Date: February 28, 2019
To: Holders of EMS Policy and Procedure Manuals
From: Devin Tsai, MD
Interim EMS Agency Medical Director
Subject: Update to Policy Manual

Please find the 2019 update to the EMS Policy and Procedure Manual. These new and revised policies and procedures are effective March 1, 2019.

Revised Policies and Procedures include:

- 5010 Provider Equipment List
- ATG 6 Determination of Death
- ATG 7 Adult Medications
- BLS 3 Bronchospasm/COPD/Asthma
- C 1 Ventricular Fibrillation/Pulseless Ventricular Tachycardia
- GPC Cardiac Arrest
- GPC 9 Suspected Abuse/Neglect/Human Trafficking/Inflicted Physical Injury
- N 4 CVA
- R 7 Toxic Inhalation

New Policies:

- BLS 7 Anaphylaxis
- GPC 16 Pediatric Patient Transports
- GPC 16a Pediatric Patient Transports Flow Chart
COUNTY OF MARIN

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Division of Public Health Services
Emergency Medical Services Agency

Policy and Procedure Manual

March 1, 2019

Kim Bowman, EMS Administrator, EMS Agency

Devin Tsai, MD, Interim Medical Director, EMS Agency
### AIRWAY EQUIPMENT

#### Airways:
- Oropharyngeal (Sizes 0 – 6)
  - BLS: 2 each
  - ALS First Responder: 1 each
  - ALS Transport: 2 each
- Nasopharyngeal, soft rubber (sizes 14Fr., 18Fr., 22Fr., 26Fr., 28Fr., 30Fr., 32Fr., 34Fr., 36Fr.)
  - BLS: 2 each
  - ALS First Responder: 1 each
  - ALS Transport: 2 each
- Atomizer for intranasal medication administration (MAD device)
  - BLS: 2
  - ALS First Responder: 2
  - ALS Transport: 3

#### King Airway
- Size 3
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 1
- Size 4
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 1
- Size 5
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 1

#### Continuous Positive Airway Pressure Device
- BLS: 0
- ALS First Responder: 0
- ALS Transport: (optional) 1

#### Intubation Equipment
- Laryngoscope handle (battery powered)
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 1
- Additional batteries
  - BLS: 0
  - ALS First Responder: 2
  - ALS Transport: 2
- Blades (curved 1 - 4)
  - BLS: 0
  - ALS First Responder: 1 x #4
  - ALS Transport: 1 each
- Blades (straight 0 – 4)
  - BLS: 0
  - ALS First Responder: 1 x #4
  - ALS Transport: 1 each
- Bulbs (extra or disposable)
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 1 each
- Magill forceps (adult and pediatric)
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 1 each
- Endotracheal tubes
  sizes 6.0-8.0 mm: cuffed
  - BLS: 0
  - ALS First Responder: Size 7.5 = 1
  - ALS Transport: 2 each
- Disposable stylets (adult)
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 2
- End-Tidal CO2 Detectors
  - Adult – Colormetric
    - BLS: 0
    - ALS First Responder: 1
    - ALS Transport: 2
  OR
  - Capnograph or digital (optional)
    - BLS: 0
    - ALS First Responder: 1
    - ALS Transport: 1
- Esophageal Detector Device (optional if Capnometer is utilized)
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 1
- Endotracheal Tube Introducer (ETTI)
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 2
- ET Tube Holder (adult)
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 2
- Meconium Aspirator
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 1

#### Videolaryngoscopy (adult)
- BLS: 0
- ALS First Responder: 0
- ALS Transport: (optional) 1
- ALS Tactical: (optional) 1

#### Nebulizer
- Hand-held OR Patient activated
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 2
- In-line nebulizer equipment with T-piece
  - BLS: 0
  - ALS First Responder: 1
  - ALS Transport: 2
**Oxygen Equipment and Supplies**

- Fixed tank in vehicle with regulator; M-tank or H-tank: 1 each
- Regulator: 0 each
- Portable tank (minimum D tank): 0 each
- Adult face masks: transparent, non-rebreathing; Child/infant: simple or non-rebreathing: 2 each
- Nasal cannulas (adult, child, infant): 2 each
- Portable Pulse Oximetry: Optional

**Pleural Decompression kit:** ≥14g needle, ≥2 ¼ inches long; Heimlich valve; occlusive dressing; 10 ml syringe: 0 each

**Resuscitation bag-valve-mask (BVM)**: Adult, pediatric, infant: 1 each

**Suction Equipment and Supplies**

- Suction apparatus – Portable / battery powered: 1
- Suction apparatus – Wall Mount: 0 each
- Pharyngeal tonsil tip (rigid): 2 each
- Suction catheters: 6 Fr, 8 Fr, 10 Fr, 14 Fr, 16 Fr, 18 Fr: 2 each
- Suction canister (spares): 2 each
- Suction tubing: 2 each

**DRESSING MATERIALS**

**Bandages**

- Bulk non-sterile: 1 box
- 4 x 4” sterile gauze pads: 0
- 10 x 30” universal dressings: 0 each
- ABD Pads: 0 each
- 40” triangular bandage with safety pins: 2 each
- Elastic bandage 3” (Ace): 2 each
- Occlusive dressing: 2 each
- Hemostatic dressings (must be CA EMSA approved): optional
- Roller bandages (2”, 3”, 4”, or 6”): 3 each

**Band-Aids (Assorted)**: 1 box

**Burn Sheets (sterile) or commercial burn kit**: 2 each

**Cold Packs / Hot Packs**: 4 ea / 4 ea

**Tape (1” and 2”)**: 2 each

**Trauma shears**: 1 each
<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) 1 each</td>
<td></td>
<td></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>
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<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</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 pacing ability for child / adult. May be biphasic or monophasic (biphasic preferred)</td>
<td>0</td>
<td>0</td>
<td>12-lead optional (pacing optional)</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>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>· A.E.D.</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, sterile scissors or other cutting utensil, bulb suction, sterile gloves, and blanket</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>· Thermal absorbent blanket and head cover, aluminum foil roll, or appropriate heat-reflective material (enough to cover newborn)</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</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>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>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>MER A 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>Fire Extinguisher</td>
<td>1</td>
<td>0</td>
<td>Optional</td>
<td>1</td>
</tr>
<tr>
<td><strong>IMMOBILIZATION and RESTRAINT DEVICES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervical collars – adjustable Sizes to fit all patients over 1 yr old (adult/pedi)</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><strong>IV EQUIPMENT / SYRINGES / NEEDLES</strong></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 14g, 16g, 18g, 20g, 22g, 24g</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>0</td>
<td>2</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

<table>
<thead>
<tr>
<th></th>
<th>BLS Transport</th>
<th>ALS Fireline/Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

### Constriction Band
- 0

### Three Way Stop Cock
- 0

### Tubing – with adjustable flow
- macro drip (10gtt/cc – 15gtt/cc adjustable)
- micro drip (60 micro gtts/cc)

<table>
<thead>
<tr>
<th></th>
<th>BLS Transport</th>
<th>ALS Fireline/Tactical</th>
<th>ALS First Responder</th>
<th>ALS Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option</td>
<td>0</td>
<td>2</td>
<td>2 each</td>
<td>4 each</td>
</tr>
</tbody>
</table>

### MEDICATIONS AND SOLUTIONS

#### Acetaminophen (Tylenol/Ofirmev), 1000mg / 100ml
- 0

#### Adenosine, 6 mg in 2 ml NS
- 0

#### Albuterol Unit Dose
- 0

#### Amiodarone, 150 mg in 3 cc NS
- 0

#### ASA (chewable), 81 mg
- 0

#### Atropine, 1 mg in 10 ml
- 0

#### Calcium Chloride 10%, 1 gm in 10 ml
- 0

#### Check and Inject Kit (EMS Agency approved providers only)
- 0

#### CYANOKIT (or hydroxocobalamin equivalent)
- 0

#### Dextrose 10%
- 0

#### Diphenhydramine, 50 mg/ml
- 0

#### Duo-Dote (Nerve Gas Auto-injector)
- See County policy

#### Epinephrine 1 mg/ml (multidose)
- 0

#### Epinephrine 1 mg/10 ml
- 0

#### Glucagon, 1 mg
- 0

#### Ipratroprium (Atrovent), Unit Dose
- 0

#### Lidocaine 2% (20mg/ml)
- 0

#### Midazolam, 2 mg/2 ml
- 0

#### Midazolam, 5 mg/1 ml
- 0

#### Morphine Sulfate, 10 mg/1 ml
- 0

#### Naloxone (Narcan), 2 mg/5 ml
- 0

#### Narcan Nasal Spray
- 1 kit

#### Nitroglycerine, 0.4mg/tablet or spray
- 0

#### Ondansetron (Zofran) 4mg PO tablet
- 0

#### Ondansetron (Zofran) 4mg/2ml
- 0

#### Sodium Bicarbonate, 50 mEq/50 ml
- 0

#### Sublimaze (Fentanyl), 100mcg/2 ml
- 0

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Page 5 of 5
### 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><em>Pain</em>: 1000 mg IV over 15 – 20 min.</td>
</tr>
<tr>
<td>Adenosine (Adenocard)</td>
<td>6 mg/ 2 ml</td>
<td>6 mg 1&lt;sup&gt;st&lt;/sup&gt; dose, 12 mg 2&lt;sup&gt;nd&lt;/sup&gt; 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  
<p>|                                    | EpiPen® (0.3mg) auto-injector (or EMS Agency approved equivalent)          | Bronchospasm/ Asthma/ COPD: 0.3mg IM or EpiPen®; MR x 1 in 5 minutes |</p>
<table>
<thead>
<tr>
<th>Medication</th>
<th>Concentration</th>
<th>Administration</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epinephrine</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>
<td></td>
</tr>
<tr>
<td>Epinephrine (Push-Dose)</td>
<td>0.1mg/ 1ml</td>
<td>SBP&lt;80 in Pulmonary Edema, Pacing, Bradydysrhythmias, 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>
<td></td>
</tr>
<tr>
<td>Fentanyl (Sublimaze) * opioid</td>
<td>100 mcg/ 2 ml</td>
<td>Pain Management: IV/IO: 50 mcg slowly; MR q 5 minutes, max. dose 200 mcg. IN: 1 mcg/kg (administer ½ dose in each nare; max. single dose = 100 mcg). IM: 1 mcg/kg; max. single dose = 100 mcg; MR in 30 minutes at ½ initial dose.</td>
<td></td>
</tr>
<tr>
<td>Glucose Paste</td>
<td>15 GM / tube</td>
<td>30 GM PO</td>
<td></td>
</tr>
<tr>
<td>Glucagon</td>
<td>1 mg/ vial</td>
<td>1 mg IM</td>
<td></td>
</tr>
<tr>
<td>Ipratropium (Atrovent) * preservative free</td>
<td>500 mcg per unit dose (2.5 ml)</td>
<td>500 mcg</td>
<td></td>
</tr>
<tr>
<td>Lidocaine 2%</td>
<td>20 mg / 1 ml</td>
<td>IO insertion: infuse 20-40 mg IO over 30-60 seconds</td>
<td></td>
</tr>
<tr>
<td>Nerve gas Auto-Injector Kit contains: Atropine Pralidoxime Chloride (2 PAM)</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>
<td></td>
</tr>
<tr>
<td>Midazolam (Versed)</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 IN: 5 mg (2.5 mg in each nostril). For IM: 0.1 mg/kg; MR x 1 in 10 minutes. Sedation: see specific policy</td>
<td></td>
</tr>
<tr>
<td>Morphine Sulfate * opioid</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>
<td></td>
</tr>
<tr>
<td>Naloxone (Narcan)</td>
<td>2 mg/ 2 ml</td>
<td>0.4 - 4.0mg IV/IO/IM/IN; MR as necessary</td>
<td></td>
</tr>
<tr>
<td>Nitroglycerine</td>
<td>0.4 mg/ tablet or spray</td>
<td>1 SL; MR q 5 min. if SBP &gt; 100</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>
<td></td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>50 mEq/ 50 ml</td>
<td>1 mEq/ kg IV/ IO</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: If the above concentrations become unavailable, providers may use alternate available concentrations or packaging.
BRONCHOSPASM/ ASTHMA/ COPD

BLS
ALWAYS USE STANDARD PRECAUTIONS

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

RELATED POLICIES/ PROCEDURES
 Auto Injector EpiPen BLS PR 4
 Epinephrine Check and Inject BLS PR 4a
ANAPHYLAXIS
BLS
ALWAYS USE STANDARD PRECAUTIONS

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
DETERMINATION OF DEATH - ALS
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
Patient in cardiac arrest who does not meet criteria for BLS Determination of Death and does not have a valid DNR order.

PROCEDURE
- Confirm pulseless and apneic. Apply leads and document rhythm in two monitoring leads for one minute or in one lead if an AED is the only available monitor.
- Determination of death can be made prior to, or immediately after, initiating resuscitation when:
  - Medical (ALL must be present)
    - The presenting rhythm is asystole
    - Event was unwitnessed
    - Effective bystander CPR was not initiated, based on CPR guidelines/paramedic judgment
    - No evidence of potentially reversible cause of arrest (e.g. hyperkalemia or hypothermia)
  - No AED or manual shock delivered
  - 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
- If patient is in refractory VFib (3 unsuccessful shocks), immediately transport to the nearest available STEMI Receiving Center.
- If determination of death cannot be made, perform ALS resuscitation for 20 minutes on scene.
  - If the above procedures have been completed without ROSC, resuscitation may be discontinued, and determination of death made when ANY of the following are present:
    - Information (e.g. 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 can still not 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.

PHYSICIAN CONSULT
- Evidence exists that resuscitative efforts are not desired or appropriate (e.g. family request) and above criteria is not met
- ETCO2 > 10mm/Hg after 30 minutes of resuscitation efforts
- When applicable, notify the appropriate law enforcement agency and remain on the scene until law enforcement or coroner arrives
- Complete the Determination of Death form and leave a copy at the scene if the patient will be transferred to the coroner

DOCUMENTATION- ESSENTIAL ELEMENTS
- Criteria for discretionary determination of death (i.e., DNR or valid POLST form)
- Name and phone number of physician authorizing termination of resuscitation
- When possible, attach copy of DNR to PCR or include type of DNR and physician information

RELATED POLICIES/ PROCEDURES
- Determination of Death BLS 5
- DNR/POLST GPC 7
- Cardiac Policies: Asystole C3; PEA C2; Cardiac Arrest Policy, VFib/Pulseless VTach C1
- Cold Induced Injuries E2
- Trauma Triage and Destination Guideline Policy 4613
ADULT CARDIAC ARREST
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- Unresponsive; no breathing or has agonal respirations; no pulse

Critical Information:
- Witnessed vs Unwitnessed
- Consider precordial thump if witnessed and defibrillator not immediately available
- Compress at 110 bpm. Use metronome or similar device
- Mechanical CPR is mandatory during transportation.
- Change compressors every 2 minutes
- Minimize interruptions
- If hypothermic < 95°F, delay compressions for 3 minutes; focus on ventilations and active rewarming
- Defibrillate per manufacturer’s recommendations.
- Do not stop compressions while defibrillator is charging
- Resume compressions immediately after shock

BLS Airway Management
- BLS airway is preferred during the first 5 min
- Use two-person BLS airway management whenever possible
- Avoid excessive ventilation
- 30:2 compression/ventilation ratio

ALS Airway Management
- King Airway/Video laryngoscopy (VL)
- Laryngoscopy for ETT must occur with CPR in progress. Do not interrupt CPR for >10 seconds for tube placement
- Use continuous ETCO2 to monitor CPR effectiveness and advanced airway placement.
- Maintain O2 sat 94-99%
- 1 breath every 6 seconds

Special Considerations
- If patient is in refractory Vfib (3 unsuccessful shocks), transport to nearest available STEMI Receiving Center. Otherwise, provide resuscitation on scene until ROSC or when patient meets Determination of Death criteria
- Regardless of the above, transportation is warranted in the following situations: unsafe scene conditions, unstable airway, hypothermia/hyperthermia as a primary cause of arrest, any patient pulled from a fire in cardiac arrest
- To assure ROSC continues, remain on scene for 5-10 minutes and then transport to a STEMI Receiving Center
SUSPECTED ABUSE/NEGLECT/HUMAN TRAFFICKING/INFLECTED PHYSICAL INJURY

ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- Identification and guidelines for reporting and treating suspected child abuse (persons < 18 years of age), dependent adults between the ages of 18 and 64 years (those with physical or mental limitations restricting their ability to carry out normal activities), domestic abuse (intimate partner violence, includes dating relationships), human trafficking, and elder adults (≥ 65 years)
- Abuse is defined as harmful, wrongful, neglectful or improper treatment which may result in physical or mental injury.
- Physical injury includes any injury that is self-inflicted or inflicted by another person or any assaultive or abusive contact

TREATMENT
- BLS/ ALS RMC
- Treat and transport the patient per Destination Guidelines Policy GPC 4
- If patient or patient’s DDM (Designated Decision Maker) refuses transportation to the hospital and patient’s life is not in imminent danger:
  - Leave the scene, contact law enforcement, establish radio contact with the intended receiving hospital, describe situation including reasons for suspecting abuse.
- If patient or patient’s DDM refuses transportation to the hospital and patient’s life is in imminent danger:
  - Stay on the scene, request local law enforcement agency to respond and place patient in protective custody.
- If abuse is suspected in individuals other than the patient:
  - Follow the procedures stated above for imminent and/or non-imminent danger.
- Contact the local law enforcement agency and/or one of the following protective service agencies by phone within 24 hours and submit completed report within 36 hours of incidence:
  - Marin County Adult Protective Services, 415-473-2774. State of California Report of Suspected Dependent Adult/ Elder Abuse Form SOC 341 (see GPC 9B)
- For inflicted physical injury:
  - Health care provider shall place a telephone call to the law enforcement agency with investigative jurisdiction as soon as practically possible.
  - A written report shall be completed (OES form 2-920) and submitted to the law enforcement agency within two working days.
  - Both telephone and written reports shall be submitted if the patient has expired.
  - The pre-hospital providers at the scene shall determine who amongst them submits the reports.

CRITICAL INFORMATION
- Common findings in victims of child abuse are as follows:
  - Suspicious fractures in children < 3 years
  - Multiple fractures
  - Unexplained bruising
  - Starvation/ dehydration
Common findings in parents/guardian of abused child/elder/domestic partners/human trafficking/dependent adult are as follows:

- Contradictory stories regarding patient’s injury
- Evasive answers in questions
- Anger directed towards or little concern for the patient
- Drug use
- Inability to locate guardian

RELATED POLICIES/PROCEDURES

- California Department of Social Services, Welfare & Institution Code (SS 15630, 15658 (a) (1), 8583
- Destination Guidelines Policy GPC 4
PEDIATRIC PATIENT TRANSPORTS

PURPOSE
To provide guidance regarding the safe transport of the pediatric patient in an ambulance

GENERAL INFORMATION
- Under normal circumstances, transportation of a child in any of the following ways is not permissible:
  - Unrestrained
  - On a parent/caregiver's lap or held in their arms
  - Using only horizontal stretcher straps if the child cannot be properly restrained according to the stretcher manufacturer’s specifications for proper restraint of patients
  - On the bench seat or any seat perpendicular to the forward motion of the vehicle
- “Car seat” refers to a size appropriate car seat which has rear and/or forward facing belt paths and which has been secured appropriately.
- “CRS” refers to a child restraint system designed specifically for ambulance stretcher use and which has been properly secured.

POLICY
- The child’s age and weight shall be considered when utilizing an appropriate restraint system.
- Use of child’s own car seat can be considered for the following (children <2yrs must be rear facing):
  - No other restraint systems are available
  - Minor vehicle crash (ie: “fender bender”)
- The child shall be secured by the harness within the seat at all times. Whenever possible, procedures should be performed around the harness straps.
- Transportation of a child who is not a patient:
  - Consider delaying transport until additional vehicles are available if it will not compromise other patient care or transport.
  - Preferred: Transport child in a vehicle other than an ambulance using a car seat.
  - Alternative: Transport child using a car seat in the front passenger seat of the ambulance with the airbags off OR transport in a car seat properly installed onto or built into rear-facing EMS provider captain’s chair
- Transportation of a child requiring monitoring or interventions
  - Preferred: Transport using a CRS
  - Alternative: With the child’s head at the top of the stretcher, secure the child to the stretcher with three horizontal straps and one vertical strap across each shoulder.
- Transportation of a child who requires cervical spinal immobilization, spinal motion restriction, or lying flat:
  - Preferred: Use CRS. When appropriate, use cervical collar and secure child to stretcher.
- Transportation of a child or children requiring transport as part of a multiple patient transport (newborn with mother, multiple children, etc):
  - Preferred: If possible, transport each as a single child according to guidance above. Additional resources may be necessary.
  - Preferred for mother and newborn: Transport the newborn in a car seat properly installed onto or built into the rear-facing EMS provider captain’s chair, facing the rear of the ambulance. Even with childbirth in the field, make every attempt to transport the infant in a car seat or CRS.
  - Alternative for mother and newborn: Transport the newborn in a CRS secured appropriately to stretcher. Transport mother in rear-facing EMS provider captain’s chair if mother is medically stable. Consider the use of additional units to accomplish safe transport

RELATED POLICIES/PROCEDURES
Spinal Motion Restriction (SMR) GPC 13
Pediatric Transportation Flowchart
TRANSPORTATION OF A CHILD IN ANY OF THE FOLLOWING WAYS IS NOT ALLOWED UNDER NORMAL CIRCUMSTANCES:

- Unrestrained
- On a parent/caregiver’s lap or held in their arms
- Using only horizontal stretcher straps if the child cannot be properly restrained according to manufacturer specifications
- On the bench seat or any seat perpendicular to the forward motion of the vehicle
VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA
ALWAYS USE STANDARD PRECAUTIONS

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

Rhythm Shockable?

Yes

VF/pVT

No

CPR 2 min
- IO/IV access

Rhythm Shockable?

Yes

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

No

Go to Policy –
- Asystole/PEA
- ROSC

Critical Information:
- Witnessed vs Unwitnessed
- Consider pre-cordial thump if witnessed and defibrillator not immediately available
- Compress at 110 bpm. Use metronome or similar device
- Mechanical CPR is mandatory during transportation
- Change compressors every 2 minutes
- Minimize interruptions
- If hypothermic <95F, delay compressions for 3 minutes; focus on ventilations and active rewarming
- Defibrillate per manufacturer’s recommendations.
- Do not stop compressions while defibrillator is charging
- Resume compressions immediately after shock

BLS Airway Management:
- BLS airway is preferred during the first 5 minutes
- Use two-person BLS airway management whenever possible
- Avoid excessive ventilation
- 30:2 compression/ventilation ratio

ALS Airway Management:
- King Airway / Video Laryngoscopy (VL)
- Laryngoscopy for ETT must occur with CPR in progress. Do not interrupt CPR for >10 seconds for tube placement
- Use continuous ETCO2 to monitor CPR effectiveness and advanced airway placement.
- Maintain O2 sat 94-99%
- 1 breath every 6 seconds

Drug Therapy:
- Epinephrine 1mg (0.1mg/ml concentration) IV/IO q 3-5 minutes
- Amiodarone first dose: 300mg IV/IO; second dose 150mg IV/IO in 3-5 minutes. If rhythm converts to ROSC after Amiodarone, consider infusion of Amiodarone drip (150mg in 100ml NS, 1mg/min = 40 gtt/min with 60 gtt/ml tubing)

Reversible Causes:
- Hypovolemia
- Hypoxia
- Hydrogen Ion (Acidosis)
- Hypo-/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponade (cardiac)
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

For refractory Vfib (3 unsuccessful shocks), transport to nearest available STEMI Receiving Center
CEREBROVASCULAR ACCIDENT (STROKE)
ALWAYS USE STANDARD PRECAUTIONS

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

TREATMENT
- ALS RMC
  - Secure IV access (antecubital preferred) if patient meets Early Stroke Notification criteria
  - Elevate head of bed 20-30% elevation or place in left lateral decubitus
- If last known well < 4.5 hours and blood glucose level > 60, provide Early Stroke Notification if any are true:
  - Abnormal Cincinnati Prehospital 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 – hospital 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 minutes 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 whoever 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 setting of severe headache) transport to Marin General Hospital

DOCUMENTATION - ESSENTIAL ELEMENTS
- Criteria for Early Stroke Notification
- Choose CVA as Primary Impression
- Name and contact information for patient family member/decision maker and/or those who had last seen the patient normal (e.g., skilled nursing personnel)
- Documentation of CPSS and hospital notification
- Time last known well (document in military time). If time last known to be well is unknown or indeterminate, document and report
- Blood glucose level
- Any LOC
- Any seizure activity
- GCS
- History of intracranial hemorrhage
- Serious head injury within 2 months
- Taking anticoagulant medications (e.g. Warfarin/ Coumadin, Pradaxa/Dabigatran, Xarelto/Rivaroxaban, Eliquis/Apixaban, Lovenox/Enoxaparin)
- Improving neurological deficit

RELATED POLICIES/PROCEDURES
- Destination Guidelines GPC 4
- Prehospital / Hospital Contact Policy 7001
- Ambulance Diversion Policy 5400
- Coma/ALOC N1
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 of 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”
TOXIC INHALATION
ALWAYS USE STANDARD PRECAUTIONS

INDICATION
- 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 (CO) poisoning or cyanide poisoning with any patient exposed to products of combustion toxic gases in an enclosed area
- ONLY if patient exhibits serious signs and symptoms of smoke inhalation (e.g. unconscious/unresponsive, hypotension, and/or severely ALOC) treat with CYANOKIT (hydroxocobalamin)

TREATMENT
- Rapid removal of patient from toxic environment
- ALS RMC
- Administer high flow oxygen despite normal oxygen saturation levels
- If wheezing - Albuterol 5 mg in 6 ml NS via HHN, repeat as indicated
- CO monitoring, if available
  - High Suspicion of CO poisoning:
    - Any patient (non-smoker) with CO level >9%
    - Any patient (smoker) with CO level >12%
  - At Risk for CO poisoning (at risk = pregnant, children <6y, elderly, patients with history of respiratory problems)
    - Any “at risk” patient (nonsmoker) with CO level >4%
    - Any “at risk” patient (smoker) with CO level >8%
    - Any patient with CO symptoms and confirmed source of CO
  - ONLY if patient exhibits serious signs and symptoms of smoke inhalation (e.g. unconscious/unresponsive, hypotension, and/or severely ALOC) treat with CYANOKIT (hydroxocobalamin):
    - Adult: 5 g IV/IO infusion over 15 minutes. May repeat once if severe signs of poisoning and lack of clinical response to first dose; MAX total dose of 10 g.
    - Pediatric: Not approved.

DOCUMENTATION – ESSENTIAL ELEMENTS
- Nature of exposure
- CO levels
- At-risk criteria