraints (or padded leather)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>IV EQUIPMENT / SYRINGES / NEEDLES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm board (Short)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Catheters – 1” long</td>
<td>0</td>
<td>2 each</td>
<td>2 each</td>
<td>4 each</td>
</tr>
<tr>
<td>Intraosseous Equipment – adult and pedi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· IO needles and/or mechanical device</td>
<td>0</td>
<td>0</td>
<td>optional</td>
<td>1</td>
</tr>
<tr>
<td>· Extra batteries if needed by model</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Intravenous Solutions - 0.9% NL Saline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>· 100 cc bag</td>
<td>0</td>
<td>1000 cc total</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>· 1000 cc bag</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Glucose Paste, 15 gm/ tube</td>
<td>2 tubes</td>
<td>2 tubes</td>
<td>2 tubes</td>
<td>2 tubes</td>
</tr>
<tr>
<td>Pressure Infusion Bags</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Saline Lock</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Extension set (saline lock)</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
### Syringes

- 1 cc TB with removable needle
- 3 cc with 25 g x 5/8” needle
- 10 cc without needle
- filter needle
- 30 cc without needle

### Constriction Band

### Three way stop cock

### Tubing – with adjustable flow

- macro drip (10gtt/cc – 15gtt/cc- adjustable)
- micro drip (60 micro gtts/cc)
- vented (for Acetaminophen IV admin)

### Tubing – with adjustable flow

<table>
<thead>
<tr>
<th>Item Description</th>
<th>BLS Transport</th>
<th>ALS Fireline/Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cc TB with removable needle</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3 cc with 25 g x 5/8” needle</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>10 cc without needle</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>filter needle</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>30 cc without needle</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Constriction band</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Three way stop cock</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

### Tubing – with adjustable flow

- macro drip (10gtt/cc – 15gtt/cc- adjustable)
- micro drip (60 micro gtts/cc)
- vented (for Acetaminophen IV admin)

### Tubing – with adjustable flow

<table>
<thead>
<tr>
<th>Item Description</th>
<th>BLS Transport</th>
<th>ALS Fireline/Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen (Tylenol/Ofirmev), 1000mg / 100ml</td>
<td>0</td>
<td>Optional</td>
<td>Optional</td>
<td>1</td>
</tr>
<tr>
<td>Adenosine, 6 mg in 2 ml NS</td>
<td>0</td>
<td>0</td>
<td>18 mg</td>
<td>36 mg</td>
</tr>
<tr>
<td>Albuterol Unit Dose</td>
<td>0</td>
<td>1 MDI w/Spacer</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Amiodarone, 150 mg in 3 cc NS</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>ASA (chewable), 81 mg</td>
<td>1 bottle</td>
<td>1 bottle</td>
<td>1 bottle</td>
<td>1 bottle</td>
</tr>
<tr>
<td>Atropine, 1 mg in 10 ml</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Atropine 8mg/20 ml (multi-dose)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Calcium Chloride 10%, 1 gm in 10 ml</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Check and Inject Kit (EMS Agency approved providers only)</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CYANOKIT (or hydroxocobalamin equivalent)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Dextrose 10%</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Diphenhydramine, 50 mg/1ml</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Duo-Dote (Nerve Gas Auto-injector)</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Epinephrine 1 mg/1 ml (5 mg min)</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Epinephrine 1 mg/10 ml</td>
<td>0</td>
<td>0</td>
<td>1 mg</td>
<td>2 mg</td>
</tr>
<tr>
<td>Glucagon, 1 mg</td>
<td>0</td>
<td>1 mg</td>
<td>1 mg</td>
<td>2 mg</td>
</tr>
<tr>
<td>Ipratroprium (Atrovent), Unit Dose</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Lidocaine 2% (20mg/ml)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Midazolam, 2 mg/2 ml</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>optional</td>
</tr>
<tr>
<td>Midazolam, 5 mg/1 ml</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>optional</td>
</tr>
<tr>
<td>Morphine Sulfate, 10 mg/1 ml</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>optional</td>
</tr>
<tr>
<td>Naloxone (Narcan), 2 mg/ 5 ml</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Narcan Nasal Spray</td>
<td>1 kit</td>
<td>0</td>
<td>1 container</td>
<td>1 container</td>
</tr>
<tr>
<td>Nitroglycerine, 0.4mg/tablet or spray</td>
<td>0</td>
<td>1 container</td>
<td>1 container</td>
<td>1 container</td>
</tr>
<tr>
<td>Ondansetron (Zofran) 4mg PO tablet</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Ondansetron (Zofran) 4mg/2ml</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Item</td>
<td>BLS Transport</td>
<td>ALS Fireline/ Tactical</td>
<td>ALS First Responder</td>
<td>ALS Transport</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Sodium Bicarbonate, 50 mEq/ 50 ml</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sublimaze (Fentanyl), 100mcg/2 ml</td>
<td>0</td>
<td>optional</td>
<td>optional</td>
<td>optional</td>
</tr>
</tbody>
</table>
INTERFACILITY TRANSFER POLICY

PURPOSE
To provide direction and policy for interfacility transfers by certified EMS providers in Marin County.

RELATED POLICIES
5001 General System Operations
GPC 5 Interfacility Transfer Procedure

AUTHORITY
Health & Safety Code 1797.200, 1797.218, 1797.222
Marin County Code of Ordinances, Chapter 7.60, “Ambulance Transportation Services”
Marin County Board of Supervisors Resolution 96-41

DEFINITIONS
1. **Interfacility Transfer** – The movement of a patient by ambulance from one healthcare facility as defined below to another healthcare facility.
2. **Rapid Re-triage** – An emergent interfacility transfer of a trauma patient from an Emergency Department to a designated Trauma Center.
3. **Certificate of Operation** – annual certificate issued by the Marin County EMS Agency to a private ambulance company doing business in Marin that has met all regulatory requirements.
4. **Certified EMS Provider** – A private ambulance company with a current certificate of operation, authorized by the County to provide ambulance services.
5. **Zone Provider** – Fire Department ambulance service having a primary zone provider contract or its subcontractors according to the Marin County EMS Plan
6. **Permitted Ambulance** – An ambulance with a current permit from the Marin County EMS Agency.
7. **Healthcare Facility** – Licensed healthcare facilities as described in Table 1

Table 1
<table>
<thead>
<tr>
<th>Sending Healthcare Facilities allowed by this policy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acute care hospitals</td>
</tr>
<tr>
<td>• Long Term Acute Care (LTAC) facilities</td>
</tr>
<tr>
<td>• Skilled Nursing Facilities (SNF)</td>
</tr>
<tr>
<td>• Urgent care centers, institutional infirmaries, clinics, and physicians’ offices with MD, DO, PA, NP or RN in attendance</td>
</tr>
<tr>
<td>Examples of nonqualified facilities (not exhaustive):</td>
</tr>
<tr>
<td>• Board and care facilities</td>
</tr>
<tr>
<td>• Assisted living facilities</td>
</tr>
<tr>
<td>• Senior living housing</td>
</tr>
<tr>
<td>• Private residences</td>
</tr>
</tbody>
</table>
POLICY
A. In Marin County, interfacility transfers must be conducted by a certified EMS provider except for the following cases:
   1. A transfer that originates in Marin and terminates outside Marin.
   2. A transfer that originates outside Marin and terminates in Marin.
B. Interfacility transfers requiring ALS, CCT, or other level of specialty care (e.g., neonatal, bariatric, infectious disease, etc.) must use a unit staffed and equipped for that level of care.
C. Certified Marin County EMS providers may transfer patients, at a level of service they are permitted to provide, as ordered by physicians from qualified healthcare facilities.
D. From nonqualified facility locations:
   1. Unscheduled transfers shall be provided by the primary zone provider according to the Marin County EMS Plan 5004
   2. Scheduled transfers may utilize BLS transportation to appointments, etc. (i.e. dialysis, wound care)
E. Fire Department 911 ambulance services may be utilized by any healthcare facility for the transfer of a patient with an immediately life-threatening condition (e.g., STEMI, stroke, trauma, etc.)
F. In cases of an emergent transfer request when a requested certified EMS provider does not have a permitted ambulance available, the hospital or provider may:
   1. Contact other certified EMS providers to conduct the transfer.
   2. Utilize a non-permitted ambulance from any certified EMS provider, and submit an EMS Event Form to the EMS Agency for CQI review.
   3. Request an ambulance from a non-certified EMS provider and submit an EMS Event Form to the EMS Agency for CQI review.
   4. For ALS or CCT emergent transfers, if no provider is able to provide the level of service required, the sending facility may send personnel qualified to maintain patient care utilizing ambulance resources as indicated above and submit an EMS Event Form.
G. Except for CCT level emergent transfers, Code 3 responses are only permitted to be conducted by zone providers through County Communication Center dispatch.
H. For outgoing interfacility transfers requiring the use of an air ambulance, the transferring hospital shall contact Sheriff’s Communication Center to dispatch appropriate fire department units to secure the emergency landing zone.
I. Receiving interfacility transfers by air ambulance directly to the facility is not allowed in Marin except under extraordinary circumstances.
J. In the case of a disaster where no certified EMS provider is available, non-permitted ambulances from a non-certified EMS provider may be used to transfer patients.
K. A list of current certified EMS providers shall be maintained on the Marin EMS Agency website at www.MarinEMS.org
AMBULANCE DIVERSION POLICY

PURPOSE

To define the circumstances under which ambulance traffic may be diverted from the intended receiving facility.

RELATED POLICIES

A. Trauma Triage and Destination, #4613
B. Destination Guidelines, GPC 04

AUTHORITY

"In the absence of decisive factors to the contrary, ambulance drivers shall transport emergency patients to the most accessible emergency medical facility equipped, staffed, and prepared to administer care appropriate to the needs of the patient." California Administrative Code, Title 13, Section 1105 (c).

DEFINITIONS

A. **Full diversion** means a rerouting of all ambulance traffic.
B. **Condition specific diversion** may occur when a normally available service, procedure or piece of equipment is temporarily unavailable and results in the rerouting of specific patients, dependent on the reason for diversion. Condition specific diversion may include the following:

1. CT Scanner Inoperable
2. Neurosurgeon Not Available
3. Trauma Center Diversion
4. Emergency Department (ED) Saturation
5. Cath Lab Diversion

POLICY

A. Each receiving hospital shall establish an internal hospital plan, approved by and on file with the EMS Agency. The plan shall include, but not be limited to the following:

1. Definitions and standards for activation which are consistent with this policy/ procedure.
2. Identification of the internal approval process, including persons or positions that must be involved in the decision-making process.
3. Mechanisms for notification, on-going monitoring, removal from diversion status; identification and activation of backup ED and ICU physical space per state licensing guidelines; call-in mechanism for additional staff; identification of patients who can be safely transferred within the facility; internal review of the diversion and reporting to the EMS Agency.

B. Full diversion may occur only if the receiving emergency department is incapacitated by a physical plant breakdown (i.e., fire, bomb threat, power outage, etc.) which renders patient care unsafe. In the event of a full diversion, all patients will be rerouted to other facilities as appropriate.

C. The need to institute a Condition Specific Diversion is determined per each facility’s plan, consistent with the following:

1. The following patients may not be rerouted:
   a. Obstetrical patients in active labor
   b. Patients with respiratory distress and unmanageable airway
   c. Patients with uncontrolled external hemorrhage
   d. Patients requiring ALS, but having no paramedic in attendance
   e. Patients with CPR in progress (unless transporting to the nearest STEMI Receiving Center for patients in refractory VF)
   f. Stable patients who insist on transport to a specific hospital. Ambulance personnel will inform the patient of the diversion status and document that the patient refused transport to an alternate facility.
   g. Destinations of all other patients will be determined in accordance with the type of diversion.

2. CT Scanner Inoperable:
   a. Patients who meet Physiologic and/or Anatomic Trauma Triage Criteria with signs and symptoms of head, neck or spinal cord injury will be transported to Level II Trauma Center; if conditions preclude air transport consult with MarinHealth Medical Center Marin General Hospital Level III Trauma Center.
   b. Patients who meet Mechanism of Injury and/or Additional Factors will be transported to Kaiser Permanente San Rafael EDAT.
   c. Patients with the following get transported to closest facility with functioning CT scanner:
      1. Signs or symptoms of a new CVA
      2. Head injury patients not meeting trauma criteria with anticoagulant use and/or bleeding disorders

3. Neurosurgeon Not Available:
   a. Patients with signs and symptoms of head, neck or spinal cord trauma: transport to Level II Trauma Center; if conditions preclude air transport consult Level III Trauma Center (MGH).
   b. Patients with signs and symptoms of CVA and/or medical conditions that may require neurosurgical intervention: transport to the closest appropriate facility in Marin County with a functioning CT scanner for initial evaluation and stabilization. Transfer, if indicated, is the responsibility of the hospital, including the maintenance of formal transfer agreements with other facilities.
4. Trauma Center Diversion:
   a. Trauma patients will be diverted from the trauma center when the trauma surgeon and back-up trauma surgeon are encumbered with the care of trauma patients either in the operating room or emergency department.
   b. Patients who meet Physiologic and/or Anatomic Trauma Triage Criteria shall be transported to the time-closest Level I or Level II Trauma Center by air or ground.
   c. Patients who meet “Mechanism of Injury” and/or “Additional Factors” Trauma Triage Criteria shall be transported to the EDAT.
   d. The following conditions DO NOT constitute acceptable grounds for Trauma Center Diversion:
      1) A lack of clinical specialty backup, inpatient bed space, monitored beds, or inpatient nursing staff.
      2) ED Saturation Diversion
      3) Inoperable CT Scanner (see section C.2.)

5. ED Saturation Diversion:
   a. Ambulance traffic may be diverted due to emergency department saturation when emergency department resources are fully committed and unable to accept incoming ambulance traffic.
   b. Trauma, STEMI, and suspected CVA patients will NOT be rerouted.
   c. Under this policy, ED Saturation Diversion can occur up to four hours a day, two hours maximum at a time, and separated by a minimum of four hours.
   d. Under no circumstance is lack of in-patient hospital beds, other than in the emergency department, grounds for diversion. Hospitals are expected to accept ALL ambulance patients and to provide emergency stabilization and appropriate transfer if necessary.
   e. In all cases of diversion, senior management or designee must be notified and must approve activation of the diversion status.

6. Cath Lab Diversion
   a. STEMI ambulance traffic will be diverted when a STEMI Receiving Center cath lab is unavailable because of physical plant or mechanical problems.
   b. Cath lab diversion will not be declared when the cath lab is encumbered by routine medical care.

D. If more than two receiving hospitals within Marin County meet their internal plan criteria and wish to activate diversion status at the same time, diversion status for all will be discontinued upon direction of the EMS Agency.
E. Initiating and terminating diversion status

1. Initiating diversion

   a. The facility shall implement the internal **surge** plan prior to initiating diversion status. The request to initiate status must be approved by senior management.
   
   b. The facility shall update ReddiNet to indicate their status as being on diversion.
   
   c. Dispatch centers (public and private) shall monitor ReddiNet to inform providers of the hospital diversion status.

2. Termination of diversion

   a. Diversion status will be terminated as soon as possible.
   
   b. Diversion status is terminated when the hospital updates their status in ReddiNet to indicate that they are no longer on diversion or two hours from initiation has passed.
   
   c. Dispatch centers (public and private) shall monitor ReddiNet to inform providers of the hospital diversion status.

3. The Communications Center shall notify the EMS Agency of changes in diversion status.

4. EMS Agency staff is available to assist with solving system-related problems and can be reached by contacting the Communications Center.

5. The EMS Agency will track the frequency and duration of diversion, making periodic reports to system participants.
PATIENT CARE RECORD (PCR)

I. PURPOSE
To establish requirements for completion, reporting, and submission of Marin County approved Patient Care Records.

II. RELATED POLICIES
ALS to BLS Transfer of Care, ATG 4
Against Medical Advise (AMA), GPC 2
Release at Scene (RAS), GPC 3
Trauma Re-Triage, 4606 A & B

III. DEFINITIONS
A. Patient – someone who meets any one of the following criteria:
   1. Has a chief complaint or has made a request for medical assistance
   2. Has obvious symptoms or signs of injury or illness
   3. Has been involved in an event when mechanism of injury would cause the responder to reasonably believe that an injury may be present
   4. Appears to be disoriented or to have impaired psychiatric function
   5. Has evidence of suicidal intent
   6. Is dead
B. Emergency Medical (EM)/Authorization Order (AO) – a number assigned by a Marin County Communication’s Center to identify each 9-1-1 call dispatched for medical assistance.
C. Electronic Patient Care Record (ePCR) - the permanent record of prehospital patient evaluation, care, and treatment.
D. Field Transfer Form (FTF) – a temporary, paper record of patient care
E. Triage Tag – a paper record for multi-casualty incidents involving 6 or more patients

IV. POLICY
A. An ePCR shall be completed for every call for which an EM/O is issued.
B. For all transported patients:
   1. A completed ePCR must be available to the receiving facility within 15 minutes of transferring care. If this is not possible (e.g. unit must leave for another call), then a complete and legible FTF may be submitted to the patient’s nurse or doctor within 15 minutes of transferring care.
   2. An FTF ALONE may not be left for any notification patients (e.g. sepsis, stroke, STEMI, trauma) or critical patients (e.g. cardiac arrest and/or airway emergency) with the exception being for a rapid re-triage patient that utilizes the same transport unit.
   3. If a FTF was utilized at the time of transfer, an ePCR must be completed and available to the facility as soon as possible and no later than 3 hours after the transfer of care.
   4. For all patients transported, the ePCR will be completed by the personnel assigned to the transport unit.
C. For non-transported patients (e.g. AMA, RAS, Dead on Scene), the ePCR will be completed by the paramedic or EMT most involved in patient care and responsible for the patient's disposition.
D. For calls where there is no medical merit, the ePCR will be completed according to provider agency’s policy.
E. The ePCR is the permanent PCR and will be filled out in a complete manner and will include all care provided in the prehospital setting. When possible, it shall include all 12 lead ECGs and any ECG other than normal sinus rhythm.
F. The completed PCR includes all care rendered by the transporting providers as well as any care given prior to arrival of the transporting unit by bystanders and/or first responders. Documentation of care provided by first responders (of a different agency than the transport unit) may be required by their department policy.
G. For ground transportations to an out-of-county facility, a FTF will be given to the receiving provider and a completed ePCR shall be produced and sent to that facility within 3 hours of transfer of care.
H. For air ambulance transportations, a FTF will be given to the air ambulance personnel, and an ePCR will be created within 3 hours of transfer of care and sent to the receiving facility via ePCR program or FAX.
I. Personnel assigned outside of the county to provide medical mutual aid (e.g. fire-line EMT/Paramedic), shall complete a FTF for each patient contact. The FTF will be created on site and a copy submitted to the provider agency as soon as possible after returning to the county.
J. Willful omission, misuse, tampering, or falsification of documentation of patient care records is cause for formal investigative action under Section 1978.200 of the California Health and Safety Code.

V. GENERAL INSTRUCTIONS
A. The patient care record is part of the patient’s permanent medical record and is used for, but not limited to, the following purposes:
   1. Transfer of information to other healthcare providers
   2. Medical legal documentation
   3. Billing for services
   4. Development of aggregate data reports for Continuous Quality Improvement (CQI), including specific quality indicators and identification of educational needs
   5. EMS Agency case investigation
B. Reference to a Marin County EMS Event Form or similar record should not be included on the patient care record.
C. If ALS to BLS transfer of care is determined to be appropriate, documentation of assessments and all care rendered must be completed by both the ALS and the BLS units according to policy ATG 4.
D. Provider agencies are responsible for training their employees in the initiation, completion, distribution of patient care records, HIPAA and any accompanying forms based on the EMS Agency’s currently approved training curriculum.
VI. DOCUMENTATION REQUIREMENTS

A. An EMS provider’s PCR should include the following information:

1. Complete demographic information.
2. A clear history of the present illness with chief complaint, onset time, associated complaints, pertinent negatives, mechanism of injury, etc. The information should accurately reflect the patient’s chief complaint as stated by the patient to the EMS provider and should be sufficient to refresh the clinical situation after it has faded from memory.
3. An appropriate physical assessment that includes all relevant portions of a head-to-toe physical exam. When appropriate, this information may be supplemented in the narrative section of the PCR.
4. At least two (2) complete sets of vital signs (VS) for every patient including pulse, respirations, blood pressure and pulse oximetry. When required by policy, a temperature should also be documented at least once in the VS section. For children ≤ three (3) years of age, blood pressure is not required unless the child is critically ill in whom blood pressure measurement may guide treatment decisions.
5. A pain scale shall be documented for all patients ≥ six (6) months who have a GCS of > 14.
6. All pediatric patients being treated and transported by ALS will be measured with a color-coded resuscitation tape. The corresponding colored wrist band applied will be applied and the patient will be treated according to the Pediatric Dosing Guide (P18A).
7. Only approved medical abbreviations may be used – see 7006b.
8. All pertinent medications taken by the patient prior and/or administered by a first responder (e.g. erectile dysfunction medications, aspirin, medications used for OD, Narcan, etc.) should be documented if known.
9. The CAD to PCR interface should be used to populate all PCR data fields it supplies.
10. When the cardiac monitor is applied, data will be transferred to the PCR from the device. If transferred automated VS do not correlate with manually obtained values, or are not consistent with the patient’s clinical condition, providers should manually check VS and record manual results.
11. A cardiac monitor strip should be attached for all patient placed on the cardiac monitor. All 12-leads should also be included. Any significant rhythm changes should be documented. For cardiac arrests the initial strip, ending strip pre and post defibrillation, and pacing attempts, should be attached.
12. For drug administrations, the drug dosage, route, administration time and response shall be documented.
13. Treatments should be documented in chronological order. Response to treatment should also be documented.
14. For patients with extremity injury, neurovascular status must be noted before and after immobilization.
15. For patient with spinal motion restriction, document motor function before and after motions restriction.
16. For IV administration, document catheter placement, catheter size, number of attempts, and flow rate if applicable.
17. Any Physician Consult request and response will be documented.
18. All personnel information, including signatures, will be documented.
19. All crew members are responsible for accuracy, and should review, of the content of the PCR.
PELVIC BINDER APPLICATION PROCEDURE
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- High risk mechanism of injury (e.g. falls, crush, MVA/MVC, auto vs ped) with:
  - Pelvic instability noted on physical assessment
  - Lower back, hip, or groin pain.
  - Lower extremity numbness or tingling.
- The intention of application is to reduce potential life-threatening bleeding and provide stability for a suspected pelvic fracture.

CONTRAINDICATION
- Pediatric patients

EQUIPMENT
- Commercial pelvic binder (e.g. SAM Pelvic Sling II)

PROCEDURE
- Commercial pelvic binder: slide under the supine patient and apply according to manufacturer’s recommendations
- Sheet: Fold sheet in half lengthwise and slide under the supine patient, centering over the greater trochanters. Wrap and twist the running ends of the sheet around the patient’s pelvis. Once tightened, tie or clamp to maintain tension.

DOCUMENTATION - ESSENTIAL ELEMENTS
- Date and time pelvic binder application applied
- Assessment findings including vital signs
NEEDLE THORACOSTOMY/ PLEURAL DECOMPRESSION PROCEDURE
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- To relieve tension pneumothorax as indicated by a combination of the following:
  - Severe dyspnea and/or difficulty with ventilation, especially with an intubated patient
  - ALOC and/or agitation
  - Absent or unequal breath sounds on affected side
  - Signs of shock
  - Neck vein distention
  - Paradoxical movement of the chest
  - Hyper resonance to percussion on the affected side
  - Tracheal shift away from the affected side

EQUIPMENT
- 14 gauge or larger needle ≥ 2 3 inches
- Heimlich or other one-way valve
- 10 ml syringe

PROCEDURE
- Choose appropriate site on the affected side:
  - If patient head is elevated, locate the second intercostal space, mid-clavicular line
  - If patient is flat, locate the 4th or 5th intercostal space, midaxillary line
- Prepare site with Betadine
- Attach the large gauge IV needle to a large syringe
- With patient exhaling, introduce the needle at a 90 degree angle, just over the rib at the selected site.
- Advancing slightly superior to the rib, continue until lack of resistance or a “pop” is felt as the needle enters the pleural space.
- If the air and/or blood returns under pressure or is easily aspirated, continue to advance the catheter superiorly and remove the needle.
- When no further air escapes, attach a one-way valve.
- Secure the catheter with the valve in a dependent position.
- Reassess patient
ADULT PAIN MANAGEMENT
ALWAYS USE STANDARD PRECAUTIONS

Assess/document initial pain score and after each pain management intervention. Utilize non-pharmacological pain management as appropriate (ice, splinting, repositioning, distraction).

Pt is > 50kg:
Acetaminophen (Tylenol / Ofirmev)
1000 mg IV
Infuse over 15-20 min.

NO

Pain > 6?

YES *Ofirmev may be considered for initial management

Morphine Sulfate
- IV/IO: 5 mg slowly; MR q 5 minutes, max. dose 20 mg.
- IM: 5-10 mg; MR in 20 minutes, max. dose 20 mg

OR

Fentanyl
- IV/IO: 50 mcg slowly; MR q 5 minutes, max. dose 200 mcg.
- IN: 1 mcg/kg 50 mcg (administer ½ dose in each nare); max single dose = 100 mcg) MR q 5 minutes, max. dose 200 mcg.
- IM: 1 mcg/kg; max single dose = 100 50 mcg. MR in 30

If Morphine/Fentanyl unavailable or patient unable to tolerate, consider Acetaminophen IV or:

Midazolam
- IV/IO: 1 mg slowly; MR q 3 minutes maximum dose 0.05 mg/kg
- IN: 5 mg/1ml (2.5 mg in each nostril)
- IM: 0.1 mg/kg; MR x 1 in 10 minutes 2-4 mg if no IV

If nausea/vomiting, consider Ondansetron (Zofran ©) 4mg ODT/IM or slow IV/IO over 30 seconds; MR x 1 in 10 minutes

*PHYSICIAN CONSULT FOR OPIOIDS
- Patients with SBP < 100
- Patients with ALOC (GCS < 15); acute onset of severe headache; multi-system trauma that includes abdominal/thoracic trauma; decreased respirations; or women in active labor
- > 20 mg Morphine Sulfate or > 200mcg of Fentanyl is needed for pain management
- Concomitant administration of OPIOIDS and Midazolam
## ADULT MEDICATIONS
### AUTHORIZED/ STANDARD DOSE

<table>
<thead>
<tr>
<th>DRUG</th>
<th>CONCENTRATION</th>
<th>STANDARD DOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen (Tylenol / Ofirmev)</td>
<td>1000 mg/ 100 ml</td>
<td><strong>Pain:</strong> 1000 mg IV over 15 – 20 min.</td>
</tr>
<tr>
<td>Adenosine (Adenocard)</td>
<td>6 mg/ 2 ml</td>
<td>6 mg 1st dose, 12 mg 2nd dose (rapid IV/IO push) followed by 20 ml saline flush after each dose</td>
</tr>
<tr>
<td>Albuterol</td>
<td>2.5 mg/ 3ml NS</td>
<td>5 mg/ 6 ml NS; (MDI: Fireline only)</td>
</tr>
</tbody>
</table>
| Amiodarone                | 150 mg/ 3ml   | **VFib or Pulseless VTach:** 300 mg IV/IO push followed by one 150MG push in 3-5 min.  
                            |               | **Perfusing/Recurrent VTach:** 150 mg IV/IO over 10 min. (15 mg/ min); MR q 10 min. as needed |
| Aspirin (chewable)        | Variable      | 162-325 mg PO                                                                 |
| Atropine                  | 1 mg/ 10 ml   | **Bradycardia:** 0.5 mg IV/IO, MR q 3-5 min. to max of 3 mg.  
                            |               | **Organophosphate Poisoning:** 2.0 mg slowly IV/IO; MR 2-5 min. until drying of secretions |
| Calcium chloride 10%      | 1 GM/ 10 ml   | **Crush syndrome:** 1gm IV/IO slowly over 5 min. for suspected hyperkalemia (flush line with NS before & after administration) |
| CYANOKIT                  | 5 GM / vial   | **Smoke inhalation:** 5 gm IV/IO over 15 minutes; MR x 1 if severe signs; Max. dose = 10 gm |
| Dextrose 10%              | 25 GM/250 ml  | 125 ml bolus IV/IO over 10 minutes; recheck BG and repeat as needed           |
| Diphenhydramine (Benadryl)| 50 mg/ 1ml    | **Allergic reaction:** 50 mg IV/IO/IM; max 50 mg  
                            |               | **Phenothiazine reaction:** 1 mg/ kg slowly IV/IO; max 50 mg.  
                            |               | **Motion sickness:** 1 mg/kg IM/IV to maximum dose of 50 mg; maximum IV rate is 25 mg/minute |
| Epinephrine               | 1 mg/ 1ml     | **Allergic Reaction/ Anaphylaxis:** 0.3mg IM or EpiPen®; MR x 1 in 5 minutes  
<pre><code>                        | EpiPen® (0.3mg) auto-injector (or EMS Agency approved equivalent) | **Bronchospasm/ Asthma/ COPD:** 0.3mg IM or EpiPen®; MR x 1 in 5 minutes |
</code></pre>
<table>
<thead>
<tr>
<th>Medication</th>
<th>Concentration</th>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epinephrine</strong></td>
<td>0.1mg/1ml</td>
<td>Cardiac Arrest: 1mg (10 ml) IV/IO followed by 20 ml NS flush q 3-5 min.</td>
</tr>
<tr>
<td><strong>Epinephrine (Push-Dose)</strong></td>
<td>0.1mg/1ml</td>
<td>SBP&lt;80 in Pulmonary Edema, Pacing, Bradysrhythmias, Non-Traumatic Shock, Anaphylaxis, Sepsis: Mix 1mL Epinephrine (0.1mg/mL concentration) with 9mL Normal Saline in a 10mL syringe. Administer 1mL IV/IO every 3-5 minutes, titrate to maintain a SBP &gt;80mmHg</td>
</tr>
<tr>
<td><strong>Fentanyl (Sublimaze)</strong></td>
<td>100 mcg/2ml</td>
<td>Pain Management: IV/IO (slowly): 50 mcg; MR q 5 minutes, max. dose 200 mcg. IN: 1 mcg/kg (briskly): 50 mcg; MR q 5 minutes, max. dose 200 mcg; administer ½ dose in each nare. IM: 50 mcg; MR in 30 minutes; max. single dose = 100 mcg. IM: 1 mcg/kg; max. single dose = 100 mcg; MR in 30 minutes at ½ initial dose.</td>
</tr>
<tr>
<td><strong>Glucose Paste</strong></td>
<td>15 GM / tube</td>
<td>30 GM PO</td>
</tr>
<tr>
<td><strong>Glucagon</strong></td>
<td>1 mg/ vial</td>
<td>1 mg IM</td>
</tr>
<tr>
<td><strong>Ipratropium (Atrovent)</strong></td>
<td>500 mcg per unit dose (2.5 ml)</td>
<td>500 mcg</td>
</tr>
<tr>
<td><strong>Lidocaine 2% (preservative free)</strong></td>
<td>20 mg / 1 ml</td>
<td>IO insertion: infuse 20-40 mg IO over 30-60 seconds; MR q 15 minutes</td>
</tr>
<tr>
<td><strong>Nerve gas Auto-Injector Kit contains:</strong></td>
<td>2 mg (0.7 ml) 600 mg (2 ml)</td>
<td>Small Exposure to vapors/liquids: 1 dose of both medications (Atropine &amp; 2-PAM), MR X1 in 10 minutes. Larger exposure to liquids/vapors: 3 doses initially (both medications)</td>
</tr>
<tr>
<td><strong>Midazolam (Versed)</strong></td>
<td>2 mg/2 ml (IV/IO/IM) 5 mg/1 ml (IN)</td>
<td>Cardioversion/Pacing/Seizure: 1 mg slow IV/IO; MR 1 mg q 3 min.; Max dose = 0.05 mg/kg. For IM: 0.1 mg/kg; MR x 1 in 10 minutes. Cardioversion/Pacing/Seizure: IV/IO (slowly): 1-2 mg q 3; IM: 2-4 mg (if no IV). IN (briskly): 5 mg (2.5 mg in each nostril). For Pain &amp; Sedation: see specific policies</td>
</tr>
<tr>
<td><strong>Morphine Sulfate</strong></td>
<td>10 mg/1ml</td>
<td>Chest Pain: 2-5 mg slow IV/IO; MR q 2-3 min. to max of 10 mg Pain Management/Trauma Patient: 5 mg slow IV/IO, MR q 5 min if SBP &gt;100; max dose 20 mg</td>
</tr>
<tr>
<td><strong>Naloxone (Narcan)</strong></td>
<td>2 mg/2 ml</td>
<td>0.4 - 4.0mg IV/IO/IM/IN; MR as necessary</td>
</tr>
<tr>
<td><strong>Nitroglycerine</strong></td>
<td>0.4 mg/tablet or spray</td>
<td>1 SL; MR q 5 min. if SBP &gt; 100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>--------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td>Ondansetron (Zofran)</td>
<td>4 mg</td>
<td>4 mg ODT/IM or slow IV over 30 seconds; MR x 1 in 10 minutes</td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>50 mEq/ 50 ml</td>
<td>1 mEq/ kg IV/ IO</td>
</tr>
</tbody>
</table>

NOTE: If the above concentrations become unavailable, providers may use alternate available concentrations or packaging.
ROUTINE MEDICAL CARE (RMC)  

**BLS**

**INDICATION**
- To define Routine Medical Care (RMC) in the pre-hospital setting

**TREATMENT**

- **Assess Airway, Breathing and Circulation (ABC)**
- **Apneic and/or pulseless:**
  - Begin CPR in accordance with the standards established by the American Heart Association, including early defibrillation
  - Patient **breathing with pulse** present:
    - Administer oxygen per policy BLS PR 2, Oxygen Therapy Procedure. Use appropriate airway adjuncts indicated for signs and symptoms.

- Control significant external **bleeding** using direct pressure. If bleeding remains uncontrolled, apply gauze or hemostatic dressing and/or tourniquet.
  - Limb with the tourniquet must remain exposed
  - Hemostatic dressing must be approved by California EMS Authority

- For **ALOC**, assess blood glucose and treat per protocol

- Obtain:
  - Chief complaint
  - History of current event
  - Past medical history
  - Medications
  - Allergies
  - Code status / Designated Decision Maker
  - Perform full secondary patient exam
  - If indicated, apply spinal motion restriction

- Check **vital signs** – repeat q 5 min. for emergent patients and q 15 min. for non-emergent patients.
- Place patient in position of comfort or in other positions as needed to maintain adequate breathing and/or circulation
CHEST PAIN/ACUTE CORONARY SYNDROME
BLS

INDICATION
- Chest discomfort or pain, suggestive of cardiac origin or other symptoms of ACS (Acute Coronary Syndrome) which may include weakness, nausea, vomiting, diaphoresis, dyspnea, dizziness, palpitations, “indigestion”

TREATMENT
- BLS RMC
- Limit patient’s physical activity
- Administer ASA 162-325 mg (chewable) if no known aspirin allergy, even if patient has taken daily ASA dose.
- Allow patient to self-administer own Nitroglycerin (NTG) as directed by their own physician only if SBP > 100

SPECIAL CONSIDERTIONS
- Discomfort or pain: OPQRST, Previous episodes, 0-10 scale
- Suspicion of ACS is based upon patient history. Be alert to patients likely to present with atypical symptoms or “silent MI’s” (women, elderly and diabetics).
- If patient is having an MI, NTG may cause significant hypotension.
- If the patient has taken erectile dysfunction (ED) medication within the last 24 hrs (Viagra/Levitra) or 36 hrs (Cialis) instruct patient not to take NTG.

DOCUMENTATION- ESSENTIAL ELEMENTS
- Medical history (cardiac history; other medical problems including hypertension, diabetes or stroke)
- OPQRST information
- Vital signs before/after NTG administration
- Erectile dysfunction medications taken
- Level of pain
- Medications administered
- Code status / Designated Decision Maker
BRONCHOSPASM/ ASTHMA/ COPD
BLS

INDICATION
- Acute or progressive shortness of breath, chest discomfort, wheezing, cyanosis

_PHYSICIAN CONSULT
- EpiPen (or equivalent) for severe respiratory symptoms

TREATMENT
- BLS RMC
- Mild to moderate (alert, may be unable to speak full sentences, limited accessory muscle use)
  - Assist patient with own medication if available
- Severe symptoms (altered mental status, minimal air movement, inability to speak, cyanosis)
  - Administer Adult or Pediatric EpiPen (or equivalent); If no improvement, MR in 5 minutes with physician consult

SPECIAL CONSIDERATION
- Suspect carbon monoxide in cases of exposure to fire; do not rely on pulse oximetry in this setting

DOCUMENTATION - ESSENTIAL ELEMENTS
- Physical finding of wheezing, decreased lung sounds
- Administration of oxygen
SEIZURE
BLS

**INDICATION**
- Patient with reported or continuing seizure activity

**TREATMENT**
- BLS RMC

**SPECIAL CONSIDERATION**
- Consider treatable etiologies (hypoglycemia, hypoxia, narcotic overdose, unusual odor of alcohol, signs of trauma, medic alert tag)
- Be attentive to excessive oral secretions, vomiting, and ineffective breathing
- Treatment should be based on the severity and length of the seizure activity

**DOCUMENTATION- ESSENTIAL ELEMENTS**
- Past medical history (e.g., seizures, diabetes)
- Number, description, duration of seizures
- Narcan administration by first responder (e.g., law enforcement, family), if known
EARLY TRANSPORT DECISIONS

BLS

INDICATION
- Emergent patient with life or limb threatening conditions including:
  - Severe respiratory distress or respiratory arrest
  - Airway compromise or obstruction
  - Significant neurological decline from baseline evaluation
  - Anticipated or current shock
  - Uncontrolled bleeding
  - Open chest or abdomen
  - Tension pneumothorax
  - Pericardial tamponade
  - Prolapsed cord, impending breech delivery, abnormal presenting part
  - Multi-system trauma
  - Severe burns - Second or third degree burns (contact with caustic material, electricity or fire) involving 20% or more of body surface area (BSA) for adults or 10% BSA for pediatric patients or if associated with respiratory involvement
  - Isolated head injury with unconsciousness/posturing

PROCEDURE
- BLS RMC
- Verify estimated time of arrival of ALS unit, or consider helicopter transport
- Update responding ALS unit on need for early transport to the closest, appropriate facility.
- If ALS arrival time is longer than time to transport to the closest facility, begin transport and consider rendezvous with ALS unit enroute if appropriate.
- If transport time to the closest facility is > 10 minutes and ALS transport or rendezvous is not immediately available, begin transport and consider helicopter rendezvous if helicopter transport would result in reduced transport time to an emergency facility.

SPECIAL CONSIDERATION
- If patient is in extremis and transport unit is not available, transport in available vehicle.

DOCUMENTATION - ESSENTIAL ELEMENTS
- Projected ETA of ALS unit if BLS transport undertaken
- Detailed description of life or limb threatening conditions
- Helicopter request and ETA
ANAPHYLAXIS
BLS

INDICATION
- Patients experiencing anaphylactic reaction after exposure to common allergens (stings, drugs, nuts, seafood, medications). The following symptoms may be present:
  - Stridor
  - Bronchospasm / wheezing / diminished breath sounds
  - Severe abdominal pain
  - Respiratory distress (nasal flaring or grunting in pediatric patients)
  - Tachycardia
  - Shock (SBP < 100)
  - Edema of the tongue, lips, face
  - Generalized urticaria / hives

PHYSICIAN CONSULT
- Necessity for a second dose EpiPen® (or equivalent)

EQUIPMENT
- Auto injector EpiPen® (or equivalent)
- Auto injector EpiPen Jr.® (or equivalent)
- High flow O2
- Pulse oximetry

SPECIAL CONSIDERATION
- Elderly patients with signs of anaphylaxis and history of hypertension or heart disease should still be given epinephrine with caution. If concerned, physician consult.
- Training shall include the manufacturer’s instructions as well as demonstration of skills competency every two years after initial training according to Title 22, Div. 9, Chapter 2.
- Training in this procedure is the responsibility of the provider agency who desires to utilize this procedure

DOCUMENTATION- ESSENTIAL ELEMENTS
- Past medical history, including previous allergic reactions and hospitalizations
- Physical findings including breath sounds
- Medication administered
- Administration of oxygen
DESTINATION GUIDELINES
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- To identify destination choices and appropriate facilities for patients in Marin County

 PHYSICIAN CONSULT
- Patient requests transport to a facility not capable of providing specific care for their needs

CRITICAL INFORMATION
- Destination choices:
  - The destination for patients shall be based upon several factors including, but not limited to the clinical capabilities of the receiving hospital, the patient’s condition, and paramedic discretion.
  - When the patient’s condition is unstable or life threatening, the patient should be transported to the time closest receiving facility:
    - Patients with unmanageable airway
    - Uncontrolled external hemorrhage
    - CPR in progress (unless transporting to SRC for rVF)
    - Patients requiring ALS but having no paramedic in attendance
  - The following factors will be considered in determining patient destination:
    - Patient condition
    - Clinical capabilities of the receiving hospital
    - Paramedic discretion
    - Patient/family request
    - Patient’s physician request or preference
  - Patients with return of spontaneous circulation post cardiac arrest will be transported to the nearest STEMI Receiving Center.
  - Burn patients, without other trauma mechanism, shall be transported by ground ambulance to the time closest emergency department.
  - Patients with psychiatric complaints will be transported to their preferred facility or the closest emergency department, unless specialty care (trauma, STEMI, stroke, pregnancy) is warranted
  - Ventricular Assist Device patients: If patient is stable and complaint not related to VAD, transport per above guidelines. If VAD related: The patient may need to bypass local facilities and go to VAD center. If concerned about patient stability, refer to guidelines and request physician consult.
  - Prior to arrival, prehospital personnel must notify the receiving facility of any patient with a known history of violence, or behavior which may pose a risk to staff (disruptive, uncooperative, aggressive, unpredictable).
- Marin County receiving facilities:
  - MarinHealth Medical Center - Level III Trauma Center- Greenbrae
    - Neurological Emergencies- sudden, witnessed onset of coma or rapidly deteriorating GCS with high likelihood of intracranial bleed
    - Pregnant patients - 20 weeks or > with a complaint related to pregnancy
    - STEMI Receiving Center (SRC)
    - Primary Stroke Center
    - Advanced Pediatric Receiving Center (PedRC)
  - Kaiser Permanente Medical Center San Rafael - Emergency Department Approved for Trauma (EDAT) - Terra Linda
    - STEMI Receiving Center (SRC)
    - Primary Stroke Center
    - General Pediatric Receiving Center (PedRC)
  - Novato Community Hospital - Basic level receiving facility – Novato
    - Primary Stroke Center
RELATED POLICIES/ PROCEDURES

- Trauma Triage & Destination Guidelines Policy 4613
- STEMI Policy C 9
- Ambulance Diversion Policy 5400
- Adult and Pediatric Sexual Assault GPC 10 and P16
- Cerebrovascular Accident (Stroke) N 4
- Burns E4 and P12
- Ventricular Assist Device ATG 8
INTERFACILITY TRANSFER PROCEDURE

INDICATION

Interfacility transfer of patients from Marin County healthcare facilities

PROCEDURE

Transporting personnel will operate under the medical direction of the transferring physician in compliance with the County of Marin, State, and Federal laws, through direct contact or standing orders, in a safe and timely manner and as permitted by their scope of practice.

The transferring facility will have confirmed acceptance by receiving facility prior to the transferring unit transferring the patient. The transferring unit must receive an appropriate patient status report from the transferring physician and/or RN. If transferring personnel do not agree with or are unable to provide the level of care requested, they will confer with the transferring physician to assure the appropriate level of care during transfer.

The transferring physician will provide the following information:

- Patient name
- Diagnosis/ level of acuity
- Isolation precautions
- Destination
- Transfer date and time
- Accepting unit
- Accepting physician
- Special equipment with patient
- Orders for specific treatments to be conducted in transport and contact information for the transferring physician
- Additional personnel attending patient or required for transport
- Pertinent medical records
- Insurance information, if available

The following communication is required by each transporting unit:

For patients being transported to receiving hospital emergency departments:
- Ringdown report and early notifications as required based on patient condition.

For patients transported to other hospital departments or facilities:
- Patient remains stable without change in status - No communication necessary
- Patient unstable or change in status - contact transferring or another specified physician; if unavailable, request another physician in that facility or contact Marin County online medical control.
In addition to the procedures described elsewhere in Marin County EMS protocols, upon completion of proper training and with provider agency medical director approval, specified personnel may perform the following procedures on interfacility transports under the direction of the transferring physician:

**EMT:**

1) Monitor intravenous lines delivering glucose solutions or isotonic balanced salt solutions including Ringer's Lactate. Monitor, maintain, and adjust if necessary, in order to maintain, a preset rate of flow and turn off the flow of intravenous fluid

2) Transfer patients who have nasogastric (NG) tubes, gastrostomy tubes, heparin locks, foley catheters, tracheostomy tubes with or without simple oxygen masks and humidification, wound-vac devices, Jackson-Pratt drains, clamped PleurX drains, and/or indwelling vascular access lines, excluding arterial lines

3) Transfer patients with completely patient-controlled devices including CPAP/BiPAP, medication pumps, etc. requiring no monitoring or adjustment

**Paramedic:**

1) Monitor and adjust intravenous fluids containing potassium ≤40 mEq/L

2) Monitor thoracostomy tubes

3) Perform suctioning of patients not on mechanical ventilators with stomal intubation

4) Monitor patients with nitroglycerine paste initiated prior to transportation

Additional clarification on level of service in Appendix A

**SPECIAL CONSIDERATION**

- Medical emergencies which are immediately life-threatening events (cardiac arrest, new stroke symptoms, uncontrolled hemorrhage, etc.) should utilize zone provider/911 resources

- In the event ALS interventions are required beyond the orders of the sending physician, paramedic caregivers shall follow patient care protocols and request an EM number from Sheriff’s County Communications and a Marin County Patient Care Record as specified in 7006 must be completed.
For emergent transfers with CCT service requirements, when no provider is able to fulfill transfer request within the required ETA and further delay would cause significant risk of increased morbidity or mortality, under the direction of the transferring physician a facility caregiver (RN, NP, PA, or physician; RT if continuous respiratory assistance is required) may attend to patient during transport utilizing the highest level ambulance available as a last resort.

- All crew members shall provide care within their scope of practice with ultimate responsibility for patient care in transport to be maintained by the highest level provider accompanying the patient.
- All advanced monitoring equipment or medications anticipated to be required during transport which are not already present in the ambulance inventory must be brought with the caregiver.
- An EMS Event Form must be completed following any such transport.

DOCUMENTATION- ESSENTIAL ELEMENTS

- Patient Care Records as specified in 7006 must be completed by ambulance personnel.
- Interfacility transfers with hospital contact will be reviewed by hospitals receiving the calls.
- Statistics on total numbers of ALS level transfer calls per month will be maintained by each provider and submitted to the EMS Office on request (transfers with Paramedic, RN and/or MD).
- Training records for procedures authorized in this policy shall be maintained by participating agencies.
- An EMS Event Form must be completed for any transport utilizing non-permitted ambulances, non-certified EMS providers or utilizing sending facility personnel as caregivers.
## Appendix A
Guideline for determining level of service

<table>
<thead>
<tr>
<th>Condition</th>
<th>BLS</th>
<th>ALS</th>
<th>CCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen by mask or cannula</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV fluids running (Normal Saline, Lactated Ringers, Dextrose)</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confused/disoriented but stable LOC</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient-controlled devices (medication pump, CPAP/BiPAP)</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracheostomy not requiring suctioning</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central IV line, clamped</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical devices including nasogastric (NG) tubes, gastrostomy tubes, heparin locks, foley catheters, tracheostomy tubes with or without simple oxygen masks and humidification, wound-vac devices, Jackson-Pratt drains, clamped PleurX drains, and/or indwelling vascular access lines, excluding arterial lines</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracheostomy requiring suctioning</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-established IV containing potassium or nitroglycerin paste</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiac/pulse oximetry/capnography monitoring</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring thoracostomy tubes</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medications in paramedic scope</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paramedic level interventions</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous respiratory assistance/mechanically vented</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medications outside paramedic scope or mechanical IV pump</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invasive monitoring including IABP, ICP, CVP, or PA lines</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arterial line in place</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood or blood products</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical devices not managed by patient outside paramedic scope</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
COMA/ ALTERED LEVEL OF CONSCIOUSNESS
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
GCS < 15, etiology unclear (consider AEIOU TIPS); sudden onset of weakness, paralysis, confusion, speech disturbances, headache

TREATMENT
- ALS RMC
- Position patient with head elevated 30 degrees or left lateral recumbent if vomiting
- If BG < 60 or immeasurable:
  - Dextrose 10% 25GM/250ml:
    - 125 ml bolus IV/IO over 10 minutes; recheck BG and repeat as needed
- If BG < 60 or immeasurable and unable to start IV:
  - Glucagon 1 mg IM
- Narcotic overdose:
  - Narcan 0.4-4.0 mg/kg, IV/IO/IM/IN
    - For IN administration: 2 mg (1 mg per nostril)
    - If respiratory depression persists, repeat as necessary. May need multiple doses.

SPECIAL CONSIDERATION
- Consider indication for C-spine precautions; consider diabetes-related complications
- If CVA suspected, see CVA/Stroke Policy N 4

DOCUMENTATION- ESSENTIAL ELEMENTS
- Past medical history (i.e., seizures, diabetes)
- Blood glucose level
- Dosage of medications, times administered
- Narcan administration by first responder, if known

RELATED POLICIES/ PROCEDURES
- Intranasal Medications Midazolam (Versed) and Narcan Procedure ALS PR 7
- CVA / Stroke Policy N4
PEDIATRIC RESPIRATORY DISTRESS
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- Patient exhibits any of the following:
  - Wheezing
  - Stridor
  - Grunting
  - Nasal flaring
  - Apnea

CRITICAL INFORMATION
- Measure with color-coded resuscitation tape and treat according to the Pediatric Dosing Guide (P18A). Apply corresponding wrist band.
- Neonate = birth to four weeks; infant = four weeks to 1 year; child = 1-14 years; adolescent = >14 years

TREATMENT
- ALS RMC
- Position of comfort to maintain airway
- Allow parent to administer oxygen if possible
- Upper Airway/ Stridor:
  - Mild to moderate respiratory distress: 3ml NS via HHN
  - Moderate to severe respiratory distress: Epinephrine (1mg/1ml concentration) 5 mg in 5 ml via nebulizer
- Lower Airway Obstruction/ Wheezing:
  - Albuterol 2.5 mg in 3 ml NS via HHN, mask, or bag-valve-mask; MR x 1 and
  - Ipratropium 500 mcg in 2.5 ml NS via HHN or bag-valve-mask
  - If response inadequate, Epinephrine IM 0.01mg/kg (1mg/1ml concentration); MR in 5 minutes; max. total dose 0.6 mg
- Foreign Body Obstruction:
  - Attempt to clear airway:
    - < 1 year: 5 back blows and 5 chest thrusts
    - > 1 year: 5 abdominal thrusts
  - For foreign body airway obstruction refractory to above attempts, utilize laryngoscopy to visualize and remove foreign body with Magill forceps
- Respiratory failure/ apnea/ complete obstruction:
  - Attempt positive pressure ventilation via bag-valve-mask
  - ET tube placement approved for patients who are 12yrs of age or older or height greater than the length of the color-coded resuscitation tape.
  - King Airway approved as a rescue airway for patients who are 12 years of age or older or and 4 feet tall

SPECIAL CONSIDERATIONS
- Assess key history factors: recent hospitalizations, asthma, allergies, croup, and medication usage
RESPIRATORY ARREST
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
▪ Absence of spontaneous ventilations; pulse present

TREATMENT
▪ ALS RMC
  ▪ If suspected narcotic overdose:
  ▪ Assist breathing with BVM (do not insert advanced airway before Narcan)
  ▪ Administer Narcan 0.4-4.0 mg/kg, IV/IO/IM/IN
    ▪ For IN administration: 2 mg (1 mg per nostril)
    ▪ If respiratory depression persists, repeat above doses q 2-3 minutes until patient responds. May need multiple doses.

RELATED POLICIES/ PROCEDURES
▪ Intranasal Medication Midazolam (Versed) & Narcan Procedure ALS PR 7
V-FIB/PULSELESS V-TACH

START CPR
- Give O2
- Attach monitor/defibrillator
- ALS RMC

Shockable Rhythm?

Yes

VF/pVT

CPR 2 min
- IO/IV access

Shockable Rhythm?

Yes

CPR 2 min
- Epinephrine every 3-5 min
- Consider advanced airway

No

No

No

CPR 2 min
- Amiodarone
- Treat reversible causes

Go to Policy-
- Asystole/PEA, C 2
- ROSC, C 10

Critical Information
- Mechanical CPR for transport
- If hypothermic <95°F, delay compressions for 3 minutes; focus on ventilations and rewarming

Airway Management
- BLS airway preferred during first 5 minutes
- Do not interrupt CPR for >10 seconds for intubation
- Use continuous ETCO2

Drug Therapy
- Epinephrine 1mg (0.1mg/ml) IV/IO. Repeat every 3-5 min
- Amiodarone first dose: 300mg IV/IO; second dose 150mg in 3-5 min. If ROSC after Amiodarone, consider Amiodarone drip 150mg in 100ml NS, 1mg/min = 40gtts/min with 60gtt/ml tubing

Reversible Causes
- Hypovolemia
- Hypoxia
- Hydrogen Ion
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pnemothorax
- Tamponate (cardiac)
- Toxins
- Thrombus

For refractory VF/pVT, (3 unsuccessful shocks), transport to nearest available STEMI Receiving Center
Critical Information

- **Medical patients**: Determination of death can be made immediately if **all** are present:
  - Presenting rhythm is asystole
  - Event was unwitnessed
  - Effective bystander CPR was not initiated
  - No evidence of potentially reversible cause of arrest
  - No AED or manual shock delivered

- **Trauma patients**: Determination of death can be made immediately if **either** are present:
  - MCI incident where triage principles preclude initiation of CPR
  - Blunt, penetrating or profound multi-system trauma with asystole or PEA

- If hyperkalemia is suspected in renal dialysis patients, administer 500mg of 10% **Calcium Chloride** and 1 mEq/kg of **Sodium Bicarbonate IV/IO**

- If hypothermic <95°F, delay compressions for 3 min; focus on ventilations and active rewarming
Unstable?

- Signs of poor perfusion:
  - Decreased LOC
  - SBP <100
  - Chest pain

Indications

- HR <50 with adequate or inadequate perfusion

**Atropine** 0.5mg IV/IO
- Repeat q3-5 min to total of 3mg
- Atropine should not delay pacing for patients with inadequate perfusion

**NS** fluid bolus of 250-500ml IV if hypotensive and lungs clear.
- Repeat as needed

If NS bolus ineffective
- Transcutaneous pacing

If SBP <80 mmHg
- Physician consult for **Push-dose Epinephrine**
- Mix 1ml Epinephrine (0.1mg/ml concentration) with 9ml NS in a 10ml syringe
- Administer **Push-dose Epinephrine** 1ml IV/IO. Repeat every 3-5 min
- Titrate to maintain SBP >80mmHg
- Monitor BP every 5 minutes

**SPECIAL CONSIDERATIONS**

*Reversible Causes*
- Hypovolemia
- Hypoxia
- Hydrogen Ion
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponate (cardiac)
- Toxins
- Thrombus
**WIDE COMPLEX TACHYCARDIA**

**Indications**
- Regular, wide ventricular complexes greater than 150 bpm, with pulses present

**Unstable?**
- Yes
  - Signs of poor perfusion:
    - Decreased LOC
    - SBP <100
    - CHF, CP, SOB

**ALS RMC**

**12-lead EKG**

**Amiodarone** 150mg in 100ml NS IV/IO over 10 min
- May repeat q10 min as needed

**ALS RMC**

**Synchronized cardio version at 100J, 200J, 300J, 360J**

**If patient is conscious**
- Consider sedation with **Midazolam** 1mg SLOW IV/IO push loading dose
  - May repeat in 3 min with 1-2mg to achieve desired degree of sedation
  - Use with caution if patient is hypotensive

**If patient is critical**
- If any delay in synchronized cardioversion, defibrillate the patient

**If no response to cardioversion**
- **Amiodarone** 150mg in 100ml NS IV/IO over 10min
  - May repeat q10 min as needed

**SPECIAL CONSIDERATIONS**

**Reversible Causes**
- Hypovolemia
- Hypoxia
- Hydrogen Ion
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponate (cardiac)
- Toxins
- Thrombus
NARROW COMPLEX TACHYCARDIA

**Indications**
- QRS <0.12 sec. documented rhythm in 2 leads
- Includes Atrial Fibrillation, Atrial Flutter, and SVT (regular HR >150 bpm)

**Unstable?**
- Signs of poor perfusion:
  - Decreased LOC
  - SBP <100
  - CHF, CP, SOB

**Stable Atrial Fibrillation and Atrial Flutter**
- Obtain 12-lead EKG

**Stable SVT**
- Obtain 12-lead EKG
- Consider valsalva maneuver
- If no response to valsalva:
  - **Adenosine** 6mg
    RAPID IVP followed by 20ml NS flush
- If no response after 1-2 min:
  - **Adenosine** 12mg
    RAPID IVP followed by 20ml NS flush
  - Elevate the extremity after each bolus

**Special Considerations**

**Reversible Causes**
- Hypovolemia
- Hypoxia
- Hydrogen Ion
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pnemothorax
- Tamponate (cardiac)
- Toxins
- Thrombus

**Unstable SVT/A-Fib/A-flutter**
- If patient is conscious, consider sedation with **Midazolam** 1mg SLOW IV/IO (use with caution if patient is hypotensive)
- Synchronized cardioversion at 100J, 200J, 300J, 360J
- If any delay in synchronized cardioversion and the patient is critical, defibrillate the patient
CHEST PAIN/ACS

Indications

- Chest discomfort or pain, suggestive of cardiac origin.
- Other symptoms of Acute Coronary Syndrome (ACS) which may include weakness, nausea, vomiting, diaphoresis, dyspnea, dizziness, palpitations, “indigestion
- Atypical symptoms or “silent MIs” (women, elderly, and diabetics)

ALS RMC

ASA 162-325mg (chewable), even if patient has taken daily ASA dose

- 12-lead EKG
- If elevation in leads II, III, and AVF, suspect RVI and perform right-sided EKG

NTG 0.4 mg SL/spray

- MR q5 min if SBP >100
- Withhold NTG if patient has RVI or has taken erectile dysfunction medication within last 24 hrs (Viagra/Levitra) or 36 hrs (Cialis)

- If pain persists, treat per Adult Pain Management policy
- Consider NS 250ml IV bolus if SBP <100
- For recurrent episodes of VT with persistent CP, administer Amiodarone 150mg in 100ml NS, IV/IO; infuse over 10 min
  - MR q10 min PRN

SPECIAL CONSIDERATIONS

- IV access before NTG if SBP <120 or Patient doesn’t routinely take NTG
- Routine O2 administration unnecessary if SpO2 >93%
- Infarctions may be present with normal 12-leads
- Consider other potential causes of chest pain: pulmonary embolus, pneumonia, aortic aneurysm, and pneumothorax
**ST ELEVATION MYOCARDIAL INFARCTION (STEMI)**

**Indications**
- Patients with acute ST Elevation Myocardial Infarction (STEMI) as identified by machine read

**ALS RMC**

**Unstable?**
- SBP <90 prior to NTG & opioid administration
- S/Sx of acute pulmonary edema
- Ventricular tachyarrhythmia requiring defib or anti-arrhythmic therapy
- Patient’s condition based on paramedic judgement requires immediate hospital intervention

**Yes**
- Transport to closest SRC
  - Provide Early STEMI notification and identifying patient information
  - If elevation in leads II, III, and AVF, suspect RVI and perform right-sided EKG
  - Transmit all STEMI EKGs to SRC if possible

**No**
- May go to preferred SRC if the estimated transport time not more than 15 min longer than nearest SRC
  - Preferred SRC defined:
    - Patient preference
    - SRC used by treating cardiologist

**PHYSICIAN CONSULT**
- If patient is symptomatic for STEMI, but monitor interpretation is not in agreement, transmit EKG and consult the SRC receiving physician
- If above findings occur, but transmission is not available, activate SRC with early STEMI notification
Indications

- The presence of a palpable pulse and/or blood pressure for at least 30 seconds after cardiac arrest

If SBP <80 mmHg

- NS 1-2L bolus IV/IO
- If no improvement: ☎ Physician consult for Push-dose Epinephrine
  - Mix 1ml Epinephrine (0.1mg/ml concentration) with 9ml NS in a 10ml syringe
  - Administer Push-dose Epinephrine 1ml IV/IO. Repeat every 3-5 min
- Titrate to maintain SBP >80mmHg
- Monitor BP every 5 minutes

SPECIAL CONSIDERATIONS

Reversible Causes
- Hypovolemia
- Hypoxia
- Hydrogen Ion
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponate (cardiac)
- Toxins
- Thrombus
**HEAT ILLNESS**

**Indications**
- Exposure to unusually high temperatures, humidity, or vigorous exercise resulting in heat cramps, heat exhaustion, or heat stroke

- Move to a cool environment and remove clothing
  - Rapid cooling measures:
  - Apply wet towels and promote cooling by fanning
  - Apply cold packs to axilla and groin

  **ALS RMC**

- Replenish electrolytes by mouth or NS 1 liter bolus IV
  - Transport all patients rapidly, even if in cardiac arrest
  - Treat ALOC, seizures or shock per appropriate policy

**Critical Information**
- The following categories of heat illness should be seen as a continuum rather than three distinct categories. Treat heat illness aggressively, particular in at-risk populations: elderly, pediatric, and patients taking certain medications such as vasoconstrictors, ADHD (i.e: Adderall or Ritalin), beta blockers, diuretics, antidepressants or antipsychotics

- **Heat Cramps**: Severe painful cramping of fatigued muscles in the setting of heat stress, often following fluid replacement with hypotonic fluids

- **Heat Exhaustion**: Systemic symptoms often vague and nonspecific, precipitated by significant hypovolemia under conditions of heat stress, and characterized by any of the following: weakness, fatigue, nausea, vomiting, headache, impaired judgment, vertigo, syncope, tachycardia, hypotension and dizziness, often orthostatic. Mental status is normal

- **Heat stroke**: Catastrophic life-threatening failure of homeostatic thermoregulatory mechanism, manifested by extreme elevation of body temperature and severe CNS dysfunction, which may present as disorientation, delirium, seizure or coma.
COLD INDUCED INJURY

**Indications**

- Exposure to cold or wet environment

**Warming measures**

- Remove all wet clothes
- Cover entire body with warm blankets
- Hot packs
- Warm IV fluids

**Symptoms**

- Mild: shivering, increased RR & HR
- Moderate/Severe: ALOC, slurred speech, unsteady gait, slow HR & RR, low BP, (ventricular) dysrhythmias

**Special Considerations**

- Subtler presentations exist in elderly, newborns, chronically ill and alcoholics

---

**If rectal temp <95°F**

- During warming measures, auscultate HR for 1 min & ventilate for 3 min; assess electrical activity

**If rectal temp >95°F**

- Follow Adult Cardiac Arrest GPC

**If submersion ≤1 hour**

- Obtain rectal temp

**If submersion ≥1 hour**

- Determination of death

---

**Begin transport**

---

**Asystole**

- Begin CPR

**PEA**

- Withhold CPR, focus on warming

**Vfib/pVT**

- Defibrillate once at highest joule setting, then CPR

---

**Move to a warm, protected area ASAP**

**Signs of life**

- Start warming measures; handle gently

**No signs of life**

**If ALOC**

- Obtain recall temp

---

**Withhold ACLS meds if temp <86°F**
ENVENOMATION

Indications

- Unidentified and/or identified poisonous snake bite (physical evidence: puncture wound or symptoms of envenomation, local pain, swelling or numbness)

ALS RMC

- Remove rings, bracelets, or other constricting items from all extremities

- Limit patient movement as much as possible
- Immobilize extremity in position of comfort and monitor distal pulses
- Mark extent of affected area, noting time on skin

If exhibiting signs of an allergic reaction or shock

- Go to Allergic Reaction Policy, M 3

- Consider pain management
- Expedite transport

SPECIAL CONSIDERATIONS

- Contact hospital early to allow preparation for treatment
- Do not apply tourniquets, incise skin, apply ice, or suction
**Indications**

- Damage to the skin caused by contact with caustic material, electricity, or fire. Any burn associated with respiratory involvement

**Critical Information**

- Consider early intubation for severe facial burns or
- Perform frequent airway assessments and consider early intubation for inhalation injury (ie: facial or chest burns, singed nares, soot/blisters in oropharynx)
- Burns with trauma mechanism need to be transported per the Marin County Trauma Triage Tool

- Remove patient to safe area and stop the burning process
- Remove contact with the agent, unless adhered to the skin
- Brush away dry chemicals
- Flush with cool water to stop the burning process or to decontaminate
- Expose affected area and apply clean dry sheet
- Remove all clothing/jewelry
- Keep patient warm to avoid hypothermia

**ALS RMC**

- High-flow oxygen via NRB for burns involving the chest and for patients with evidence/suspicion of inhalation injury
- Re-evaluate airway frequently

**If wheezing is present**

- Consider **Albuterol** 5mg in 6ml NS HHN

**NS TKO IV**

- Pain management as soon as possible

**Transport according to Destination Guidelines**
**Indications**
- Drowning: loss of consciousness in water, now in full arrest
- Near Drowning: loss of consciousness in water, not in full arrest

**SPECIAL CONSIDERATIONS**
- If patient presents in full arrest and is normothermic, treat as cardiac arrest
- If patient is hypothermic (<95°F), refer to Cold Induced Injury policy
NON-TRAUMATIC SHOCK

**Indications**

- SBP <90 and signs of shock: ALOC, severe vomiting, diarrhea, dark tarry stools, or vaginal bleeding

**ALS RMC**

1. Initiate 2 lager bore IVs
2. **NS 250ml bolus IV**
   - Repeat as needed up to 2 liters

- If SBP <80
  - ☎ Physician consult for **Push-dose Epinephrine**
  - Mix 1ml Epinephrine (0.1mg/ml concentration) with 9ml NS in a 10ml syringe
  - Administer **Push-dose Epinephrine 1ml IV/IO.**
    - Repeat every 3-5 min
  - Titrate to maintain SBP >80mmHg

- Monitor blood pressure every 5 minutes

**Critical Information**

- If rales present, see Acute Pulmonary Edema Policy, R 5
ALLERGIC REACTION & ANAPHYLAXIS

Indications

- Urticaria, wheezing, or signs of shock after exposure to common allergens (stings, drugs, nuts, seafood, medications)

Mild:
hives, rash
- **Benadryl** 50mg IM/IV

Moderate:
hives, rash, mild bronchospasm/wheezes, normotensive
- **Benadryl** 50mg IM/IV
- **Epinephrine** 0.3mg IM (1mg/ml concentration)
  - MR x1 in 5 min
- **Albuterol** 5mg/6ml NS via HHN, if indicated for respiratory symptoms

Severe:
Anaphylaxis
- Treat dysrhythmias per appropriate protocol
- High flow O2; advanced airway PRN
- **Epinephrine** 0.3mg IM (1mg/ml concentration)
  - MR x1 in 5 min
- Large bore IV and **NS** fluid bolus 250-500ml IV
  - MR PRN
- **Benadryl** 50mg IM/IV/IO
- **Albuterol** 5mg/6ml NS via HHN
  - Repeat if indicated

If SBP <80 mmHg
- Physician consult for **Push-dose Epinephrine**
  - Mix 1ml Epinephrine (0.1mg/ml concentration) with 9ml NS in a 10ml syringe
  - Administer **Push-dose Epinephrine**
  - 1ml IV/IO. Repeat every 3-5 min
  - Titrate to maintain SBP >80mmHg

Monitor BP every 5 min

SPECIAL CONSIDERATIONS
- **Epinephrine** may cause anxiety, tremors, tachycardia, and headache in the elderly (>50 yrs), and may precipitate AMI, hypertensive crisis and dysrhythmias
- Edema of any of the soft tissue structures of the upper airway may be lethal. Frequently assess and prepare for early intubation
**Indications**

- Exposure to one or more toxic substances (ingestion, inhalation, or skin contact)

**Caustics/Corrosives**
- Ingestion of substances causing intra-oral burns, painful swallowing or inability to handle secretions
- Do not induce vomiting

**Hydrocarbons or Petroleum distillates**
- Kerosene, gasoline, lighter fluid, furniture polish
- Do not induce vomiting
- Transport immediately

**Phenothiazine reactions**
- Restlessness, muscle spasms of the neck, jaw, and back; oculogyric crisis, history of ingestion of phenothiazine, or unknown medication
- Benadryl 1mg/kg slow IV
- Max dose: 50mg

**Insecticides**
- Organophosphates, carbonates; can cause cholinergic crisis characterized by bradycardia, increased salivation, lacrimation, sweating, muscle fasciculation, abnormal cramping, pinpoint pupils, incoherence or coma
- Atropine 2mg IV slowly. Repeat every 2-5 min until drying of secretions, reversal of bronchospasm and reversal of bradycardia.
- Max dose 10mg
- If seizures, Midazolam (Versed)
  - IV 1mg slowly
  - MR in 3 min
  - Max dose of 0.05mg/kg
  - IN: 5mg (2.5mg in each nostril)
  - IM: 0.1mg/kg
  - MR x1 in 10 min

**Cyclic Antidepressants**
- Frequently associated with respiratory depression, almost always tachycardic, widened QRS and ventricular arrhythmias generally indicate life-threatening ingestions
- In the presence of life-threatening dysrhythmias
  - Hyperventilate if assisting ventilations or intubating
  - Sodium Bicarbonate 1mEq/kg IV
- If seizures, Midazolam (Versed)
  - IV: 1mg slowly
  - MR in 3 min
  - Max dose 0.05mg/kg
  - IN: 5mg (2.5mg in each nostril)
  - IM: 0.1mg/kg
  - MR x1 in 10 min
**SEVERE NAUSEA/VOMITING**

**Indications**

- Severe nausea
- Intractable vomiting
- Patients ≥ 4 years of age
- Motion sickness

**ALS RMC**

- **Ondanestron (Zofran)** 4mg ODT/IM or slow IV over 30 seconds
  - MR x1 in 10 min

**If nausea due to motion sickness**

- Also consider **Benadryl** 1mg/kg IM/IV
  - Max dose: 50mg
  - Max IV rate: 25mg/min

**Critical Information**

- **Ondanestron (Zofran)** contraindicated in patients with known sensitivity to **Ondanestron** or other 5-HT3 antagonists:
  - Granisetron (Kytril)
  - Dolasetron (Anzemet)
  - Palonosetron (Aloxi)
Indications

- Documented or suspected infection with at least TWO of the following:
  - HR > 90
  - RR > 20
  - SBP < 90
  - Temperature >100.4 or <96
  - AND ETCO2 ≤25 mmHg

If patient meets criteria, provide Sepsis Notification

- Two large bore IVs or IOs
- NS bolus 20ml/kg IV. May give up to two liters of fluid

If SBP < 80 mmHg

- Physician consult for Push-dose Epinephrine
- Mix 1ml Epinephrine (0.1mg/ml concentration) with 9ml NS in a 10ml syringe
- Administer Push-dose Epinephrine 1ml IV/IO. Repeat every 3-5 min
- Titrate to maintain SBP >80mmHg
- Monitor BP every 5 minutes

Critical Information

- If rales present, see Acute Pulmonary Edema Policy, R 5
**Indications**

- GCS <15, etiology unclear (consider AEIOU TIPS); sudden onset of weakness, paralysis, confusion, speech disturbances, headache

---

**ALS RMC**

**Position patient with head elevated 30 degrees or left lateral recumbent if vomiting**

**BG <60 or immeasurable**
- **Dextrose 10% 25GM/250ml**
- 125ml bolus IV/IO over 10 min
- Recheck BG and repeat as needed

**BG <60 or immeasurable and unable to start IV**
- **Glucagon 1mg IM**

**Narcotic Overdose**
- **Narcan 0.4-4mg/kg IV/IO/IM/IN**
- For IN administration: 2mg (1mg per nostril)
- If respiratory depression persists, repeat as needed

---

**SPECIAL CONSIDERATIONS**

- Indication for c-spine precautions
- Diabetic complications
- If CVA suspected, see CVA/Stroke Policy, N 4
SEIZURES

Indications

- Recurring or continuous generalized seizures with ALOC

ALS RMC

Treat hypoglycemia according to ALOC policy

If opiate overdose is suspected and patient is in respiratory failure or shock
Narcan 2mg IV/IM/SL/IN

• Midazolam (Versed)
  • IV/IO: 1mg slowly
  • MR q3 min until seizure stops or maximum dose 0.05mg/kg
  • IN: 5mg (2.5mg in each nostril)
  • IM: 0.1mg/kg
  • MR x1 in 10 min if still seizing

SPECIAL CONSIDERATIONS

- Consider treatable etiologies (hypoglycemia, hypoxia, narcotic overdose, unusual odor of alcohol, signs of trauma, medic alert tag) prior to administering anti-seizure medications.
- Expect and manage excessive oral secretions, vomiting, and inadequate tidal volume.
- Treatment should be based on the severity and length of the seizure activity.
- Focal seizures without mental status changes may not require pre-hospital pharmacological intervention.
- Never administer Midazolam (Versed) rapid IV/IO since cardiac and/or respiratory arrest may occur.
**Indications**

- Episode of brief loss of consciousness, dizziness, often postural

**Critical Information**

- If abnormal vital signs or loss of consciousness, do not do postural vital signs
CVA

Indications

- Sudden onset of weakness/paralysis, speech or gait disturbance

ALS RMC

- IV access (AC preferred) if patient meets Early Stroke Notification criteria
- Elevate head of bed 20-30° or place in left lateral decubitus

If last known well <4.5 hours and BG >60

- Provide Early Stroke Notification if any are true:
  - Abnormal Cincinnati Pre-hospital Stroke Scale (CPSS) score
  - Abnormal Visual Fields Assessment
  - Abnormal Cerebellar Assessment
  - Symptoms are most likely due to stroke and not a stroke mimic

If the patient meets criteria for early notification

- During radio report, provide patient identifying information- medical record number if known and/or last name and DOB of patient
- Rapidly transport to patient’s preferred Primary Stroke Center (PSC), as long as the estimated transport time is not >15 min longer than the closest PSC
  - Preferred PSC: patient’s preference or PSC with patient’s medical records
  - No preferred PSC: transport to the closest PSC
- Notify family members/medical decision maker that their immediate presence at the hospital is critical for optimal care
- Bring names and best phone numbers for the patient’s medical decision maker and who last saw the patient normal whenever possible

If high suspicion of rapidly progressive intracranial bleed

(sudden, witnessed onset of coma or rapidly deteriorating GCS especially in the setting of severe headache)

- Transport to Marin General Hospital
Cincinnati Pre-Hospital Stroke Scale (CPSS)

• Facial Droop (the patient shows teeth or smiles)
  • Normal: Both sides of the face move equally
  • Abnormal: Right side of the face does not move as well as the left
  • Abnormal: Left side of the face does not move as well as the right

• Arm Drift (the patient closes their eyes and extends both arms straight out for 10 seconds)
  • Normal: Both arms move the same, or both arms do not move at all
  • Abnormal: Right arm either does not move, or drifts down compared to the left
  • Abnormal: Left arm either does not move or drifts down compared to the right

• Speech (the patient repeats “The sky is blue in Cincinnati” or another sentence)
  • Normal: The patient says the correct words with no slurring or words
  • Abnormal: The patient slurs words, says the wrong words, or is unable to speak

Visual Fields/Cerebellar Assessment

• Visual Fields Assessment
  • Normal: Patient able to count fingers in all four visual field quadrants
  • Abnormal: Patient unable to correctly count fingers in one or more visual field quadrants

• Cerebellar Assessment (finger-to-nose)
  • Normal: Patient able to move their index finger from their nose to the examiner’s finger
  • Abnormal: Patient exhibits clumsy/unsteady movements or “overshoots”
VAGINAL HEMMORHAGE

Indications

- Profuse or abnormal vaginal bleeding, any bleeding in pregnancy, including signs of shock

Non-pregnant
  - Trendelenberg position

Pregnant >20 weeks
  - Position on left side and support abdomen, including patients immobilized on backboard

3rd trimester or post-partum with blood loss >500ml
  - 2nd large-bore IV

Post-partum and placenta delivered
  - Fundal massage and put infant to breast, if appropriate

ALS RMC

NS 250ml IV
  - MR as needed to maintain SBP ≥ 100
**IMMINENT DELIVERY (NORMAL)**

### Indications

- Anticipated delivery as indicated by regular contractions, bloody show, low back pain, feels like bearing down, crowning of infant head

### During Delivery

- As head is delivered, gently suction baby’s mouth and nose keeping head dependent
- If the cord is around neck and can’t be slipped over the head: Double clamp and cut between clamps

### After Delivery

- Allow delivery, dry baby and keep warm
- Place baby on mother’s abdomen or breast
- Delay cord clamping until 30-60 seconds after birth, then clamp and cut 6-8 inches from baby
- Apgar score at 1 and 5 minutes
- Allow delivery of placenta, save and bring to hospital

### APGAR SCORE

<table>
<thead>
<tr>
<th>Sign</th>
<th>0</th>
<th>1</th>
<th>≥100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heartrate</td>
<td>Absent</td>
<td>Slow (&lt;100)</td>
<td>≥100</td>
</tr>
<tr>
<td>Respirations</td>
<td>Absent</td>
<td>Slow, irregular</td>
<td>Good, crying</td>
</tr>
<tr>
<td>Muscle tone</td>
<td>Limp</td>
<td>Some flexion</td>
<td>Active motion</td>
</tr>
<tr>
<td>Reflex irritability</td>
<td>No response</td>
<td>Grimace</td>
<td>Cough, sneeze, cry</td>
</tr>
<tr>
<td>Color</td>
<td>Blue or pale</td>
<td>Pink body with blue extremities</td>
<td>Completely pink</td>
</tr>
</tbody>
</table>
**IMMINENT DELIVERY (COMPLICATED)**

**Indications**
- Presentation of buttocks, extremity or umbilical cord prior to delivery of infant head
- Prolapsed cord: cord presents first and is compressed during delivery compromising infant circulation

---

**Breech Presentation (buttocks or feet)**
- Begin transport with early receiving hospital contact
- BLS/ALS RMC

  - Allow delivery to proceed until baby’s waist appears
  - Rotate baby to face down position (do not pull)

  **If head does not deliver in 3 minutes**
  - Insert gloved hand into vagina to create an air passage for infant

---

**Limb Presentation**
- Position mother on gurney in left lateral with hips elevated

---

**Prolapsed Cord**
- Insert gloved hand into vagina and gently push presenting part off cord
- **Do not** attempt to reposition cord

  - Cover cord with saline soaked gauze
  - Placed mother in knee-chest position

  **NS IV TKO only if not delaying transport**
SEVERE PRE-ECLAMPSIA/ECLAMPSIA

Indications

• Third trimester pregnancy with the following signs and symptoms:
  • Hypertension (SBP >160, DBP >110)
  • Mental status changes
  • Visual disturbances
  • Peripheral edema (pre-eclampsia)
  • Seizures and/or coma (eclampsia)

Seizures

• Midazolam (Versed)
  • IV: 1mg slowly
  • MR in 3 min to max dose of 0.05mg/kg
  • IM: 0.1mg/kg
  • MR x1 in 10 min if still seizing
  • IN: 5mg (2.5mg in each nostril)

If DBP >110

• ☎ Physician consult for NTG
  • NTG 0.4mg spray/SL
  • MR in 10 min

Position on left side

ALS RMC

Transport quickly with a quiet environment (no siren)

NS IV TKO started enroute
RESPIRATORY ARREST

**Indications**

- Absence of spontaneous ventilations; pulse present

---

**If suspected opiate overdose**

- Do not insert advanced airway before **Narcan**
- **Narcan** 0.4-4mg/kg, IV/IO/IM
  - IN: 2mg (1mg per nostril)
  - If respiratory depression persists, repeat q2-3 minutes until patient responds. May need multiple doses.
**Indications**

- Presence of upper respiratory infection, sore throat, fever, stridor, or drooling
- Mechanical upper airway obstruction with history of food aspiration (especially if elderly)

---

**Able to Speak**
- Suction PRN to control secretions
- Transport in position of comfort
- Avoid agitating patient

**Unable to Cough or Speak**
- Ask patient if they’re choking
- Administer abdominal thrusts/Heimlich maneuver until foreign body is expelled or patient becomes unconscious
- After obstruction is relieved reassess:
  - Airway
  - Lung sounds
  - Skin color
  - Vital signs

**Unconscious**
- Perform tongue-jaw lift followed by finger sweet to remove object
- Begin CPR
- Prepare to use Magill forceps if BLS not effective

**Suspected Epiglottitis**
- Transport in upright position
- If patient deteriorates or the airway becomes obstructed, attempt positive pressure ventilation via BVM.
- Endotracheal intubation should be performed only if BVM is inadequate

---

**ALS RMC**

**Visualize airway**
Indications

- Increased respiratory rage or sensation of difficulty breathing that is not clearly due to the clinical entities specified in other guidelines. Symptoms may be due to pneumonia, inhalation of toxic substances, pulmonary embolus.
BRONCHOSPASM/ASTHMA/COPD

Indications

• Acute or progressive shortness of breath, chest discomfort, wheezing, cyanosis

ALS RMC

Mild to Moderate

• Pt able to speak full sentences
• Minimal accessory muscle use

• **Albuterol** 5mg in 6ml NS HHN
• **MR** if necessary
• **Ipratropium (Atrovent)** 500mcg (2.5ml) HHN

Severe

• Altered mental status
• Minimal air movement
• Inability to speak
• Significant desaturation <90%
• Cyanosis

• Consider CPAP
• **Albuterol** 5mg in 6ml NS HHN
• **MR** if necessary
• **Ipratropium (Atrovent)** 500mcg (2.5ml) HHN
• If **Albuterol** and **Atrovent** not effective:
  • **Epinephrine** 0.3mg IM (1mg/ml concentration)
  • **MR** once in 5 min

SPECIAL CONSIDERATIONS

• Do not repeat **Albuterol/Ipratropium (Atrovent)** if significant tachycardia or chest pain
• **Epinephrine** may cause anxiety, tremor palpitation, tachycardia, HTN and headache, and may precipitate AMI, hypertensive crisis and intracranial hemorrhage
• Consider use of patient actuated nebulizer with prolonged scene times and/or transport times over 10 minutes.
• Suspected carbon monoxide in cases of exposure to fire or smoke in confined areas; pulse oximetry in these settings is not accurate measure of respiratory status
ACUTE PULMONARY EDEMA

Indications

- Acute onset of respiratory difficulty; associated with the following signs or symptoms:
  - Rales
  - Hypertension
  - Tachypnea
  - Diaphoresis
  - Chest discomfort
  - History of cardiac disease
  - Occasional wheezes
  - Near drowning

**ALS RMC**

If tolerated, position patient in a sitting position with legs dependent

12-lead EKG if available

**SBP >100**
- Apply CPAP
- Nitroglycerin 0.4mg SL
- MR q5 min if SBP >100

**SBP <100**
- Consider NS 250-500ml IV fluid challenge

**SBP <80**
- Physician consult for Push-dose Epinephrine
  - Mix 1ml Epinephrine (0.1mg/ml) with 9ml Normal Saline in a 10ml syringe
  - Administer Push-dose Epinephrine 1ml IV/IO. Repeat every 3-5 min
  - Titrate to maintain a SBP >80mmHg

Monitor B/P q5 min

SPECIAL CONSIDERATION

- Do not give NTG if patient has taken erectile dysfunction medication within the previous 24 hours for Levitra/Viagra or 36 hours for Cialis
PNEUMOTHORAX/TENSION PNEUMOTHORAX

Indications

- Acute onset of respiratory distress with decreased unilateral or bilateral breath sounds. Signs and symptoms may include the following:
  - Extreme dyspnea
  - Neck vein distention
  - Agitation
  - Hypotension
  - Cyanosis
  - Hyperresonance to percussion on affected side
  - Tracheal shift away from the affected side

SPECIAL CONSIDERATIONS

- Condition may be precipitated by the following:
  - Trauma
  - Pre-existing lung disease
  - Cancer related treatment
  - Marfan’s syndrome
TOXIC INHALATION

Indications

- Respiratory distress caused by inhalation of toxic gases
- Symptoms may include headache, malaise, dizziness, nausea/vomiting, seizures, hypotension, coma; may be associated with cherry-red color of mucous membranes (late sign)
- Consider carbon monoxide poisoning or cyanid poisoning with any patient exposed to products of combustion toxic gases in an enclosed area

Rapid removal of patient from toxic environment

High flow oxygen; give oxygen despite normal SpO2

ALS RMC

If wheezing

- **Albuterol** 5mg in 6ml NS via HHN
  - Repeat as indicated

CO monitoring, if available

**At Risk for CO poisoning**
(at risk= pregnant, children <6y, elderly, patients with hx of respiratory problems)

- Any “at risk” patient (non-smoker) with CO >4%
- Any “at risk” patient (smoker) with CO >8%
- Any patient with CO sx and confirmed source of CO

**High Suspicion of CO poisoning**

- Any patient (non-smoker) with CO >9%
- Any patient (smoker) with CO >12%

If patient exhibits serious signs and symptoms of smoke inhalation (ie: unconscious/unresponsive, hypotension, and/or severely ALOC)

- Treat with **CYANOKIT (hydroxocobalamin)**
  - Adult: 5g IV/IO infusion over 15 min. **May repeat once** if severe signs of poisoning and lack of clinical response to first dose
  - Max total dose of 10g
  - Pediatric: not approved
Indications

- Suspected or apparent injuries which meet conditions listed on the Marin County Trauma Triage Tool

If SBP <100
- Consider 2 large bore IVs
- NS fluid challenge 250-500ml IV

For head injury patients, consider Zofran to prevent vomiting which could increase ICP

Special Consideration

- If injury may have resulted from abuse, neglect, assault, attempted suicide/homicide and/or other crimes, never to Suspected Abuse/Neglect/Human Trafficking Policy for reporting
CRUSH SYNDROME

**Indications**

- Extended extremity or torso entrapment (usually >2 hours)

---

**Pre-extrication**

- **Albuterol** 5mg in 6ml NS HHN. Consider use of patient actuated nebulizer with prolonged scene times and/or transport times >10 min
- **Sodium Bicarbonate** 1mEq/kg up to 100mEq IV/IO (flush line with NS before and after administration)
- **NS** 20ml/kg IV/IO bolus, prior to release of compression, in addition to standard trauma fluid resuscitation
- Pain management as appropriate

---

**Post-extrication**

- **Albuterol** 5mg in 6ml NS HHN if wheezing or evidence of hyperkalemia. Consider use of patient actuated nebulizer with prolonged scene times and/or transport times >10 min
- If suspected hyperkalemia (absent P waves, peaked T waves, prolonged QRS and/or evidenced by hypotension), **Calcium Chloride** 1gm IV/IO slowly over 5 min (flush line with NS before and after administration)

---

**SPECIAL CONSIDERATION**

- Do not run **Sodium Bicarbonate** and **Calcium Chloride** concurrently; either flush line well or use two lines
MANAGEMENT OF LESS-THAN-LETHAL INTERVENTIONS

**Indications**
- Injuries incurred from police interventions such as taser, bean bags, or chemical agents

**If Taser Injury**
- Remove embedded probes and dispose of in sharps container. If probes cannot be removed due to pt’s agitation/location of probe/or safety hazard, cover the probe with gauze
- Do NOT remove probes of located in the following areas: face, neck, groin, spinal column or any area deemed to be problematic
- Must be transported to a hospital

**BLS/ALS RMC**
- Irrigate eyes with NS as needed

**If Pepper Spray or Tear Gas**
- Remove clothing

Bio-Shield or other OTC agent may be used to assist in minimizing chemical agent exposure

Pain management as appropriate

**If Taser Injury**
- Treat according to Adult Sedation Protocol if agitation/combativeeness interferes with critical ALS interventions and airway control or that endangers patient or caregiver

**SPECIAL CONSIDERATION**
- If injury may have resulted from abuse, neglect, assault, attempted suicide/homicide and/or other crimes, refer to Suspected Abuse/Neglect/Human Trafficking Policy for reporting
PEDIATRIC CARDIAC ARREST

START CPR
• Give O2
• Attach monitor/defibrillator
• Prepare for immediate transport

Assess Rhythm

VF/pVT

CPR 2 min
• IO/IV access

Shockable Rhythm?

Yes

CPR 2 min
• Epinephrine every 3-5 min
• Consider advanced airway

Shockable Rhythm?

No

CPR 2 min
• Epinephrine every 3-5 min
• Amiodarone
• Treat reversible causes

Shockable Rhythm?

Yes

CPR 2 min
• IO/IV access
• Epinephrine every 3-5 min

Shockable Rhythm?

CPR 2 min
• IO/IV access
• Epinephrine every 3-5 min

Shockable Rhythm?

No

CPR 2 min
• Treat reversible causes

Shockable Rhythm?

Yes

CPR 2 min
• Yes: follow WF/pVT
• No: continue with Asystole/PEA
• ROSC: Go to policy C 10

CPR Ratios
• One rescuer: 30:2
• Two rescuer: 15:2

BLS Airway
• BVM is the preferred airway
• Avoid excessive ventilation
• Place younger child in sniffing position for neutral airway positioning

ALS Airway
• Consider only if unable to ventilate with BVM and patient is ≥12 yrs or height > color coded resuscitation tape
• Laryngoscopy for ETT must occur with CPR in progress.
• Do not interrupt CPR for >10 seconds for tube placement
• May use King airway if patient is ≥12 yrs and 4ft tall
• Use ETCO2
• Maintain SpO2 94-99%
• 1 breath every 6 sec.

Reversible Causes
• Hypovolemia
• Hypoxia
• Hydrogen Ion
• Hypo/Hyperkalemia
• Hypothermia
• Tension Pnemothorax
• Tamponate (cardiac)
• Toxins
• Thrombus

Shockable Rhythm?

Yes

Asystole/PEA

CPR 2 min
• IO/IV access

Shockable Rhythm?

No

CPR 2 min
• Treat reversible causes

Yes: follow WF/pVT
No: continue with Asystole/PEA
ROSC: Go to policy C 10

County of Marin EMS
December 2019
NEWBORN RESUSCITATION

**Critical Information**
- Measure with color-coded resuscitation tape
- Compress at rate of 90bpm. Use metronome or similar device
- 3:1 compression/ventilation ratio with 2 person CPR
- Peripheral cyanosis is a normal finding
- Delay cord clamping until 30-60 seconds after birth, then clamp 6-8” from baby

**Airway Management**
- Suction mouth then nose
- Ventilate at a rate of 60 breaths/min
- Use 2 person BLS airway management whenever possible
- Avoid excessive ventilation
- If HR >100 but SpO2 not in target range or central cyanosis present, administer blow-by O2 at 10LPM

**Drug Therapy**
- **Epinephrine** 0.01mg/kg (0.1mg/ml concentration) IV/IO q3-5 min
- **NS** fluid bolus 10ml/kg

**SpO2 Normal Values After Birth (in Min)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>60-75%</td>
</tr>
<tr>
<td>2 min</td>
<td>65-70%</td>
</tr>
<tr>
<td>3 min</td>
<td>70-75%</td>
</tr>
<tr>
<td>4 min</td>
<td>75-80%</td>
</tr>
<tr>
<td>5 min</td>
<td>80-85%</td>
</tr>
<tr>
<td>10 min</td>
<td>85-95%</td>
</tr>
</tbody>
</table>
**Upper Airway/Stridor**
- Mild-moderate distress: 3ml **NS** via HHN
- Moderate to severe distress: **Epinephrine** (1mg/1ml concentration) 5mg in 5ml NS via HHN

**Lower Airway/Wheezing**
- **Albuterol** 2.5mg in 3ml NS via HHN, mask, or BVM
  - **MR x1**
- **Ipratropium** 500mcg in 2.5ml NS via HHN, mask or BVM
- If response inadequate, **Epinephrine** (1mg/1ml concentration) 0.01mg/kg IM
  - **MR in 5 min**
  - Max total dose: 0.6mg

**Foreign Body Obstruction**
- Attempt to clear airway
- <1 year: 5 back blows and 5 chest thrusts
- >1 year: 5 abdominal thrusts
- For FBO refractory to above attempts, utilize laryngoscopy to visualize and remove foreign body with Magill forceps

**Respiratory failure/apnea/complete obstruction**
- Attempt positive pressure ventilation via BVM
- ET tube placement approved for patients who are ≥12yrs or height greater than the length of the color-coded resuscitation tape
- King Airway approved as a rescue airway for patients who are ≥12 yrs and ≥4 ft tall

**Indications**
- Patient exhibits any of the following:
  - Wheezing
  - Stridor
  - Grunting
  - Nasal flaring
  - Apnea

**Special Considerations**
- Assess key history factors: recent hospitalizations, asthma, allergies, croup, and medication usage

**Position of comfort**
- Allow parent to administer O2 if possible

**ALS RMC**
**PEDIATRIC BRADYCARDIA**

**Indications**

- HR <60 cousin cardio-respiratory compromise

**ALS RMC**

- 12-lead EKG
- IV/IO Access

**Signs of shock present?**

- Monitor and transport
- Assist respirations with BVM PRN
- CPR if <8 yrs and HR <60 after effective ventilations
- **Epinephrine** (0.1mg/ml concentration) 0.01mg/kg IV/IO; MR q 3-5 min

**If 1st° block or Mobitz type I**

- **Atropine** 0.02mg/kg IV/IO (max single dose: 0.5mg; minimum single dose: 0.1mg); MR x1

**SPECIAL CONSIDERATIONS**

**Reversible causes:**
- Hypovolemia
- Hypoxia
- Hydrogen Ion
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pnemothorax
- Tamponate (cardiac)
- Toxins
- Thrombus

- ETT placement approved for patients who are ≥12 yrs or height > than the length of the color-coded resuscitation tape
- King airway approved as a rescue airway for patients who are ≥12 yrs and ≥4 ft tall

- Consider pacing if no response to above treatment
**PEDiATRIC TACHYCARDiA**
**POOR PERFiSUtiON**

**Indications**
- Rapid heart rate (infant HR >220 bpm; child HR >180 bpm) with pulse and poor perfusion

**If normal QRS ≤ 0.09 sec**
- Consider vagal maneuvers, but do not delay other treatments
- If vascular access readily available, **Adenosine** 0.01mg/kg IV/IO
  - Max first dose: 6mg
  - MR x1 (double the dose)
  - Max dose: 12mg
  - Follow each with rapid 10ml NS flush
- Pre-medicate with **Midazolam** 0.05mg/kg IV/IO
  - Max 1mg per dose
  - Max total dose: 5mg
  - Do not delay cardioversion if patient unstable
  - Cardiovert: 0.5-1J/kg
  - If not effective, increase to 2J/kg

**If wide QRS ≥ 0.09 sec**
- Pre-medicate with **Midazolam** 0.05mg/kg IV/IO
  - Max dose: 1mg
  - Max total dose: 5mg
- Do not delay cardioversion if patient unstable
- Cardiovert: 0.5-1J/kg
- If not effective, increase to 2J/kg
- Physician consult for **Amiodarone** if no response to cardioversion
  - 5mg/kg IV over 20-60 minutes

**SPECIAL CONSIDERATIONS**

**Reversible causes:**
- Hypovolemia
- Hypoxia
- Hydrogen Ion
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponate (cardiac)
- Toxins
- Thrombus
**PEDIATRIC SHOCK**

**Indications**

- Inadequate organ and tissue perfusion to meet metabolic demands

Conditional Flowchart:

1. ALS RMC
2. IV/IO x2
3. **NS** fluid bolus determined by length-based color-coded resuscitation tape
   - Repeat PRN
4. Check blood glucose and treat if <60mg/dl (<40 mg/dl for neonate)
   - Neonate: **D10W** 2ml/kg IV/IO over 10 min
   - > Neonate: **D10W** 5ml/kg IV/IO over 10 min
   - If unable to establish vascular access; **Glucagon** 0.03 mg/kg IM
     - Max dose: 1mg
     - MR x2 q15 min

If symptoms of anaphylaxis

- Follow Allergic Reaction Policy, P 8
**Indications**

- Exposure to allergens causing airway, breathing and/or circulatory impairment

**Mild**
(hives, rash)
- **Benadryl** 1mg/kg IM
  - MR in 10 min
  - Max dose: 50mg

**Moderate/Severe**
- **Epinephrine** (1mg/ml concentration) 0.01mg/kg IM
  - MR in 5 min
  - Max total dose: 0.6mg
- **Benadryl** 1mg/kg IM/IV/IO
  - MR in 10 min
  - Max dose: 50mg
- **Albuterol** 2.5mg/3ml NS HHN if bronchospasm present
  - MR x1 if no improvement

**If Hypotensive**
- **NS** fluid bolus 20ml/kg IV/IO
  - MR PRN

**If Unresponsive/No Palpable BP or Pulse**
- Go to Pediatric Cardiac Arrest Policy, P 1

---

**County of Marin EMS**

**P 8**

**December 2019**
PEDIATRIC SEIZURE

Indications

- Recurring or continuous generalized seizures with ALOC

Critical Information

- Evaluate for and treat hypoglycemia, hypoxia, narcotic overdose, trauma, fever, etc. prior to administering anti-seizure medications
**Indications**

- Abnormal neurologic state where child is less alert and interactive than is age appropriate

**ALS RMC**

- Check blood glucose and treat if <60mg/dl (<40 mg/dl for neonate)
- Neonate: D10W 2ml/kg IV/IO over 10 min
- > Neonate: D10W 5ml/kg IV/IO over 10 min
- If unable to establish vascular access; **Glucagon** 0.03 mg/kg IM
  - Max dose: 1mg
  - MR x2 q15 min

- **Narcan** 0.1mg/kg IM/IV/IO/IN
  - MR q5 min up to 2mg if no improvement in ALOC and strong suspicion of opiate exposure

**Critical Information**

- **Narcan** is contraindicated with neonatal resuscitation
PEDIATRIC TOXIC EXPOSURES

Indications
• Probable ingestion and/or exposure to one or more toxic substances, including alcohol and medications

ALS RMC

NS fluid bolus 20ml/kg IV/IO as indicated

If suspected opiate overdose
  • For patient >4 weeks of age, Narcan 0.1mg/kg IV/IO/IM/IN

Caustics/Corrosives
(ingestion of substances causing intra-oral burns, painful swallowing or inability to handle secretions)
  • Do not induce vomiting

Hydrocarbons or Petroleum distillates
(kerosene, gasoline, lighter fluid, furniture polish)
  • Do not induce vomiting
  • Transport immediately

Insecticides
(Organophosphates, carbonates; can cause cholinergic crisis characterized by bradycardia, increased salivation, lacrimation, sweating, muscle fasciculation, abnormal cramping, pinpoint pupils, incoherence or coma)
  • Atropine 0.05mg/kg IV/IO slowly. Repeat every 5-10 min until symptoms resolve
  • If seizures, Midazolam (Versed)
    • IV/IO: 0.05mg/kg (max 1mg/dose)
    • MR q3 min until seizure stops and/or total dose of 5mg is reached
    • IM: 0.1mg/kg
    • MR x1 in 10 min
    • IN: 0.2mg/kg (split dose in half for each nostril)
    • Max dose: 5mg

Phenothiazine reactions
(restlessness, muscle spasms of the neck, jaw, and back; oculogyric crisis, history of ingestion of phenothiazine, or unknown medication)
  • Benadryl 1mg/kg IM/IV/O
  • Max dose: 50mg

Calcium Channel Blockers/Cyclic Antidepressants/Beta Blockers
(frequently associated with respiratory depression, almost always tachycardic, widened QRS and ventricular arrhythmias generally indicate life-threatening ingestions)
  • Transport immediately
  • ☎ Physician consult for additional treatments
**PEDEATRIC BURNS**

**Indications**
- Damage to the skin or an inhalation injury caused by contact with fire, heat, electricity, or caustic material

- Remove patient to safe area and stop the burning process
- Remove contact with the agent, unless adhered to the skin
- Brush away dry chemicals
- Flush with cool water to stop the burning process or to decontaminate
- Expose affected area and apply clean dry sheet
- Remove all clothing/jewelry
- Keep patient warm to avoid hypothermia

**ALS RMC**
- High-flow oxygen via NRB for burns involving the chest and for patients with evidence/suspicion of inhalation injury

**If wheezing**
- Consider **Albuterol** 2.5mg HHN
- **MR x1**

- **NS** TKO IV/IO, do not administer fluid bolus
- Pain management as soon as possible

**Critical Information**
- Perform frequent airway assessments and consider early intubation for inhalation injury (ie: facial or chest burns, singed nares, soot/blisters in oropharynx)
- Burns with trauma mechanism need to be transported per the Marin County Trauma Triage Tool
**Indications**

- Damage to the skin or an inhalation injury caused by contact with fire, heat, electricity, or caustic material

**SPECIAL CONSIDERATION**

- If injury may have resulted from abuse, neglect, assault, attempted suicide/homicide and/or other crimes, refer to Suspected Abuse/Neglect/Human Trafficking Policy for reporting
**BRIEF RESOLVED UNEXPLAINED EVENT (BRUE)**

**Indications**

- A frightening episode to the observer characterized by some combination of:
  - Apnea (central or obstructive)
  - Color change (cyanosis, pallor, erythema)
  - Marked change in muscle tone
  - Unexplained choking or gagging

**ALS RMC**

- Check blood glucose and treat if <60mg/dl (<40 mg/dl for neonate)
- Neonate: D10W 2ml/kg IV/IO over 10 min
- > Neonate: D10W 5ml/kg IV/IO over 10 min
- If unable to establish vascular access; **Glucagon** 0.03 mg/kg IM
  - Max dose: 1mg
  - MR x2 q15 min

**PHYSICIAN CONSULT**
- Parent/Designated Decision Maker refuses medical care and/or transport

**SPECIAL CONSIDERATION**

- Most BRUE patients have normal physical exam
- Assume parental history is real. Encourage transport no matter how well the patient might appear.
**Indications**

- To provide analgesia for pediatric patients (6 months to 14 years or up to 45kg), especially if anticipated extrication, movement, or transportation would exacerbate the patient’s level of pain

---

**Morphine** 0.1mg/kg IV/IO/IM
- MR x2 in 15 min following IV/IO administration or in 30 min following IM administration
- Physician consult for additional doses

**OR**

**Fentanyl** 1mcg/kg slow IV/IO/IN
- MR q5 min
- Max dose 3mcg/kg
- For IN, divide dose evenly between nares

- Have Narcan available

---

**If Nausea/Vomiting**

- Consider Ondanestron
  - Ages 2-3 yrs: 2mg ODT or slow IV/IO over 30 sec
  - Age ≥ 4yrs: 4mg ODT or slow IV/IO over 30 sec
  - MR x1 in 10 min

---

** PHYSICIAN CONSULT**

- Patient less than 6 months of age
- Patients with head, chest, or abdominal trauma; decreased respirations; ALOC (GCS <15)
- Additional doses of narcotic after initial dose administered
PEDIATRIC SEXUAL ASSAULT

Indications

- Patients under 14 years of age with complaints consistent with sexual assault

BLS/ALS RMC

- Calm/reassure patient
- Assign responder of same sex as patient, if possible
- Treat medical conditions/traumatic injuries per protocol

If no medical conditions/traumatic injuries are apparent and assault occurred within 72 hours

- Law Enforcement will take victim to Children’s Hospital Oakland (CHO) for a medical evidentiary examination and should call the Emergency Department at CHO (510) 428-3240 and ask for the ED social worker on call

If patient/Designated Decision Maker (DDM) refuses transport

- Instruct patient/DDM not to shower and advise of alternative care/transport options per AMA or RAS policy

If no medical conditions/traumatic injuries are apparent and assault occurred >72 hours

- Law Enforcement will make a decision of whether or not to proceed with the forensic medical examination

Critical Information

- Notify police and dispatch of nature of call
- Preserve possible evidence and advise patient not to clean, bathe, or change clothes until after examination by hospital personnel
<table>
<thead>
<tr>
<th>DRUG</th>
<th>CONCENTRATION</th>
<th>STANDARD DOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenosine</td>
<td>6mg/2ml</td>
<td>0.1mg/kg rapid IV/IO push, followed by 5ml NS flush&lt;br&gt;- Max first dose: 6mg&lt;br&gt;- MR x1 (double the dose); max dose 12mg</td>
</tr>
<tr>
<td>Albuterol</td>
<td>2.5mg/3ml NS</td>
<td>2.5mg/3ml NS</td>
</tr>
<tr>
<td>Amiodarone</td>
<td>150mg/3ml</td>
<td>Pulseless Arrest: 5mg/kg IV/IO, followed by or diluted in 20-30ml NS&lt;br&gt;- Max single dose: 300mg&lt;br&gt;*Tachycardia with poor perfusion: 5mg/kg IV/IO over 20-60 min</td>
</tr>
<tr>
<td>Atropine</td>
<td>1mg/10ml</td>
<td>Bradycardia: 0.02mg/kg IV/IO&lt;br&gt;- Minimum dose 0.1mg, single max dose: 0.5mg&lt;br&gt;- MR x1&lt;br&gt;Organophosphate Poisoning: 0.05mg/kg IV/IO&lt;br&gt;- MR q5-10 min&lt;br&gt;- Max dose 4mg or until relief of symptoms</td>
</tr>
<tr>
<td>Dextrose 10%</td>
<td>D10%</td>
<td>ALOC (Neonate): 2ml/kg IV/IO&lt;br&gt;ALOC (&gt;Neonate): 5ml/kg IV/IO</td>
</tr>
<tr>
<td>Diphenhydramine (Benadryl)</td>
<td>50mg/ml or 50mg/10ml</td>
<td>1mg/kg IV/IO/IM&lt;br&gt;- IV/IO max dose: 25mg/min&lt;br&gt;- IM max dose: 50mg</td>
</tr>
<tr>
<td>Epinephrine</td>
<td>1mg/ml</td>
<td>Allergic Reaction: 0.01mg/kg IM (0.01mg/kg)&lt;br&gt;- Max dose: 0.6mg (0.6ml)&lt;br&gt;EpiPen Jr ®: repeat as needed in 5 min&lt;br&gt;Upper Airway/Stridor: 5mg in 5ml via nebulizer</td>
</tr>
<tr>
<td>Epinephrine</td>
<td>1mg/10ml or 0,1mg/ml</td>
<td>0.01mg/kg (0.1ml/kg) IV/IO</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>100mcg/2ml</td>
<td>1mcg/kg slow IV/IO/IN&lt;br&gt;- MR q5 min&lt;br&gt;- Max dose 3mcg/kg&lt;br&gt;- For IN: divide dose evenly between nares</td>
</tr>
<tr>
<td>Glucagon</td>
<td>1mg/ml</td>
<td>0.03mg/kg IM&lt;br&gt;- Max dose: 1mg</td>
</tr>
<tr>
<td>Ipratropium</td>
<td>500mcg/2.5ml Unit dose</td>
<td>500mcg/2.5ml Unit dose</td>
</tr>
<tr>
<td>Lidocaine 2%</td>
<td>20mg/ml</td>
<td>0.5mg/kg slowly&lt;br&gt;- Max dose: 40mg&lt;br&gt;- MR PRN x1 1/2 of initial bolus</td>
</tr>
<tr>
<td>DRUG</td>
<td>CONCENTRATION</td>
<td>STANDARD DOSE</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Midazolam (Versed)          | 2mg/ml IN: 5mg/ml  | **Cardioversion:** 0.05mg/kg slow IV/IO  
- **Max initial dose:** 1mg  
**Seizure:**  
IV/IO: 0.05mg/kg  
- **MR q3 min**  
- **Max dose:** 5mg  
IM: 0.1mg/kg  
- **MR x1 in 10 min**  
IN: 0.2mg/kg  
- **Max dose:** 5mg |
| Morphine                    | 10mg/10ml 10mg/ml | **Pain Management:** 0.1mg/kg (0.1ml/kg) slow IV/IO/IM  
- **MR x1 in 15 min if IV/IO, 30 min if IM**  
**Burns:** 0.1mg/kg IV/IO/IM in incremental doses up to 0.3mg/kg |
| Naloxone (Narcan)           | 2mg/2ml           | 0.1mg/kg (0.25ml/kg) IV/IO/IM                                                  |
| Ondanestron (Zofran)        | 4mg                | **Patients ≥4 years:** 4mg ODT or slow IV over 30 seconds  
**Patients 2-4 years:** 2mg ODT or slow IV over 30 seconds |
| Sodium Bicarbonate          | 50mEq/50ml        | 1mEq/kg IV/IO                                                                  |
SPINAL INJURY ASSESSMENT

Potential for unstable spinal injury?
- Yes
  - Reliable patient?
    - Yes
      - Normal c-spine exam?
        - Yes
          - Normal motor/sensor exam?
            - Yes
              - High-risk factor?
                - Yes
                  - Consider Modified SMR
        - No
          - Modified SMR
    - No
      - Modified SMR
  - No
    - Omit SMR

- No
  - Modified SMR

Reliable patient?
- Yes
  - Intoxicated- drugs/alcohol?
    - Yes
      - Consider Modified SMR
    - No
      - Normal c-spine exam?
        - Yes
          - Normal motor/sensor exam?
            - Yes
              - Full SMR
            - No
              - Modified SMR
        - No
          - Modified SMR
  - No
    - Omit SMR

Intoxicated- drugs/alcohol? Check for c-spine tenderness or pain

Distracting injury? Language barrier?

Normal c-spine exam?
- Yes
  - Normal motor/sensor exam?
    - Yes
      - Full SMR
    - No
      - Modified SMR
  - No
    - Modified SMR

Normal motor/sensor exam?
- Yes
  - High-risk factor?
    - Yes
      - Consider Modified SMR
    - No
      - Omit SMR
- No
  - Modified SMR

High-risk factor?
- Yes
  - Age ≥ 65
  - Meets Trauma criteria for mechanism
  - Axial load to the head
- No
  - Omit SMR

Consider Modified SMR
# Adult Medication Standard Dosages

<table>
<thead>
<tr>
<th>DRUG</th>
<th>CONCENTRATION</th>
<th>STANDARD DOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen (Tylenol/Ofirmev)</td>
<td>1000mg/100ml</td>
<td>IV 1000mg over 15-20 min</td>
</tr>
<tr>
<td>Adenosine</td>
<td>6mg/2ml</td>
<td>IV/IO Initial: 6mg rapid push followed by 20ml NS flush Repeat: 12mg</td>
</tr>
<tr>
<td>Albuterol</td>
<td>2.5mg/3ml NS</td>
<td>Nebulized 5mg/6ml NS</td>
</tr>
<tr>
<td>Amiodarone</td>
<td>150mg/3ml</td>
<td>IV/IOVF/Pulseless VTach: Initial: 300mg push Repeat: 150mg push in 3-5min Perfusing/Recurrent VTach: Initial: 150mg over 10 min (15mg/min) Repeat: q10 min PRN</td>
</tr>
<tr>
<td>Aspirin (Chewable)</td>
<td>Variable</td>
<td>PO 162-325mg</td>
</tr>
<tr>
<td>Atropine</td>
<td>1mg/10ml</td>
<td>IV/IO Bradycardia: Initial: 0.5mg Repeat: q3-5 min Max total: 3mg Organophosphate Poisoning: Initial: 2mg slowly Repeat: q2-5 min until drying of secretions</td>
</tr>
<tr>
<td>Calcium chloride 10%</td>
<td>1gm/10ml</td>
<td>IV/IO 1gm slowly over 5 min flush with NS before and after</td>
</tr>
<tr>
<td>Cyanokit</td>
<td>5gm/vial</td>
<td>IV/IO Initial: 5gm over 15min Repeat: x1 if severe signs Max total dose: 10gm</td>
</tr>
<tr>
<td>Dextrose 10%</td>
<td>25gm/250ml</td>
<td>IV/IO Initial: 125ml bolus over 10 min; recheck BG Repeat: as needed</td>
</tr>
<tr>
<td>Diphenhydramine (Benadryl)</td>
<td>50mg/ml</td>
<td>IV/IO/IM Allergic reaction: 50mg IV/IO Phenothiazine reaction: 1mg/kg slowly Max dose: 50mg IV/IM Motion sickness: 1mg/kg Max dose: 50mg; max IV rate 25mg/min</td>
</tr>
<tr>
<td>DRUG</td>
<td>CONCENTRATION</td>
<td>STANDARD DOSE</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Epinephrine         | 1mg/ml  EpiPen ® 0.3mg                 | IM  
Initial: 0.3mg or EpiPen ®  
Repeat: x1 in 5 min                                                            |
| Epinephrine         | 0.1mg/ml                                | IV/IO  
Initial: 1mg (10ml) followed by 20ml NS flush  
Repeat: q3-5min                                                                 |
| Epinephrine (Push-Dose) | 0.1mg/ml                              | IV/IO  
Mix 1ml Epinephrine (0.1mg/ml) with 9ml NS in a 10ml syringe  
Initial: 1ml  
Repeat: q3-5 min, titrate to maintain SBP >80                        |
| Fentanyl (Sublimaze)| 100mcg/2ml                             | IV/IO  
Initial: 50mcg slowly  
Repeat: q5 min  
Max dose: 200mcg  
IN  
Initial: 1mcg/kg (administer 1/2 dose in each nare)  
Max dose: 100mcg  
IM  
Initial: 1mcg/kg  
Repeat: in 30 min at 1/2 initial dose  
Max single dose: 100mcg                                          |
| Glucose Paste       | 15gm/tube                              | PO  
30gm                                                                 |
| Glucagon            | 1mg/ml                                 | IM  
1gm                                                                 |
| Ipratropium         | 500mcg/2.5ml Unit dose                 | Nebulized  
500mcg                                                                 |
| Lidocaine 2%        | 20mg/ml                                | IO  
20-40mg over 60 seconds                                                      |
| Midazolam (Versed)  | 2mg/2ml (IV/IO/IM)  
5mg/1ml (IN)                              | IV/IO  
Cardioversion/Pacing/Seizure:  
Initial: 1-2mg slowly  
Repeat: q3 min  
Max dose: 0.05mg/kg  
Sedation: See specific policy  
IN  
Cardioversion/Pacing/Seizure: 5mg (2.5mg in each nare)  
Sedation: See specific policy  
IM  
Cardioversion/Pacing/Seizure:  
Initial: 2-4mg  
Repeat: x1 in 10 minutes  
Sedation: See specific policy                                               |
<table>
<thead>
<tr>
<th>DRUG</th>
<th>CONCENTRATION</th>
<th>STANDARD DOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Morphine Sulfate</strong></td>
<td>10mg/1ml</td>
<td><strong>IV/IO</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Chest Pain:</strong> 2-5mg slowly Repeat: q2-3 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Max dose:</strong> 10mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Pain Management/Trauma:</strong> 5mg slowly Repeat: q5 min if SBP &gt;100</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Max dose:</strong> 20mg</td>
</tr>
<tr>
<td><strong>Naloxone (Narcan)</strong></td>
<td>2mg/2ml</td>
<td><strong>IV/IO, IN, IM</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Initial:</strong> 0.4-4mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Repeat:</strong> as necessary</td>
</tr>
<tr>
<td><strong>Nerve Gas Auto-Injector</strong></td>
<td>2mg (0.7ml)</td>
<td><strong>IM</strong></td>
</tr>
<tr>
<td>(Atropine, Pralidoxime Chloride [2-PAM])</td>
<td>600mg (2ml)</td>
<td><strong>Small Exposure to Vapors/Liquids:</strong> 1 dose of both medications Repeat: x1 in 10 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Larger Exposure to Vapors/Liquids:</strong> 3 doses initially of both medications</td>
</tr>
<tr>
<td><strong>Nitroglycerine</strong></td>
<td>0.4mg/tablet or spray</td>
<td><strong>SL</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Initial:</strong> 1 tablet or spray Repeat: q5 min if SBP &gt;100</td>
</tr>
<tr>
<td><strong>Ondanestron (Zofran)</strong></td>
<td>4mg</td>
<td><strong>IV</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Initial:</strong> 4mg slowly over 30 seconds Repeat: x1 in 10 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>ODT/IM</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Initial:</strong> 4mg Repeat: x1 in 10 min</td>
</tr>
<tr>
<td><strong>Sodium Bicarbonate</strong></td>
<td>50mEq/50ml</td>
<td><strong>IV/IO</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>1mEq/kg</strong></td>
</tr>
</tbody>
</table>
When patient meets criteria for declaration of death in the field:

- Notify the appropriate law enforcement agency if applicable
- Remain on the scene until law enforcement or coroner arrive if applicable
- Complete a Field Determination of Death Form at scene and leave one copy for coroner if applicable
**ALS DETERMINATION OF DEATH**

**Indications**

- Patient in cardiac arrest who does not meet criteria for BLS determination of death and does not have a valid DNR order.

**Physician Consult**

- Evidence exists that resuscitative efforts are not desired or appropriate and above criteria is not met
- ETCO2 > 10mm/Hg after 30 minutes of resuscitation efforts

**Determination of death can be made prior to, or immediately after initiating resuscitation when:**

**Trauma- EITHER may be present**

- MCI incident where triage principles preclude initiation of CPR
- Blunt, penetrating or profound multi-system trauma with asystole or PEA

**Medical- ALL must be present**

- Presenting rhythm is asystole
- Event was unwitnessed
- Effective bystander CPR was not initiated
- **No evidence of potentially reversible cause of arrest**
- No AED or manual shock delivered

If determination of death cannot be made

- Perform ALS resuscitation for 20 minutes on scene
- If patient is in refractory VFib after 3 unsuccessful shocks, immediately transport to nearest available STEMI Receiving Center
- If above procedures have been completed without ROSC, resuscitation may be discontinued, and determination of death made when **ANY** of the following are present:
  - A valid DNR or POLST form becomes available which precludes continuation of resuscitation efforts
  - ETCO2 ≤ 10mm/Hg and the rhythm is asystole or PEA

If determination of death still cannot be made for medical arrests

- Continue resuscitation for ten additional minutes (30 minutes total) at which point resuscitation may be discontinued and determination of death made if ROSC has not occurred

When patient meets criteria for declaration of death in the field:

- Notify the appropriate law enforcement agency if applicable and remain on the scene until law enforcement or coroner arrive if applicable
- Complete a Field Determination of Death Form at scene and leave one copy for coroner if the patient will be transferred to the coroner