




**Date:** October 5, 2018

**To:** **OCEMS Distribution List**

**From:** S. J. Stratton, MD, MPH  
EMS Medical Director 

**Subject:** **April 2019 Policy, Procedures, Standing Orders Updates**

This memorandum summarizes the attached procedures, standing orders, and policies. The revised documents are designed for implementation immediately following education of field personnel in the changes, with a final system implementation of April 1, 2019.

**B-02/PR-02 Glasgow Coma Scale (Redline):**

Change in reporting format, discontinuation of totaling scale elements

**PR-010 Emergency Access of PVAD: (Extensive revised version/comparison current version)**

Limited to cardiopulmonary arrest victims.

If needed for other than cardiopulmonary arrest resuscitation, make Base Contact

**PR-130 Hydroxocobalamin for Cyanide Toxicity: (New Procedure)**

New Optional Scope

**PR-135 Supraglottic Airway: (New Procedure)**

New Optional Scope

**PR-140 King Airway: (Edited content and format)**

Size 3 made optional

**SO-C-10 Cardiopulmonary Arrest: (Redline)**

Added Automatic Chest Compression Device as available

Moved IV/IO further into sequence

Appropriate advanced airway options defined

**SO-M-15 Allergic Reaction: (Extensive revised version/comparison current version)**

Standing order extensively revised.

Epinephrine dosing decreased for IV/IO

Epinephrine Autoinjector use prior to EMS arrival considered a single IM dose.

**SO-M-25 Stroke Triage: (Redline)**

Deleted seizure as an exclusion criteria

Deleted hypoglycemia as an exclusion criteria

Deleted GCS as an exclusion criteria

Added grip strength as a triage screening assessment

Increased triage time range from 7 hours to 24 hours



**I-20 Pediatric Dosing Chart: (Redline)**

Corrected midazolam dosing  
Deleted Atropine dosing for bradycardia  
Added hydroxocobalamin

**Policy # 310.30 Trauma Triage: (Redline)**

Deleted GCS from triage criteria  
Added "failure to follow commands" to triage criteria  
Deleted Flail chest from triage criteria  
Added blunt chest injury with abnormal respiration to triage criteria  
Deleted abdominal tenderness in 2 quadrants, now any palpable tenderness only  
Added pregnant with blunt or penetrating trauma to triage criteria  
Added blunt head injury with bruising and anticoagulation to triage criteria  
Added Ems provider judgment as a triage criteria  
Deleted special considerations

**Policy # 330.50 Withholding CPR (Redline)**

Added language to address death on scene or before or during transport

**Policy # 330.57 Restraints: (Redline)**

Changed extremity recheck from every 5 minutes to every 15 minutes after initial assessment

Implementation process:

1. The above procedures, standing orders, and policies will be posted in an "Upcoming Changes April 2019" section of the Orange County EMS Website.
2. EMT and Paramedic personnel who have been educated in the upcoming changes should be advised to use the new changes when education sessions are successfully completed (do not need to delay until final implementation date of April 1, 2019).
3. Significant problems that were not previously recognized with the updated material will be promptly corrected and announced in system-wide email alerts during the implementation period.



**GLASGOW COMA SCALE (SCORE)**

**GLASGOW COMA SCALE (SCORE)**

<i>Glasgow coma scale</i>		Score
<b>Eye opening</b>	spontaneously	4
	to speech	3
	to pain	2
	none	1
<b>Verbal response</b>	orientated	5
	confused	4
	inappropriate	3
	incomprehensible	2
	none	1
<b>Motor response</b>	obeys commands	6
	localises to pain	5
	withdraws from pain	4
	flexion to pain	3
	extension to pain	2
	none	1
<b>Maximum score</b>		15

Image retrieved open source from Internet (6/16/2017)

It is preferred that the Glasgow Coma Scale (Score) or GCS be given in sequence by category, for example:

Normal GCS would be = eyes: 4 - verbal: 5 - motor: 6 (total = 15)

Worst GCS would be = eyes: 1 - verbal: 1 - motor: 1

- Total Score of 15 = Normal
- Total Score of 13 = Trauma triage criteria met
- Total Score of 8 = Coma
- Total Score of 3 = Lowest score possible

Approved:

Reviewed: 9/2018  
Initial Release Date: 10/5/2018  
Final Date for Implementation: 10/01/2017- 4/1/2019



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It is preferred that the Glasgow Coma Scale (Score) or GCS be given in sequence by category, for example:

Normal GCS would be = eyes: 4 - verbal: 5 - motor: 6 (total=15)

Worst GCS would be = eyes: 1 - verbal: 1 - motor: 1

- \_\_\_\_\_ Total Score of 15 = Normal
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Approved:

Reviewed: 9/2018  
 Initial Release Date: 10/5/2018  
 Final Date for Implementation: 4/1/2019



**EMERGENCY ACCESS OF PRE-EXISTING VASCULAR ACCESS  
DEVICES (PVAD)**

**INDICATION:**

- Cardiopulmonary arrest (medical or trauma)
- If needed for other than cardiopulmonary arrest resuscitation, make Base Contact

**CONTRAINDICATIONS:**

1. Obvious signs of infection at site
2. Cracked or damaged device access point

**PROCEDURE:**

External Access Port Device:

1. Avoid personal exposure to blood or fluids.
2. Discontinue any infusions to device that may be in place prior to arrival.
3. Observe sterile procedure and universal precautions.
4. Prepare 10 mL syringe with 10 mL normal saline.
5. If catheter clamped, unclamp to prepare for assessment of patency.
6. Clean injection port with alcohol swab.
7. Slowly inject 5 mL normal saline into catheter. If resistance is met, reclamp and do not use device.
8. If no resistance, inject remaining 5 mL of normal saline through device.
9. For medication administration:
  - A. Inject IV dose of medication through PVAD port.
  - B. Flush with 10 mL normal saline injected with syringe.
10. For IV infusion of normal saline or 10% Dextrose Solution:
  - A. Insert IV tubing into PVAD port (should be needleless access design).
  - B. If not of needleless design, insert 16-14 Gauge needle into PVAD port and connect IV tubing.
  - C. Secure tubing with tape and infuse usual IV volume.
11. When injection or infusion complete, remove syringe or needle and clean port with alcohol swab, then re-clamp PVAD catheter.

Subcutaneous Hemodialysis Fistula:

1. Avoid personal exposure to blood or fluids.
2. Discontinue any infusions to device that may be in place prior to arrival.
3. Observe sterile procedure and universal precautions.
4. Clean skin area over fistula with alcohol or chlorohexidine solution.
5. Feel over fistula for thrill (feeling of blood flow).
6. Identify side of fistula with weakest thrill.
7. Using empty 10 mL syringe, aspirate site for injection/infusion to obtain about 3 mL blood return.
8. If not blood return, do not use fistula and cover aspiration site with gauze and paper tape.
9. For medication administration:

Approved:

Review Dates: 9/2018  
Initial Release Date: 10/5/2018  
Final Implementation Date: 4/1/2019  
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**EMERGENCY ACCESS OF PRE-EXISTING VASCULAR ACCESS  
DEVICES (PVAD)**

- A. Inject IV dose of medication through identified site area (venous side).
- B. Flush with 10 mL normal saline injected with syringe.
- 10. For IV infusion of normal saline or 10% Dextrose Solution:
  - A. Insert 16 gauge IV catheter into identified site area (venous side).
  - B. Connect IV tubing and infuse IV fluid.
  - C. Secure tubing with tape and infuse usual IV volume.
- 11. When injection or infusion complete, remove syringe or needle and clean site with alcohol swab, then Place pressure dressing with gauze and paper tape.

**CAUTIONS:**

- 1. Do not allow air bubbles into system, may cause air embolism.
- 2. Excessive bleeding can occur around hemodialysis fistula during or after access, use point specific manual pressure to control bleeding and avoid use of tourniquet (may clot and ruin fistula).
- 3. Use 10 mL syringes to avoid excess pressures in PVAD line, which may cause damage to device.

**DOCUMENTATION:**

- 1. Document all access attempts, site, and time accessed or attempted for access.
- 2. Notify receiving hospital staff of PVAD use and site (even when not successful).

Approved:

Review Dates: 9/2018  
Initial Release Date: 10/5/2018  
Final Implementation Date: 4/1/2019  
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**INDICATIONS:**

- Acute status patients.
- Cardiopulmonary arrest.
- For hemodialysis fistula – life-threatening condition requiring immediate vascular access.

**Approved for Infusion:**

- Locally approved intravenous fluids.
- Medications – all medications approved for venous administration.

A pre-existing vascular access device (PVAD) is an indwelling catheter/device placed into one of the central veins to provide vascular access for patients requiring long term intravenous therapy or hemodialysis.

**TYPE OF CATHETERS:**

• **External Silastic Indwelling Catheter/Device:**

- Broviac, Hickman and others: A tunneled silicone tube that is inserted into the distal superior vena cava, usually via the subclavian or jugular vein. The catheter enters the skin through an incision in the chest. The line may be saline or heparin locked and is protected by an injectable cap.
- Midline catheter: A long-term catheter that enters the arm via the basilic or cephalic veins near the antecubital area. The tip of this catheter is located distal to the axilla in the upper arm. The line may be saline or heparin locked and is protected by an injectable cap. Frequently used for long-term antibiotic administration. Does not require X-ray verification of placement.
- PICC Line: Peripherally Inserted Central Catheter (PICC) usually inserted into the superior vena cava via a peripheral arm vein (basilic or cephalic vein). The line may be saline or heparin locked and is protected by an injectable cap.
- Hemodialysis catheter: A large tube that is inserted into the distal superior vena cava via the subclavian vein. There is usually a higher concentration of heparin in the tube which must be aspirated prior to use.

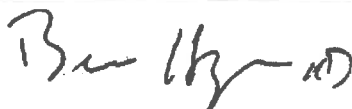
• **Internal Subcutaneous Infusion Ports:** NOT approved for access by prehospital personnel.

**HEMODIALYSIS FISTULA:** A surgically created arteriovenous connection used for hemodialysis. A subcutaneous fistula may be accessed in critical patients requiring immediate medication administration in life-threatening situations only.

**Establish Patency:**

- Discontinue any current IV solution.
- Use extreme caution when discontinuing a continuous IV infusion containing chemotherapy to minimize exposure or bolus of medication.
- Apply clean gloves.
- Prepare 10 mL syringe, IV administration set and IV solution.
- Prep injection port with alcohol swab.
- If clamped, unclamp catheter.
- Slowly inject 5 mL normal saline into the injection port. If resistance is met when trying to inject, reclamp catheter and do not use. (See specific directions for dialysis catheters.)
- Aspirate to obtain a blood return.
  - For dialysis catheters only: Aspirate 3-5 mL blood and discard prior to injection of saline.
- If unable to get a blood return, reclamp catheter and do not use.
- If no resistance is met, inject remaining 5 mL of normal saline into catheter.
- If resistance is met, reclamp catheter and do not use.

Approved:



TxGuide:procedures:PR-10:001f  
Implementation Date:7/31/06

Administration of IV Fluids/Medications:

- Prepare IV solution, IV administration set.
- Prep injection port with alcohol swab.
- Puncture injectable cap with appropriate device.  
Note: Most home care injection caps are needleless and syringes can be attached directly.
- Adjust IV flow.
- Tape needle to catheter.
- Administer medications IVP via main line.
- Flush well with normal saline following each medication administered.

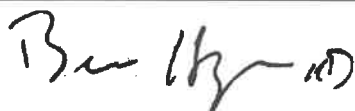
Accessing Hemodialysis Fistula:

- Prior to access, check site for bruits and thrills.
- Access fistula on venous side (side with weaker thrill in patient with a pulse).
- Inflate BP cuff around IV bag to just above patient's systolic BP to maintain flow of IV.
- If unsuccessful in accessing site, hold direct pressure over site for 10 minutes.

Complications:

- **Infection** - due to the location of the catheter, strict adherence to aseptic technique is crucial when handling a PVAD.
  - Use clean gloves at all times.
  - Prep injection port with alcohol swab prior to attaching IV tubing.
  - Obtain new supplies if equipment becomes contaminated.
- **Air embolism** - the PVAD provides a direct line into the circulation, therefore, the introduction of air into these devices can be hazardous.
  - Do not remove injection cap from catheter.
  - Do not allow IV fluids to run dry.
  - Always expel air from preload/syringe prior to administration.
- **Thrombosis** - a blood clot within the vascular system can be caused by improper handling and maintenance of the PVAD; dislodging a clot can cause a pulmonary embolus or vascular damage.
  - Follow medications with 10 mL normal saline.
  - Do not inject medications or fluids if resistance is met when establishing patency.
- **Catheter damage** - should damage occur to the external catheter, clamp immediately between the skin exit site and the damaged area to prevent air embolism or blood loss.
  - Use patient's clamp or padded hemostats if available or fold and tape tubing to clamp.
  - **Always use a minimum of a 10 mL syringe to prevent catheter damage from excess infusion pressure.**

Approved:



TxGuide:procedures:PR-10:001f  
Implementation Date:7/31/06





**Hydroxocobalamin for Cyanide Toxicity-  
Adult and Pediatric**

Revised: \_\_\_\_\_

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**BACKGROUND:**

Hydroxocobalamin binds with cyanide and limits cyanide interfering with body tissue energy production.

**INDICATIONS:**

- Cyanide toxicity, known or suspected
- Smoke inhalation, smoke generated from burning plastics or petroleum products

**CONTRAINDICATIONS:**

Known allergy to hydroxycobalamin.

**PROCEDURE:**

1. Make Base Hospital contact for hydroxocobalamin order and possible burn center destination.
2. Mixing instructions for hydroxocobalamin supplied in a Cyanokit®:
  - A. Identify the 250 ml glass vial containing 5 g of lyophilized hydroxocobalamin.
  - B. Place vial in an upright position. Add 200 ml of 0.9% normal saline to the vial using the transfer spike.
  - C. Repeatedly invert and rock vial (do not shake) for approximately 60 seconds.
  - D. When solution is dark red in color and no particles are visible, it is appropriate for infusion.
3. Patient management:
  - A. Remove the individual from the environment
  - B. Assess ABCs and mental status and provide airway support as needed.
  - C. Apply high-flow oxygen by mask or nasal cannula as tolerated.
  - D. Establish IV/IO access
  - E. Infuse hydroxycobalamin IV/IO over approximately 15 minutes
    1. Pediatric dose = 70 mg/kg IV/IO over 15 minutes, maximum 5 grams
  - F. Do not simultaneously administer other medications with hydroxycobalamin through the same

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Approved:

Review Date:  
Initial Release Date: Oct 5, 2018  
Final Implementation Date: Oct 5, 2018  
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**Hydroxocobalamin for Cyanide Toxicity-  
Adult and Pediatric**

Revised: \_\_\_\_\_

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IV/IO site.

**CAUTIONS:**

1. Use of hydroxycobalamin can cause the skin and mucus membranes to turn a reddish color. Allergic reactions have also been reported. Therefore, inform receiving facility that hydroxocobalamin was administered in the field prior to arrival.
2. Increases in blood pressure may be observed and expected following hydroxocobalamin infusion.

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Approved:

Review Date:  
Initial Release Date: Oct 5, 2018  
Final Implementation Date: Oct 5, 2018  
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## **Supraglottic Airway Device Placement –Adult/Adolescent**

### **INDICATIONS:**

A supraglottic airway (SGA) is indicated for securing an airway during resuscitation of an unconscious patient. An SGA is an advanced airway technique to assist with oxygenation and ventilation.

An SGA may be placed by an Orange County Accredited Paramedic in the following situations:

- Primary advanced airway for an unconscious adult/adolescent patient lacking a gag reflex in need of airway protection and ventilation.
- Advanced airway if intubation is anticipated to be difficult and rapid airway control is necessary.
- Advanced airway in adult cardiac arrest when attempts at intubation are likely to interrupt continuous chest compressions.
- Advanced airway when intubation has been unsuccessful.

### **CONTRAINDICATIONS:**

- Intact gag reflex
- Known caustic substance ingestion
- Unresolved upper airway obstruction
- Trismus or limited ability to open the mouth such that the device cannot be inserted
- Oral trauma with bleeding, swelling or unstable jaw fracture
- Distorted anatomy that prohibits proper placement (such as oropharyngeal mass or abscess)
- Patients under 50 kg
- Known esophageal disease
- Laryngectomy patient with stoma (open tracheostomy site or tube)
- Ability to maintain adequate ventilation and oxygenation with less invasive method

### **PROCEDURE:**

#### 1. Secure Required Equipment:

Personal protective equipment (gloves need not be sterile)  
SGA (Appropriate size for patient)\*  
Bag-valve-mask  
Stethoscope  
Water-based lubricant  
Means for securing SGA  
Waveform end tidal CO2 capnography  
Pulse oximetry monitoring  
Cardiac monitor  
(Optional size 12F or 14 F gastric tube)

#### 2. Clear airway with suction; pre-ventilate with BVM 100% oxygen and select appropriate size SGA.\*

Approved: \_\_\_\_\_

Review Date: N/A  
Initial Release Date: 10/5/2018  
Final Date for Implementation: 4/1/2019  
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## Supraglottic Airway Device Placement –Adult/Adolescent

3. If SGA has inflatable cuff, test cuff for leaks and then deflate before insertion.
4. Prepare SGA for insertion and lubricate SGA following manufacturer instructions.
5. Position the head into the “sniffing position”. Neutral position for suspected cervical spine injury.
6. Hold mouth open and apply chin-lift maneuver (jaw-thrust for suspected c-spine injury).
7. Introduce the leading SGA soft tip into the mouth in a direction towards the roof of the mouth (hard palate).
8. Glide the device downwards and backwards along the hard palate with a continuous but gentle push until resistance to further advancement is felt.
9. The SGA cuff should be located against at the top of laryngeal framework, and the incisors should be resting on the bite-block region of the SGA.
10. Confirm proper positioning with breath sounds, chest rise, and capnography waveform . Monitor capnography, pulse oximetry, and cardiac rhythm until patient care is transferred to receiving center staff (to assure continued proper positioning).
11. If SGA is of inflatable cuff design, inflate gently to allow for sealing upper airway to allow adequate assisted ventilation.
12. Secure SGA. Optional - insert gastric tube (12F for SGA size 4 / 14F for SGA size 5)
13. If vomiting or forceful gagging occurs, turn patient to side and remove SGA airway device; suction thoroughly and support ventilation further with BVM during transport.

### Airway removal

Once a SGA is placed, it ideally should not be removed. Circumstances that necessitate removal of the device may include inadequate ventilation with the device, return of a gag reflex, or vomiting.

Removal of the device may cause vomiting, use the following steps:

1. Position patient on side, maintain spinal motion restrictions as needed.
2. Have suction immediately available and remove the airway.
3. Reassess airway and breathing to evaluate the need for further assisted ventilation.

\* Note: The iGel® and LMA Supreme® are supplied in an adult regular (medium) and large size:  
Size 4.0 for 50 kg to 90 kg (110 lbs. to 200 lbs.)  
Size 5.0 for greater than 90 kg (200 lbs.)

Approved: \_\_\_\_\_

Review Date: N/A  
Initial Release Date: 10/5/2018  
Final Date for Implementation: 4/1/2019  
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## Adult King LT-D™/LTS-D™ AIRWAY

### INDICATIONS:

A King Airway is for securing an airway during resuscitation of an unconscious patient. A King Airway is an advanced airway technique to assist with oxygenation and ventilation.

A King Airway may be placed by an Orange County Accredited Paramedic in the following situations:

- Primary advanced airway for an unconscious adult/adolescent patient lacking a gag reflex in need of airway protection and ventilation.
- Advanced airway if intubation is anticipated to be difficult and rapid airway control is necessary.
- Advanced airway in adult cardiac arrest when attempts at intubation are likely to interrupt continuous chest compressions.
- Advanced airway when attempted intubation has been unsuccessful.

### CONTRAINDICATIONS:

- Intact gag reflex
- Known caustic substance ingestion
- Unresolved upper airway obstruction
- Trismus or limited ability to open the mouth such that the device cannot be inserted
- Oral trauma with bleeding, swelling or unstable jaw fracture
- Distorted anatomy that prohibits proper placement (such as oropharyngeal mass or abscess)
- Patients under 50 kg
- Known esophageal disease
- Laryngectomy patient with stoma (open tracheostomy site or tube)
- Ability to maintain adequate ventilation and oxygenation with less invasive method

### PROCEDURE:

#### 1. Assemble equipment:

- Personal protective equipment (gloves need not be sterile)
- Appropriate sized King LT-D™/LTS-D™ \*
- Bag-valve-mask
- Stethoscope
- Water-based lubricant
- Means for securing airway device
- Waveform end tidal CO<sub>2</sub> capnography
- Pulse oximetry monitoring
- Cardiac monitor
- Optional: 18 French suction catheter if using the King LTS-D™ to decompress stomach.

2. Clear airway with suction and pre-ventilate with BVM plus oxygen and select appropriate size King Airway.\*
3. Inflate King Airway cuff to test for leaks. Deflate if cuff intact, discard if leak detected.
4. Lubricate distal tip of King LT-D™/LTS-D™. Avoid placing lubrication in or near ventilation ports.
5. Position the head into the “sniffing position”. Neutral position for suspected cervical spine injury.

Approved:

Review Date: 8/18  
Initial Release Date: 10/1/2018  
Final Date for Implementation: 4/1/2019  
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**Adult King LT-D™/LTS-D™ AIRWAY**

6. Hold mouth open and apply chin-lift maneuver (jaw-thrust for suspected c-spine injury).
7. Introduce the leading SGA soft tip into the mouth in a direction towards the roof of the mouth (hard palate).
8. Using approach to a lateral side of the mouth, introduce the tip into the mouth and advance the tip behind the base of the tongue while rotating the tube to midline so the blue orientation line faces the chin of the patient (this will allow proper placement of the distal tip in the hypopharynx/upper esophagus. Oropharyngeal airways or tongue blades can also be used help facilitate tube placement.
9. Without exerting excessive force, advance tube until base of connector is aligned with teeth or gums.
10. Inflate cuffs with supplied syringe – use minimum inflation necessary to achieve seal for oxygenation/ventilation.
11. Gently ventilate the patient and withdraw the King LT-D™/LTS-D™ until ventilation is easy and without resistance and there are good breath sounds, indicating the device airway openings are well aligned with the laryngeal inlet.
12. Secure airway device using ET tube holder or tape technique.
13. Ventilate with BVM and supplemental oxygen.
14. Monitor capnography, pulse oximetry, and cardiac rhythm until patient care is transferred to receiving center staff (to assure continued proper positioning).
15. If vomiting or forceful gagging occurs, turn patient to side and remove airway device; suction thoroughly and support ventilation further with BVM during transport.

Optional: Insert 18 French catheter through gastric access lumen (King LTS-D™) to decompress stomach.

\* Sizing Chart for King Airway

King LT-D™/LTS-D™ size	3 (Optional Equipment)	4	5
Connector Color	Yellow	Red	Purple
Patient Height	4 to 5 feet	5 to 6 feet	Over 6 feet
Cuff Pressure	60 cm H2O	60 cm H2O	60 cm H2O
Cuff Volume LT-D™/LTS-D™	45 – 60 ml/40 – 55 ml	60 – 80 ml/50 – 70 ml	70 – 90/60 – 80 ml

**Airway removal**

Once a King Airway is placed, it ideally should not be removed. Circumstances that necessitate removal of the device may include inadequate ventilation with the device, return of a gag reflex, or vomiting.

Removal of the device may cause vomiting, use the following steps:

1. Position patient on side, maintain spinal motion restrictions as needed.
2. Have suction immediately available and remove the airway.
3. Reassess airway and breathing to evaluate the need for further assisted ventilation.

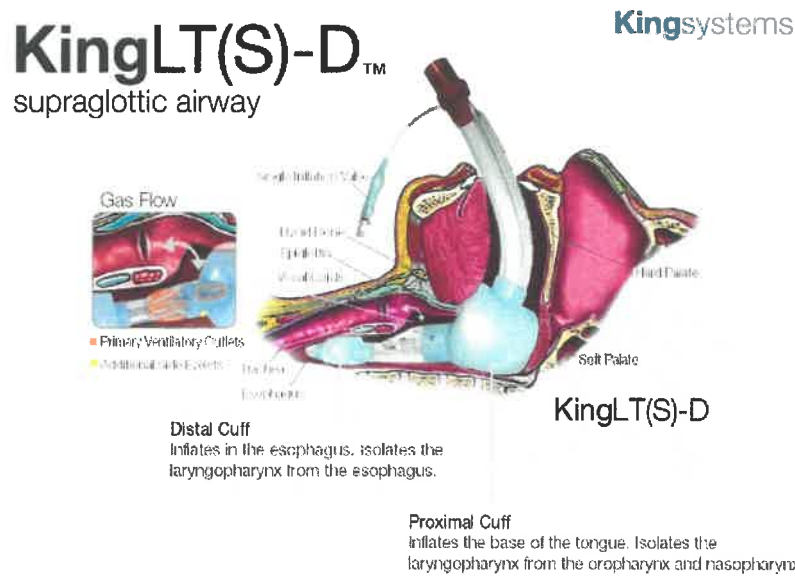
Approved:

Review Date: 8/18  
 Initial Release Date: 10/1/2018  
 Final Date for Implementation: 4/1/2019  
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## Adult King LT-D™/LTS-D™ AIRWAY



Manufacturer illustration of proper positioned King Airway

### PROBLEM SOLVING:

- Air leaking from mouth/nose
  - Confirm good seating of the King LT-D™/LTS-D™.
  - If still leaking add additional 10 mL of air.
  - If still leaking, assume cuff leak and remove tube.
- Unusual circumstances:
  - Patient position; examples: entrapment, arthritis of spine, patient cannot lie flat (supine).
    - Insertion may be attempted as long as ventilation assessment can be completed.
  - Unilateral breath sounds with absent gastric:
    - Pneumothorax.
    - Hemothorax.
    - Pneumonectomy.
  - Facial trauma: If unable to visualize cords for ET insertion or unable to get mask seal with BVM, insert King LT-D™/LTS-D™.
    - Suction prior to insertion.
    - Avoid broken teeth, bone fragments.
    - Maintain spinal motion restriction.

Approved:

Review Date: 8/18  
Initial Release Date: 10/1/2018  
Final Date for Implementation: 4/1/2019  
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**Ventricular fibrillation (VF)  
OR  
Pulseless Wide Complex Tachycardia (VT)**

1. Initiate or continue CPR and as soon as defibrillator available:
  - ▶ Defibrillate once at maximum energy setting or pre-programmed/manufacturer's recommended defibrillator setting

▼

2. If before loading and initiation of transport, a rhythm with pulse develops (return of spontaneous circulation [ROSC]):
  - Ventilate and oxygenate
  - Assess for and correct suspected:
    1. hypoxia
    2. hypovolemia
    3. hypoglycemia
    4. hypothermia
  - Make Base contact for CVRC destination

▼

3. If remains pulseless:
  - Maintain CPR
    - ▶ High-flow oxygen by BVM
  - IV/IO vascular access without interruption of CPR

▼

4. Monitor cardiac rhythm:
  - If continued VF/pulseless Wide Complex Tachycardia
    - ▶ Defibrillate once at maximum energy setting or pre-programmed/manufacturer's recommended defibrillator setting
  - If PEA or asystole: refer to PEA/Asystole treatment sequence

▼

5. For continued VF/ pulseless Wide Complex Tachycardia or if reverts back to VF/ pulseless Wide Complex Tachycardia:
  - Maintain CPR, apply Automatic Chest Compression Device, when available
  - ▶ Administer Epinephrine 1 mg IV/IO (0.1 mg/mL preparation), repeat approximately every 3 minutes for continued VF/pulseless Wide Complex Tachycardia
  - ▶ Advanced airway with minimal interruption of CPR and confirm tube placement.

▼

6. For continued VF/pulseless Wide Complex Tachycardia:
  - Maintain CPR
  - ▶ Defibrillate once at maximum energy setting or pre-programmed/manufacturer recommended defibrillator setting.

▼

7. For continued VF/ pulseless Wide Complex Tachycardia:
  - Maintain CPR
  - ▶ Administer Amiodarone 300 mg IV/IO, may repeat 150 mg IV/IO in approximately 3 minutes

▼

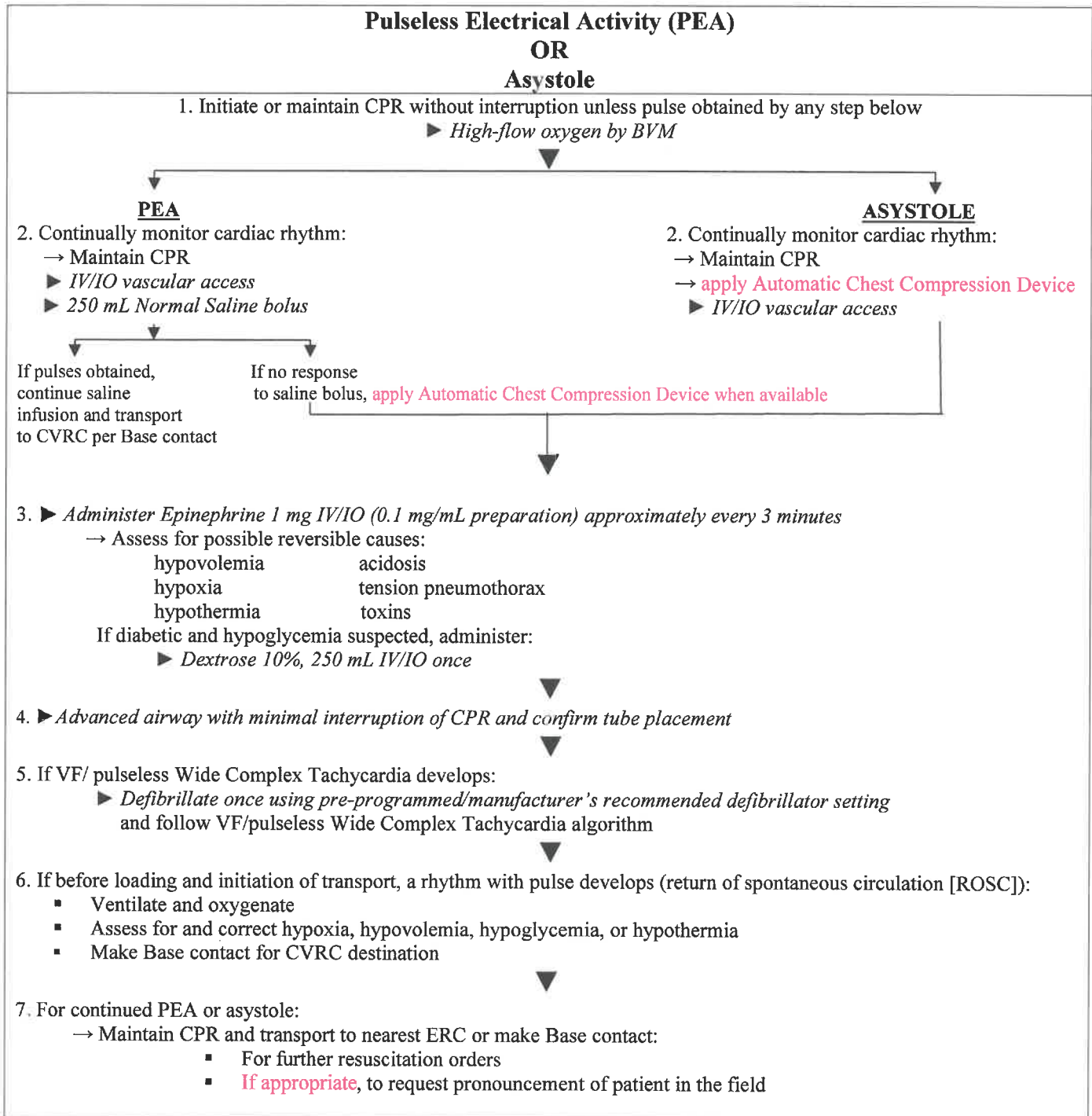
8. After approximately 2 minutes of CPR, if there is continued VF/pulseless Wide Complex Tachycardia:
  - ▶ Defibrillate once at maximum energy setting or pre-programmed/manufacturer's recommended defibrillator setting

▼

9. For continued VF/ pulseless Wide Complex Tachycardia:
  - Maintain CPR and transport to nearest ERC or make Base contact:
    - For further resuscitation orders
    - If appropriate, To request pronouncement of patient in the field

Approved:

Review Dates: 11/16, 9/18  
Initial Release Date: 10/5/2018  
Final Date for Implementation: 04/1/2019  
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Approved:

Review Dates: 11/16, 9/18  
Initial Release Date: 10/5/2018  
Final Date for Implementation: 04/1/2019  
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## TREATMENT GUIDELINES:

- Agonal gasps are not adequate breathing and when accompanied with a pulseless state the patient should be considered to be in full cardiopulmonary arrest.
- If the patient has an implanted pacemaker or defibrillator/pacemaker, place electrode pads to either side and not directly on top of the implanted device.
- If the patient has a medication patch in place on the chest area, remove the patch and wipe the area clean before attaching an electrode pad.
- Automatic Chest Compression devices should be applied as soon as available for patients with pulseless rhythms or asystole and for whom CPR is to be continued.
- Appropriate advanced airway includes:
  1. Endotracheal intubation
  2. Supraglottic device (Laryngeal Mask Airway)
  3. King® airway
  4. Combitube®
- If a patient is wearing a LifeVest®
  - Proceed with standard evaluation and treatment measures.
  - Initiate CPR unless the vest device is broadcasting “press the response buttons,” “electrical shock possible, do not touch patient,” or “bystanders do not interfere.”
  - Follow standard treatment as described in algorithms above and remove the LifeVest® and monitor/treat the patient with the standard monitor-defibrillator.
  - To remove the LifeVest®, first pull out or disconnect the battery, then remove the garment from the patient.
  - Take vest, modem, charger, and extra battery to the hospital.
- If Base Hospital orders push-dose epinephrine for refractory hypotension, refer to ALS Procedure # 230 (Push-Dose Epinephrine) for technique in performing procedure.

Approved:

Review Dates: 11/16, 9/18  
Initial Release Date: 10/5/2018  
Final Date for Implementation: 04/1/2019  
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## ALLERGIC REACTION/ANAPHYLAXIS - ADULT/ADOLESCENT

**ALS STANDING ORDERS:** Allergic reactions may be mild to life threatening (termed anaphylaxis), treat based on the following assessment findings:

Reaction with only rash or urticaria and vital signs stable:

- Pulse oximetry, if room air oxygen saturation 95% - 100%
- Transport to nearest appropriate ERC.

Reaction includes facial/cervical angioedema:

- ▶ *Epinephrine 0.5 mg IM lateral thigh area (1 mg/1 mL concentration) – one time dose, do not administer if history of cardiac disease or Epinephrine Autoinjector administered prior to arrival.*
- Pulse oximetry: if room air oxygen saturation less than 95%:
  - ▶ *Oxygen by mask or nasal cannula (for nasal cannula provide 6 l/min flow rate as tolerated).*
  - ▶ *Diphenhydramine (Benadryl®) 50 mg IM or IV once (do not administer if diphenhydramine taken Prior to arrival).*
- ALS escort to nearest appropriate ERC.

Reaction includes wheezing or hypoxia (pulse oximetry < 95% saturation):

- ▶ *Oxygen by mask (high flow) or nasal cannula (6 l/min flow rate) as tolerated.*
- ▶ *Epinephrine 0.5 mg IM lateral thigh (1 mg/1mL concentration), may repeat twice with 0.5 mg IM every 10 minutes for continued symptoms. If Epinephrine Auto-injector administered prior to arrival, consider one dose of epinephrine has been provided.*
- ▶ *Albuterol, Continuous nebulization of 6.0 mL (5 mg) concentration as tolerated.*
- ▶ *Diphenhydramine (Benadryl®) 50 mg IM or IV once (do not administer if diphenhydramine taken prior to arrival).*
- ALS escort to nearest appropriate ERC.

Reaction includes hypotension, respiratory distress, impending airway obstruction:

- ▶ *Epinephrine 0.5 mg IM lateral thigh (1 mg/1mL concentration)*
- Establish IV/IO access.
  - ▶ *Normal Saline, infuse 250 mL IV or IO, repeat up to maximum 1 liter to maintain adequate perfusion*
  - ▶ *After initial IM epinephrine given as above, if continued symptoms after 10 minutes, repeat Epinephrine 0.5 mg IM lateral thigh or Epinephrine 0.1 mg IV / IO (0.1 mg/1 mL concentration), may repeat 0.1 mg IV/IO once after 10 minutes.*
  - ▶ *Oxygen by mask or nasal cannula (for nasal cannula provide 6 l/min flow rate as tolerated).*
  - ▶ *Diphenhydramine (Benadryl®) 50 mg IM/IV once (do not administer if diphenhydramine taken prior to arrival).*
- Contact Base Hospital and ALS escort to Base designated ERC.

Patients self-treated with Epi-Pen (epinephrine auto-injector) prior to EMS arrival:

Consider patient having received first 0.5 mg epinephrine IM dose and otherwise follow above steps.  
ALS escort to ERC for further evaluation even when symptoms resolving.

Approved:

Reviewed: 5/16; 8/18  
Initial Release Date: 10/5/2018  
Final Implementation Date: 4/1/2019



**ALLERGIC REACTION/ANAPHYLAXIS -  
(ADULT / ADOLESCENT)**

**ALS STANDING ORDERS:**

**Categorize reaction into one of three categories as described below:**

**Allergic Reaction-mild** (rash, urticarial (hives) and vital signs stable):

- Pulse oximetry, if room air oxygen saturation less than 95%:
  - ▶ *High-flow oxygen by mask or nasal cannula at 6 l/min flow rate as tolerated.*
- Transport to nearest ERC.

**Allergic Reaction-moderate** (facial/cervical angioedema or wheezing):

- Pulse oximetry; if room air oxygen saturation less than 95%:
  - ▶ *High-flow oxygen by mask or nasal cannula at 6 l/min flow rate as tolerated.*
- For facial/cervical angioedema:
  - ▶ *Diphenhydramine (Benadryl®) 50 mg IM or IV once.*
  - ▶ *Epinephrine 0.3 mg IM (1 mg/mL preparation)– hold if history of cardiac disease, signs of CHF, chest pain, or age > 40 years-old.*
- If wheezing present:
  - ▶ *Albuterol, Continuous nebulization of 6 mL (5 mg) concentration as tolerated.*
- ALS escort to nearest appropriate ERC.

**Anaphylaxis:** (hypotension, severe wheezing, respiratory distress, impending airway obstruction):

- ▶ *Epinephrine 0.3 mg slow IV/IO (0.1 mg/mL preparation) (IV preferred) OR Epinephrine 0.3 mg IM (1 mg/mL preparation)*
- ▶ *Diphenhydramine (Benadryl®) 50 mg IM/IV once.*
- ▶ *Normal Saline, infuse 250 mL IV or IO, repeat up to maximum 1 liter to maintain adequate perfusion.*
- Pulse oximetry; if room air oxygen saturation less than 95%:
  - ▶ *High-flow oxygen by mask or nasal cannula at 6 l/min flow rate as tolerated.*
- If wheezing present:
  - ▶ *Albuterol, Continuous nebulization of 6 mL (5 mg) concentration as tolerated.*
- ALS escort to nearest appropriate ERC; contact Base Hospital if no response to therapy

Approved:

Review Dates: 5/16, 11/16  
Final Date for Implementation: 04/01/2017  
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**SUSPECTED ACUTE STROKE OR INTRACRANIAL HEMORRHAGE  
(STROKE TRIAGE CRITERIA)**

**ALS STANDING ORDERS:**

1. ~~Base Hospital contact if patient meets Stroke Triage Criteria (see below).~~  
**Contact Base Hospital if patient meets Stroke-Neurology Triage Criteria (see below).**
2. Give no fluid or solids orally (may be risk for aspiration); dissolving Ondansetron in mouth is appropriate.
3. Monitor cardiac rhythm and document with rhythm strip.
4. Pulse oximetry, if room-air oxygen saturation less than 95%:
  - ▶ *Provide high flow oxygen by mask or nasal cannula 6 l/min flow rate as tolerated.*
5. Blood glucose analysis, if blood glucose less than **860**, administer one of:
  - ▶ *10% Dextrose 250 mL IV*
  - ▶ *Glucagon 1 mg IM if unable to establish IV.*

*Note: IO access may be used for dextrose administration when patient is unconscious with blood glucose < **860**, unable to establish IV and there is no response to IM glucagon.*
6. For nausea or vomiting:
  - ▶ *Ondansetron (Zofran®): ODT 8 mg (two 4 mg tablets) to dissolve orally on inside of cheek as tolerated;*  
*OR,*  
*4 mg IV, may repeat after approximately 3 minutes for continued nausea or vomiting.*
7. If patient does not meet Stroke Triage Criteria, ALS escort to nearest ERC.

Approved:

Review Dates: 05/16, 11/16, 9/18  
Initial Release Date: 10/5/2018  
Final Implementation Date: 4/1/2019  
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**SUSPECTED ACUTE STROKE OR INTRACRANIAL HEMORRHAGE  
(STROKE TRIAGE CRITERIA)**

**TREATMENT GUIDELINES:**

**STROKE TRIAGE CRITERIA:**

1. If either of the following two sets of criteria is met and blood glucose is above 80 (or corrected to be above 80), contact Base Hospital for triage to a Stroke Prepared Hospital:

~~— Ischemic Stroke Suspected:~~

~~All of the criteria below must be met:~~

- ~~✓ No seizure immediately prior to or upon arrival to scene~~
- ~~✓ Last seen normal or at usual neurological baseline within past 7 hours<sup>1</sup>, and~~
- ~~✓ Glasgow Coma Score 10 or greater, and~~
- ~~✓ Arm (pronator) drift or facial paresis (new onset).~~

– **Ischemic Stroke Suspected:**

- ✓ Last seen at usual neurological baseline within the past 24 hours, and
- ✓ Responds in an appropriate manner to verbal or visual stimuli or has spontaneous eye opening, and
- ✓ Demonstrates one or more of the following as new onset neurologic signs:
  - Arm (pronator) drift or paralysis, asymmetric to right or left arm
  - Facial paresis or droop (new onset).
  - Decreased grip strength, asymmetric to right or left hand

– **Intracerebral Hemorrhage Suspected:**

Sudden, severe headache with onset in past 7 24 hours with any one of:

- ✓ Vomiting (repeated), or
- ✓ Neurological deficit (hemi-paresis or weakness, gaze to one side, or asymmetric pupils without prior eye surgery), or
- ✓ Altered mental status, or
- ✓ Marked blood pressure elevation (diastolic > 100 mm Hg).

~~<sup>1</sup>A patient who awakens from a sleep period of more than 7 hours with ischemic stroke symptoms is considered to have an unknown time for onset of stroke and should be transported to the nearest ERC.~~

2. Base contact required on all Stroke Triage designations to alert receiving facility stroke team to prepare to immediately accept patient.
3. Avoid intraosseous and external jugular lines for potential SNRC patients as these lines may allow for uncontrolled bleeding without the ability to compress the bleeding site if a patient receives thrombolytics.

Approved:

Review Dates: 05/16, 11/16, 9/18  
Initial Release Date: 10/5/2018  
Final Implementation Date: 4/1/2019  
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**SUSPECTED ACUTE STROKE OR INTRACRANIAL HEMORRHAGE  
(STROKE TRIAGE CRITERIA)**

- 
4. ~~Determine and~~ document the “last know well” time or onset time of stroke symptoms reported by patient, family or bystanders. Attempt to get the contact phone number of family or witness to **allow receiving Stroke-Neurology Receiving Center to verify the last know well time.**

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Approved:

Review Dates: 05/16, 11/16, 9/18  
Initial Release Date: 10/5/2018  
Final Implementation Date: 4/1/2019  
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**ORANGE COUNTY EMERGENCY MEDICAL SERVICES  
PEDIATRIC MEDICATION VOLUME DOSE BY HEAD-HEEL LENGTH MEASUREMENT**

**ALS Reference # 1-20**

		Newborn	3 MO	6 MO	1 YR	2 YR	3-4 YR	5-6 YR	7-8 YR	9-10 YR	11-12 YR
Length in centimeter range for age		47-60 cm	60-65 cm	66-74 cm	75-86 cm	83-95 cm	87-99 cm	100-113 cm	114-132 cm	133-158 cm	159-189 cm
Average kilograms/pounds		3-5kg/7-11lb	6 kg/13lb	8 kg/15lb	11kg/24lb	13 kg/29lb	16kg/35lb	20kg/44lb	26kg/57lb	31kg/68lb	40kg/88lb
Expected Heart Rate		100-160	100-160	100-160	100-170	90-150	80-140	75-120	70-110	60-105	60-100
Expected Respiratory Rate		30-60	30-60	30-60	30-40	24-40	20-30	20	16	16	16
<b>MEDICATION / CONCENTRATION (Boxed Meds by Base Hospital Order only)</b>	<b>DOSE</b>	<b>Newborn to 3 Month</b>	<b>3-6 Month 60-65 cm</b>	<b>7-12 Months 66-75 cm</b>	<b>13-24 Months 76-87 cm</b>	<b>25-35 Months 88-92 cm</b>	<b>3-5 Years 93-100 cm</b>	<b>5+ to 7 years 101-114 cm</b>	<b>7+ to 9 years 115 -133 cm</b>	<b>9+ to 11 years 134-159 cm</b>	<b>11+ to 13 years 160-190 cm</b>
<b>Adenosine IV</b>	3 mg/1mL	0.2 mg/kg	0.4 mL	0.6 mL	0.7 mL	0.9 mL	1 mL	1.3 mL	1.6 mL	2 mL	2.7 mL
<b>Albuterol</b>	2.5 mg/3mL	via nebulizer at 8L/min flow rate	3.0 mL	3.0 mL	3.0 mL	6.0 mL	6.0 mL	6.0 mL	6.0 mL	6.0 mL	6.0 mL
<b>Amiodarone IV/IO for VF/ pulseless VT 50 mg/1 mL</b>	5 mg/kg	0.4 mL	0.6 mL	0.8 mL	1.1 mL	1.3 mL	1.6 mL	2.0 mL	2.4 mL	3.0 mL	3.0 mL
<b>Amiodarone IV for VT with pulse 50 mg/1 mL</b>	5 mg/kg over 10 minutes	0.4 mL	0.6 mL	0.8 mL	1.1 mL	1.3 mL	1.6 mL	2.0 mL	2.4 mL	3.0 mL	3.0 mL
<b>Atropine IV/IM (Organophosphate toxicity dosing)</b>	1 mg/1 mL	0.1 mg/kg	0.5 mL	0.8 mL	1.0 mL	1.3 mL	1.6 mL	2.0 mL	2.6 mL	3.1 mL	4.0 mL
<b>Atropine IV/IM (Organophosphate toxicity dosing)</b>	1 mg/10 mL	0.1 mg/kg	4.0 mL	6.0 mL	5.0 mL	5.0 mL	5.0 mL	5.0 mL	5.0 mL	5.0 mL	5.0 mL
<b>Dextrose 10% in H<sub>2</sub>O solution 0.1 mg/mL</b>	5 mL/kg	20 mL	30 mL	40 mL	50 mL	65 mL	80 mL	100 mL	130 mL	150 mL	200 mL
<b>Diphenhydramine IM/IV/IO 50 mg/mL</b>	1 mg/kg	N/A	0.1 mL	0.2 mL	0.2 mL	0.3 mL	0.3 mL	0.4 mL	0.5 mL	0.6 mL	0.8 mL
<b>Epinephrine 1.0 mg/mL IM (1 mg/mL)</b>	0.01 mg/kg	N/A	0.05 mL	0.08 mL	0.1 mL	0.1 mL	0.16 mL	0.2 mL	0.25 mL	0.3 mL	0.3 mL
<b>Epinephrine 0.1 mg/mL IV/IO (1 mg/10 mL)</b>	0.01 mg/kg	0.4 mL	0.5 mL	0.8 mL	1 mL	1.3 mL	1.6 mL	2 mL	2.5 mL	3 mL	4 mL
<b>Fentanyl IN/IV/IM 50 mcg/1 mL</b>	2 mcg/kg	-----	0.15 mL	0.2 mL	0.5 mL	0.5 mL	0.6 mL	0.8 mL	1.0 mL	1.0 mL	1.0 mL
<b>Glucagon IM 1 mg/mL</b>	0.5 mg	-----	0.5 mL	0.5 mL	0.5 mL	0.5 mL	0.5 mL	0.5 mL	0.5 mL	0.5 mL	0.5 mL

APPROVED

Review Dates: 5/16, 11/16, 4/17, 11/17, 8/18  
Initial Release Date: 10/01/2018  
Final Implementation Date: 4/01/2019

**ORANGE COUNTY EMERGENCY MEDICAL SERVICES  
PEDIATRIC MEDICATION VOLUME DOSE BY HEAD-HEEL LENGTH MEASUREMENT**

**ALS Reference # 1-20**

MEDICATION / CONCENTRATION (Boxed Meds by Base Hospital Order only)	DOSE	Newborn to 3 Month	3-6 Month 60-65 cm	7-12 Months 66-75 cm	13-24 Months 76-87 cm	25-35 Months 88-92 cm	3-5 Years 93-100 cm	5+ to 7 years 101-114 cm	7+ to 9 years 115 -133 cm	9+ to 11 years 134-159 cm	11+ to 13 years 160-190 cm
Average kilograms/pounds		3-5kg/7-11lb	6 kg/13lb	8 kg/15lb	11kg/24lb	13 kg/29lb	16kg/35lb	20kg/44lb	26kg/57lb	31kg/68lb	40kg/88lb
<b>Hydroxocobalamin</b> 5 gm/250 mL	70 mg/kg	14 mL	35 mL	42 mL	64 mL	74 mL	90 mL	108 mL	145 mL	174 mL	224 mL
Lidocaine 2% local pain control for IO 100 mg/5 mL	0.5 mg/kg	0.1 mL	0.1 mL	0.2 mL	0.3 mL	0.3 mL	0.4 mL	0.5 mL	0.6 mL	0.8 mL	1 mL
Midazolam for Seizure IV/IM 5 mg/mL	0.1 mg/kg	-----	CONTACT BASE	CONTACT BASE	0.2 mL	0.25 mL	0.3 mL	0.4 mL	0.5 mL	0.6 mL	0.8 mL
<b>Midazolam for sedation IV/IM 5 mg/mL</b> (example: cardioversion)	0.1 mg/kg	-----	-----	-----	0.2 mL	0.25 mL	0.3 mL	0.4 mL	0.5 mL	0.6 mL	0.8 mL
Morphine IV 4 mg/1 mL carpulect	0.1 mg/kg	-----	0.15 mL	0.2 mL	0.3 mL	0.3 mL	0.4 mL	0.5 mL	0.6 mL	0.8 mL	1 mL
Morphine IV 10 mg/10 mL carpulect	0.1 mg/kg	-----	0.5 mL	0.8 mL	1.1 mL	1.2 mL	1.5 mL	2.0 mL	2.5 mL	3.1 mL	4.0 mL
Morphine IM 10 mg/1mL vial	0.1 mg/kg	-----	-----	0.1 mL	0.1 mL	0.13 mL	0.15 mL	0.2 mL	0.25 mL	0.3 mL	0.4 mL
Naloxone IV/IM/IN 0.8 mg/2 mL	0.1 mg/kg max 0.8 mg	0.8 mL	0.8 mL	1.0 mL	2 mL	2 mL	2 mL	2 mL	2 mL	2 mL	2 mL
Naloxone IV/IM/IN 1 mg/1mL	0.1 mg/kg max 1 mg	0.4 mL	0.5 mL	0.7 mL	1 mL	1 mL	1 mL	1 mL	1 mL	1 mL	1 mL
Naloxone IN Preload nasal spray 4 mg/0.1mL	4 mg IN	CONTACT BASE	Single nasal spray	Single nasal spray	Single nasal spray	Single nasal spray	Single nasal spray	Single nasal spray	Single nasal spray	Single nasal spray	Single nasal spray
Normal Saline IV/IO 0.9% NaCl	20 mL/kg up to 250 mL per bolus	80 mL	120 mL	140 mL	220 mL	250 mL	250 mL	250 mL	250 mL	250 mL	250 mL
Normal Saline nebulized 0.9% NaCl	via nebulizer at 8L/min flow rate	-----	3 mL	3 mL	3 mL	3 mL	3 mL	3 mL	3 mL	3 mL	3 mL
Ondansetron (Zofran®) ODT	4 mg ODT	-----	-----	-----	-----	-----	4 mg (age 4 or over)	4 mg	4 mg	4 mg	4 mg
Sodium Bicarbonate IV/IO 50 mEq/50 mL	1 mEq/kg	4 mL 1:1 dilution	6 mL 1:1 dilution	8 mL 1:1 dilution	11 mL	13 mL	16 mL	20 mL	25 mL	31 mL	40 mL

**Note # 1 : Defibrillation – use manufacturer recommended energy settings (for biphasic devices, delivered energy is calculated internally by device)**  
**Note # 2: Do Not exceed maximum adult dose when administering medications to a pediatric patient**

APPROVED

Review Dates: 5/16, 11/16, 4/17, 11/17, 8/18  
 Initial Release Date: 10/01/2018  
 Final Implementation Date: 4/01/2019



## TRAUMA TRIAGE

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### I. AUTHORITY:

*Health & Safety Code, Division 2.5, Sections 1797.258, 1798, 1798.160-1798.169, and 1798.2; California Code of Regulations, Title 22, Division 9, Chapter 7.*

### II. POLICY:

This policy identifies the types of injuries and situations that require transport of trauma victims to an Orange County EMS (OCEMS) designated Trauma Center (TC).

Base hospital contact is required for all patients described in this policy. Trauma victim destination is determined by the Base Hospital.

### III. DEFINITION OF A TRAUMA VICTIM ("MEETS TRAUMA CRITERIA"):

A trauma victim is someone who has a blunt or penetrating injury with the presence of any of the following: **A PERSON SUSTAINING BLUNT OR PENETRATING INJURY WITH THE PRESENCE OF ANY OF THE FOLLOWING IS CONSIDERED TO MEET TRAUMA TRIAGE CRITERIA**

#### A. Abnormal Vital Signs:

- ~~Glasgow Coma Score (GCS) less than 14 (in the presence of head injury)~~  
**Failure to follow commands due to decreased state of alertness**
- RESPIRATION:  
Adult/Adolescent/ Children<sup>1</sup>: less than 12 per minute OR greater than 30 per minute
- SYSTOLIC BLOOD PRESSURE:  
Adult/Adolescent: less than 90  
Children<sup>1</sup>: less than 80

Note #1: A child is defined as those ages 14 years-old and younger (**less than age 15 years-old**).

#### B. Injuries:

- Penetrating or open injury of the head
- Depressed skull fracture
- Blunt or penetrating head injury with **observed** loss of consciousness ~~greater than 5 minutes~~, **focal neurologic deficit, asymmetric pupils, or vomiting**
- Penetrating (**appears to penetrate all skin layers**) injury to the neck, chest, abdomen, back, or groin
- Penetrating (**appears to penetrate all skin layers**) injury to extremity above elbow or knee
- Extremity **injury** with poor circulation or without a pulse
- Paralysis or numbness **paresthesia** of arm or leg **due to injury**
- ~~Suspicion of spinal cord injury~~
- ~~Flail chest~~ **Blunt chest injury with abnormal respiration as defined above**
- Seat belt bruising or abrasion of neck, chest or abdomen
- **Blunt** abdominal injury with **palpable** tenderness of ~~2 or more~~ quadrants
- Fracture of two or more long-bones (femur, humerus)
- Pelvic **rim** pain or deformity on palpation
- Amputation (**partial or complete**) above the wrist or ankle
- Crushed, degloved, or mangled extremity (excluding only fingers or toes)
- **Reported or obviously pregnant woman with blunt or penetrating abdominal injury**





**TRAUMA TRIAGE**

- 
- Traumatic cardiopulmonary arrest      Triage to PTRC a Trauma Center

**Approved:**

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Sam J. Stratton, MD, MPH  
OCEMS Medical Director

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Tammi McConnell, MSN, RN  
OCEMS Administrator

Original Date:            1/1988  
Reviewed Date(s):      3/2015  
Revised Date(s):        3/28/2011; 4/01/2015; 4/29/2015, 5/01/2016,  
   11/15/16, 10/1/2018  
Effective Date:           4/1/2019





## WITHHOLDING PREHOSPITAL CPR FOR THE OBVIOUSLY DECEASED

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### I. AUTHORITY:

*California Health and Safety (HS) Code 1797.220 and 1798*

### II. APPLICATION:

This policy provides EMS guidelines for withholding CPR for obviously deceased victims.

### III. DEFINITIONS:

**Cardiopulmonary arrest** means unresponsive to verbal and tactile stimuli, absence of respiration with an open airway, absence of pulse due to lack of cardiac function, and loss of all neurological reflexes.

**"Obviously Deceased"** means a cardiopulmonary arrest victim has been determined to exhibit one or more of the following criteria:

- Decomposition.
- Incineration.
- Massive crush injury and/or evisceration of the heart or brain.
- Decapitation.
- Obvious fatal external exsanguination.
- Rigor mortis and meets the procedure described below in subsection IV, B.
- Post-mortem lividity and meets the procedure described below in subsection IV, B.
- Traumatic cardiopulmonary arrest and meets the procedure described below in subsection IV, B.
- It is determined that the person had an un-witnessed, non-trauma cardiopulmonary arrest with no bystander CPR or AED placement prior to EMS arrival and the person is found by cardiac monitor to be asystolic in two leads and meets the procedure described below in subsection IV, B.

### **Exceptions to "Obviously Deceased":**

1. Normal **skin reactions** may look like lividity, while poor hygiene and/or gangrene may be mistaken for "decomposition."
2. **Burn victims** may appear to be "incinerated" but still be alive. In burn cases, rhythm should be confirmed with a cardiac monitor and resuscitation attempted if cardiac activity is detected.
3. **Hypothermia** (low body temperature secondary to cold-water immersion or cold environment exposure), especially in children, elderly and debilitated, may simulate death and resuscitation should be attempted if time of exposure to cold environment or water has been less than one hour or is unknown.





## WITHHOLDING PREHOSPITAL CPR FOR THE OBVIOUSLY DECEASED

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### IV. GUIDELINES:

#### A. Patients Meeting Criteria for "Obviously Deceased":

- When a victim is obviously deceased, resuscitation is not indicated and may be withheld or terminated by EMS personnel. A Base Hospital need not be contacted. A complete PCR shall be completed, documenting the field assessment. The PCR should be completed as soon as possible and posted to the Orange County Coroner's Office (via OC-MEDS).

#### B. Assessment Procedures for Patients Meeting Criteria for "Obviously Deceased":

If the initial assessment reveals rigor mortis, post-mortem lividity, traumatic cardiopulmonary arrest, or the arrest is un-witnessed and there has been no bystander CPR, the following patient assessment is required and to be documented to withhold CPR:

##### 1. Assessment of respiratory status by:

- Assuring that the patient has an open airway, **and**
- Looking, listening, and feeling for respirations. This shall include auscultation of the lungs for a minimum of 30 seconds.

##### 2. Assessment of cardiac status by:

- Palpating for a central pulse for a minimum of 15 seconds, **and**
- Auscultation for the apical pulse for a minimum of 15 seconds.

##### 3. Assessment of neurological reflexes by checking for:

- Pupil response with a penlight or flashlight, **and**
- A response to painful stimuli.

4. If there is uncertainty regarding any of the above findings or at EMS discretion, rhythm strips in two leads to confirm asystole in support of the assessment of "obviously deceased" may be obtained.

5. If there are signs of life based on any of the above assessment elements, resuscitative intervention is required unless a DNR or Health Care Directive is present (Refer to OCEMS Policy # 330.51).

#### C. Scene Management and No Transport of the "Obviously Dead"

Patients for whom CPR is withheld in the field should not be transported from the scene. If a circumstance appears to require movement from the scene, contact Base Hospital for further direction.



**WITHHOLDING PREHOSPITAL CPR FOR THE  
OBVIOUSLY DECEASED**

1. If a patient dies and meets "obviously dead" criteria while being transported to an ERC, stop CPR and resuscitation effort and continue transport to the original (ERC) destination. Notify receiving ERC of situation and to expect arrival of "obviously dead" victim.
2. If upon arrival to a scene, a patient in cardiac arrest has a DNR or POLST form declaring no desire for any form of resuscitation or meets criteria for "obviously dead", withhold CPR and do not transport.
3. When responding to the scene that is a skilled nursing facility or rehabilitation center, request patient POLST form prior to loading a patient in cardiac arrest or a near terminal state. Do not load patient into ambulance until POLST form reviewed. If POLST indicates no desire for resuscitation. Provide comfort measures and contact Base Hospital for further direction.
4. If patient loaded into an ambulance at scene suffers immediate cardiac arrest, initiate CPR and resuscitation efforts and transport to nearest available ERC. If a patient is being loaded, suffers a sudden cardiac arrest and the scene is at a skilled nursing facility and the patient has a POLST form declaring no desired resuscitative efforts, do not initiate CPR and rather offload patient and return to bed of skilled nursing facility. (POLST form should be requested on all skilled nursing home patients before loading into an ambulance).

D. Patients Not Meeting Criteria for "Obviously Dead":

- A patient who is not "obviously dead" as defined above shall be treated with initiation of appropriate resuscitative measures.
- Base Hospital physicians have the authority to determine the medical appropriateness of initial and continued resuscitative efforts. Resuscitative efforts may be discontinued by order of a Base Hospital physician, especially in the case of expected deaths of terminal or hospice patients.
- When a patient is pronounced dead by a Base Hospital physician and resuscitation is stopped in the field, the family or caregiver(s) should be supported and assisted. In addition, the Coroner's Office should be immediately notified by requesting response by law enforcement covering the jurisdiction of the event. The PCR should be completed as soon as possible and posted to the Orange County Coroner's Office (via OC-MEDS).

**Approved:**

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Sam J. Stratton, MD, MPH  
OCEMS Medical Director

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Tammi McConnell, MSN, RN  
OCEMS Administrator

Original Date: 3/08/1988  
 Reviewed Date(s): 9/2014; 5/2016; 8/2018  
 Revised Date(s): 10/01/2018  
 Effective Date: 4/01/2019



## APPLICATION OF RESTRAINTS BY EMS PERSONNEL

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### I. AUTHORITY:

Health and Safety Code, Section 1798.

### II. APPLICATION:

This policy provides guidelines for the application of restraints on patients who are agitated and cannot follow commands or whose behavior poses a threat of physical harm to themselves or others.

### III. DEFINITIONS:

**"Restraint"** means any device made of padded leather or soft material (e.g., Velcro, vest, etc.) that is specifically designed to restrain a patient for the purpose of preventing physical harm to the patient or others.

**"Quick Release"** means a device that allows for rapid removal.

### IV. GUIDELINES:

- A. Patients should be reassured and their cooperation enlisted when possible. A calm, professional and compassionate demeanor shall be utilized when explaining restraint necessity to patients and facility staff.
- B. Restraints should be used only when less restrictive techniques are unsuccessful, impractical, or likely to endanger the patient or others.
- C. Any patient placed under an involuntary psychiatric hold by a qualified law enforcement officer or clinician shall be restrained during transport for the protection of the patient and EMS personnel.
- D. Restraint devices should be applied so that they do not restrict ventilation, circulation or nerve function. Restraint methods should allow for adequate monitoring of the patient's cardiorespiratory status and neurovascular status distal to the points of restraint.

### V. PROCEDURE:

- A. EMS personnel shall determine the type of restraint device necessary to effectively restrain the patient, using either hard or soft restraints.
  1. Acceptable restraints are "hard type" restraints made of a padded leather material that allow for quick release or "soft type" restraints made of padded soft cloth or Velcro that is manufactured for the purpose of restraint. Gauze (e.g., Kerlix), tape or hard plastic ties (e.g., zip ties) should not be used.
  2. Wrist and ankle restraints should be secured to the frame of the gurney or alternate fixed point (e.g. backboard), and not to any moveable parts (e.g., rails, levers, etc.).
  3. The EMS provider shall have the discretion to restrain patients using all four extremities, or both upper extremities, or one upper and one lower extremity.



**APPLICATION OF RESTRAINTS BY EMS PERSONNEL**

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4. Sensation and pulses of each restrained extremity is to be assessed five (5) minutes after application of restraints and every fifteen (15) minutes thereafter and documented within the PCR. Restraints should be immediately released if there are signs of neurovascular compromise.
  5. Patients shall be restrained in the supine position or on their side. If necessary, one arm may be placed above the head and the other arm to the side. The patient’s legs should be restrained at the ankles in the extended position.
  6. Straps may be used across the pelvis and the knees in order to further immobilize the patient. Straps should not be placed in a position that compromises ventilation or circulation such as on the neck, chest, or abdomen.
  7. Patients should not be placed in a prone position. They shall not be “hog-tied” (e.g., prone position with arms and/or legs flexed backwards and restrained behind the patient).
  8. There should be no compression of the patient’s chest, neck, abdomen, and the patient should not be sandwiched by any device.
  9. If the patient is spitting, a surgical mask, oxygen mask with oxygen flowing, or a "spit sock" allowing for assessment of skin color (lips) and breathing may be placed over the patient’s mouth to protect EMS personnel and others.
- B. Restraints applied by law enforcement personnel (e.g., handcuffs) should allow for adequate cardiovascular and neurologic function.
1. If the patient must be transported in handcuffs, EMS personnel should ensure that an officer either accompanies the patient in the ambulance during transport or follows the ambulance enroute to the hospital so that the officer may release the patient if necessary.

**VI. DOCUMENTATION:**

EMS personnel shall document all events pertaining to the need for restraints and monitoring of the patient’s condition within the PCR, including the following items:

1. Circumstances pertaining to the indications for the application of restraints.
2. Neurovascular status of the restrained extremities (pre and post placement).
3. Hemodynamic and cardiorespiratory status of the patient (pre and post placement).

**Approved:**

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Sam J. Stratton, MD, MPH  
OCEMS Medical Director

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Tammi McConnell, MSN, RN  
OCEMS Administrator

Original Date: 5/22/2006  
Reviewed Date(s): 4/2014; 8/2018  
Revised Date(s): 4/01/2006; 10/01/2018  
Effective Date: 4/01/2019