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REGULATORY/ MEDICAL HEALTH SERVICES

EMERGENCY MEDICAL SERVICES

February 8, 2018

TO: ORANGE COUNTY BASE HOSPITAL PHYSICIAN DIRECTORS
ORANGE COUNTY FIRE DEPARTMENT EMS COORDINATORS
ORANGE COUNTY BASE STATION COORDINATORS
ORANGE COUNTY AMBULANCE PROVIDERS

FROM: SAM J. STRATTON, MD, MPH
MEDICAL DIRECTOR ORANGE COUNTY EMS

SUBJECT: CLARIFICATION OF CURRENT STANDING ORDERS, PROCEDURES, POLICIES

As discussed in recent meetings and as requested by system educators and providers, in addition to non-substantial wording clarifications, the following revisions have been made for Orange County EMS policies, procedures, and standing orders:

SO-C-15 (Chest Pain of Suspected Cardiac Origin/Suspected Angina Equivalent Symptoms):

1. Caution statement regarding lack of sensitivity for negative ECG and acute MI.
2. Addition language adding angina equivalent language and to help identify angina equivalent symptoms.

PR-105 (12-Lead ECG):

1. Additional language to clarify unexplained anxiety as an indication for 12-lead ECG.
2. Emphasis on chest discomfort as well as chest pain as an indicator for 12-lead ECG.
3. Caution statement regarding lack of sensitivity for negative ECG and acute MI.
4. Language added regarding transmission of ECG to CVRC from field.

B-060 (Imminent Childbirth in the Field):

1. Clarification of cutting umbilical cord.
2. Clarification of management for depressed newborn.

OCEMS Policy # 325.00 (ALS Unit Minimum Inventory):

1. Reformatted to make optional versus required inventory more apparent.
2. Deleted tactical medicine inventory as this policy only addresses 9-1-1 ALS ground units.
3. Added transmission capability to Monitor/Defibrillator.
4. Added 4X4 and 2X2 gauze as a minimum inventory item, rather than optional.
5. Added petroleum gauze as a minimum inventory item.
6. Deleted requirement that a mechanical drill be available for IO insertion.
7. Added epinephrine 1 mg/1 mL vial as an option for this pharmaceutical.
8. Added fentanyl 100 mcg carpuject as an option for this pharmaceutical.

B-10 (Tourniquets: Indications and Procedures):

1. This is now FR-010 (First Responder Tourniquet Procedure) as this procedure has been recognized as appropriate in State Regulations for this category of provider.

Attached to this memorandum are red line versions of the documents showing the above substantive revisions, minor changes and wording clarifications. The documents listed above will be posted on the Orange County EMS Agency website and effective on April 1, 2018. No other standing order or procedure revisions or updates are planned for April 1.

SJS/#3183

ALS STANDING ORDERS:

1. Monitor cardiac rhythm.

2. Obtain 12-lead ECG as soon as possible prior to leaving scene; if acute MI indicated or suspected, ~~by cardiac monitor or suspected based on paramedic interpretation~~, make Base Hospital contact for CVRC destination with cardiac catheterization lab open and available.

3. Administer aspirin if none of the following contraindications exists:
   - If ~~chest~~ pain ~~radiates~~ directly ~~to~~ in the mid-back, mid-line region ~~or the patient reports mid-back pain~~, hold aspirin as this may be a symptom of a dissecting aorta, particularly in a patient with a history of hypertension.
   - Patient is on anticoagulant ("blood thinners") medication such as Coumadin, Pradaxa®, Effient®, and Lovenox® or antiplatelet medications such as Plavix®.
   - Patient reports history of aspirin allergy
   - Patient reports recent history of asthma.

   ► *Aspirin 4 (four) 81 mg chewable tablets (chew) or one 325 mg regular tablet to chew.*

4. Pulse oximetry; if room air O_2 Saturation less than 95%:

   ► *Administer oxygen by mask or nasal cannula at 6 Ll/min flow rate, as tolerated. ~~and monitor O_2 saturation.~~*

5. For initial management of suspected cardiac pain give:

   ► *Nitroglycerine 0.4 mg SL if systolic BP above 90 mm/Hg; repeat approximately every 3 minutes for continued discomfort; maximum total of 3 doses if systolic BP above 90 mm/Hg*
   (Do not include possible doses patient took prior to ALS arrival as part of 3 EMS doses).

6. If pain unrelieved with 3 doses of nitroglycerine or nitroglycerine cannot be administered, give:
   ► *Morphine Sulfate: 5 mg (or 4 mg carpuject) IV, may repeat once after approximately 3 minutes* (hold if BP less than or drops below 90 systolic)
   OR
   Fentanyl 50 mcg IV, may repeat once after approximately 3 minutes for continued pain (hold if BP less than or drops below 90 systolic).

7. For nausea or vomiting:

   ► *Ondansetron (Zofran®): ODT 8 mg (two 4 mg tablets) orally to dissolve inside of cheek, once; OR,*
   4 mg IV, may repeat 4 mg IV in approximately 3 minutes if symptoms persist.

8. ~~ALS escort to nearest ERC or~~ contact Base Hospital ~~as needed or~~ if acute MI (STEMI) for CVRC Destination or if acute MI not suspected, paramedic escort to an appropriate ERC.

CAUTION: AN ECG THAT IS "NORMAL" OR NEGATIVE FOR STEMI DOES NOT RULE OUT AN ACUTE MI OR SERIOUS ANGINA.

TREATMENT GUIDELINES:

- ~~Consider an acute MI is indicated for~~ tThe following 12-lead monitor interpretations should be triaged to a CVRC :
  1. ***ACUTE MI***
  2. ***STEMI***
  3. Acute ST Elevation Infarct
  4. Probable Acute ST Elevation Infarct
  5. Acute Infarction
  6. Infarct, Probably Acute
  7. Infarct, Possible Acute

- Do not administer nitroglycerin if Viagra® (sildenafil), Levitra® (vardenafil), or Cialis® (tadalafil) were used by the patient in the past 24 hours.

- Intraosseous ~~and external jugular~~ lines should be avoided for potential CVRC patients because such lines may allow for uncontrolled bleeding without the ability to compress the bleeding site if a patient receives thrombolytics.

- Angina equivalent symptoms can include, but are not limited to:
  - Unexplained sweating or diaphoresis
  - Sudden onset of general weakness
  - Unexplained shortness of breath
  - Anxiety, or vague feeling of panic

- Chest discomfort presenting as heartburn, pleuritic, or musculoskeletal pain does not rule out heart disease or acute MI. A field 12-lead ECG should be obtained as soon as possible, preferably prior to leaving scene, on any adult 45 years-old or greater who complains of the following symptoms:
  - Known history of ~~coronary~~ heart disease with chest pain, chest discomfort, shortness of breath, or syncope-weakness.
  - Chest pain or chest discomfort (unrelated to injury or strain) as chief symptom.
  - Radiation of chest pain or chest discomfort to arm, shoulder, neck, jaw or back.
  - Diaphoresis.

- Base hospital contact should be made prior to leaving scene for all patients who have a 12-lead performed and elect to sign out AMA.

- If a patient is wearing a LifeVest®
  - Proceed with standard evaluation and treatment measures.
  - CPR can be performed as long as the device is not broadcasting, "press the response buttons," or "electrical shock possible, do not touch patient," or "bystanders do not interfere."
  - If external defibrillation is available, remove the LifeVest® and monitor/treat the patient with the external equipment. Providers can defibrillate with the vest in place AFTER disconnecting the battery.
  - To remove the LifeVest®, first pull out the battery, then remove the garment from the patient.
  - Take vest, modem, charger, and extra battery to the hospital.

ALS STANDING ORDERS:

1. Monitor cardiac rhythm.
2. Obtain 12-lead ECG as soon as possible prior to leaving scene; if acute MI indicated or suspected, make Base Hospital contact for CVRC destination with cardiac catheterization lab open and available.
3. Administer aspirin if none of the following contraindications exists:
   - If pain directly in the mid-back, mid-line region, hold aspirin as this may be a symptom of a dissecting aorta, particularly in a patient with a history of hypertension.
   - Patient is on anticoagulant ("blood thinners") medication such as Coumadin, Pradaxa®, Effient®, and Lovenox® or antiplatelet medications such as Plavix®.
   - Patient reports history of aspirin allergy
   - Patient reports recent history of asthma.

   ► *Aspirin 4 (four) 81 mg chewable tablets (chew) or one 325 mg regular tablet to chew.*
4. Pulse oximetry; if room air O_2 Saturation less than 95%:

   ► *Administer oxygen by mask or nasal cannula at 6 L/min flow rate, as tolerated.*
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   ► *Ondansetron (Zofran®): ODT 8 mg (two 4 mg tablets) orally to dissolve inside of cheek, once; OR,*
   4 mg IV, may repeat 4 mg IV in approximately 3 minutes if symptoms persist.
8. Contact Base Hospital if acute MI (STEMI) for CVRC Destination or if acute MI not suspected, paramedic escort to an appropriate ERC.

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- Do not administer nitroglycerin if Viagra® (sildenafil), Levitra® (vardenafil), or Cialis® (tadalafil) were used by the patient in the past 24 hours.

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  - To remove the LifeVest®, first pull out the battery, then remove the garment from the patient.
  - Take vest, modem, charger, and extra battery to the hospital.

12-LEAD ELECTROCARDIOGRAPHY

INDICATION:

- Patient suspected of having a cardiac event ~~myocardial infarction~~, including:
  - Known history of ~~coronary~~ heart disease with chest pain, chest discomfort, shortness of breath, or syncope-weakness.
  - Chest discomfort (unrelated to injury or strain) as chief symptom.
  - Radiation of chest pain to arm, shoulder, neck, jaw or back.
  - Diaphoresis.
  - Age > 45 years, male or female, with non-traumatic chest pain, chest discomfort, ~~or diaphoresis,~~ unexplained anxiety, or tachycardia/bradycardia.
    - Anxiety is common with acute cardiac conditions and should be considered a symptom rather than a chief complaint.
  - History of cigarette use with non-traumatic chest pain or chest discomfort ~~pain as chief complaint~~.
  - ~~o~~ History of hypertension with non-traumatic chest pain or chest discomfort ~~pain with chest pain as chief complaint.~~
  - History of diabetes with non-traumatic chest pain of chest discomfort ~~pain as chief complaint~~.

CONTRAINDICATIONS (RELATIVE):

- Uncooperative patient or patient refuses 12-lead.
- Situations in which a delay to obtain ECG would compromise care of the patient in the field, such as cardiopulmonary arrest, acute respiratory failure, blood pressure < 90 systolic, altered level of consciousness.

PROCEDURE:

- Complete initial assessment and stabilizing treatment (DO NOT DELAY TREATMENT FOR 12-LEAD). May acquire 12-Lead at incident location or in vehicle just prior to beginning transport.
- Place precordial lead electrodes and acquire tracing as per manufacturer's directions.
- Relay ECG interpretation to base hospital.
- Transmit ECG tracings that are positive or suspected for acute MI before arrival to receiving Cardiovascular Receiving Center ~~as an electronic attachment or photograph attached to PCR~~
- If defibrillation or synchronized cardioversion ~~are~~ is necessary, place paddles or defibrillation pads, removing 12-lead patches if necessary.

DOCUMENTATION:

- Document obtaining 12-Lead and interpretation on prehospital care report (PCR).
- Transmit 12-Lead to CVRC from the field.
- Attach or upload a copy of 12-lead to PCR.

CAUTION: AN ECG THAT IS "NORMAL" OR NEGATIVE FOR STEMI DOES NOT RULE OUT AN ACUTE MI OR SERIOUS ANGINA.

NOTES:

- Presentation of heartburn, pleuritic or musculoskeletal chest pain does not rule out heart disease or acute MI.
- Do not need to repeat positive for acute MI 12-lead performed at clinic or other similar medical setting.
- Machine interpretation of suspected MI may not be accurate in presence of paced rhythms, bundle branch blocks, and certain tachycardia rhythms (*e.g.,* SVT, atrial flutter). When communicating machine interpretation to base hospital, paramedics should advise base of paced / BBB / tachycardia rhythms.
- Base Hospital contact required for patients who refuse BLS or ALS transport after having a 12-lead performed in the field.

12-LEAD ELECTROCARDIOGRAPHY

INDICATION:

- Patient suspected of having a cardiac event, including:
  - Known history of heart disease with chest pain, chest discomfort, shortness of breath, or syncope-weakness.
  - Chest discomfort (unrelated to injury or strain) as chief symptom.
  - Radiation of chest pain to arm, shoulder, neck, jaw or back.
  - Diaphoresis.
  - Age > 45 years, male or female, with non-traumatic chest pain, chest discomfort, unexplained anxiety, or tachycardia/bradycardia.
    - Anxiety is common with acute cardiac conditions and should be considered a symptom rather than a chief complaint.
  - History of cigarette use with non-traumatic chest pain or chest discomfort.
  - History of hypertension with non-traumatic chest pain or chest discomfort.
  - History of diabetes with non-traumatic chest pain of chest discomfort.

CONTRAINDICATIONS (RELATIVE):

- Uncooperative patient or patient refuses 12-lead.
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CAUTION: AN ECG THAT IS "NORMAL" OR NEGATIVE FOR STEMI DOES NOT RULE OUT AN ACUTE MI OR SERIOUS ANGINA.

Review Date: 01/04, 03/06, 07/17, 2/18
Final Date for Implementation: 4/01/2018

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- Base Hospital contact required for patients who refuse BLS or ALS transport after having a 12-lead performed in the field.

IMMINENT CHILDBIRTH IN THE FIELD

INDICATION:

- Progressive childbirth before mother can be transported to an ERC for controlled delivery of baby.

SIGNS OF IMMINENT CHILDBIRTH:

- Body part of the unborn child is visible within the birth canal, usually the top of the head or forehead but may be buttocks, hands, or feet.
- Contractions (strong muscle cramps experienced by the mother and palpable over the lower abdomen) that are approximately 3 minutes or less apart.
- Leaking of amniotic fluid (ruptured membranes) that is blood tinged or cloudy in character with onset of contractions.
- ~~The~~ A mother with active contractions reports feeling that she needs to have a bowel movement.
- ~~The~~ A mother with active contractions reports an uncontrollable urge to push the child down or out.
- Sudden vaginal bleeding associated with contractions.
- History of previous vaginal childbirth with active contractions 3 minutes or less apart.

PROCEDURE:

1. Explain to the mother that you will assist her to deliver the baby.
2. Activate the 911 System, if not already done
3. Calm the mother as much as possible; use reassuring and normal voice tones. Many mothers will naturally grab your arm with contractions – gently release her grip and do not reprimand the mother for this natural action.
4. Use universal blood borne precautions, with a minimum of sterile gloves and mask.
5. Assure that the mother's clothing is not in a position to restrict the birthing process; the mother's legs should be free to move.
6. Allow the mother to assume a position comfortable for her. Be aware that in some cultures, squatting or assuming a position on "all fours" is preferred for birthing.
7. Allow the mother to push down the baby when she feels the unstoppable urge to do so. This should occur concurrent with contractions.
8. Using one hand, support the area below the birth canal with moderate pressure and slowly control delivery of head as much as possible to prevent tearing of mother's perineal tissue.
9. Assist the delivery by supporting the baby's head as it emerges. Allow the head to rotate to one side which will occur naturally to allow the body to be delivered.
10. While supporting the baby's head allow the shoulders to be delivered, usually top or anterior shoulder first, then the lower or posterior shoulder second. Delivery of the shoulders is often difficult and may require gently moving the head downward to allow the anterior shoulder to deliver and then moving the head upward to allow the posterior shoulder to deliver.
11. Allow the remainder of the baby's body to deliver while carefully holding the baby's head and supporting the baby's neck.
12. If the umbilical cord is looped around the baby's neck, insert a finger below the cord and move it over the head to free the baby for delivery (sometimes the cord can be wrapped twice around the neck).
13. ~~Once delivered, dry the baby with a clean towel. Drying the baby should naturally stimulate the baby to cry and initiate breathing. If child remains bluish in skin color, provide oxygen 6 L/min by "blow by" technique.~~ Once delivered, keep the baby at the level of the vagina while drying the baby with clean towels.

    Ensure obvious fluids are gently wiped from the baby's mouth and nose area. Do not use a bulb syringe to suction the baby unless clearly needed (e.g., BVM ventilation indicated due to gasping

respirations or apnea). Drying the baby should naturally stimulate the baby to cry and initiate breathing. If child remains bluish in skin color, provide oxygen 6 L/min by "blow by" technique.

14. ~~Wrap the baby in a dry towel and place on its side with the mother. If umbilical clamps are available, clamp the umbilical cord about 4 and 6 inches from where it attaches to the baby.~~ After about 30 seconds after birth, clamp the umbilical cord. Place umbilical clamps at 4 and 6 inches away from the baby, then cut between the clamps (for safety, use scissors, not a scalpel or knife). If the baby is depressed (i.e., flaccid, apnea/gasping respirations, persistent central cyanosis), the cord should be clamped and cut immediately to facilitate the newborn resuscitation procedure.
15. ~~Cut umbilical cord between clamps (for safety, use scissors, not a scalpel or knife).~~ Place the dried, naked baby, skin-to-skin on the mother's abdomen to allow for breast-feeding, then wrap the baby and mother together in a warm blanket. Alternatively, wrap the baby in the baby wrap provided in the O.B. kit, then place the baby on its side with the mother.
16. If umbilical clamps are not available, place baby on mother's chest above the level of the abdomen and uterus. Instruct mother to hold baby securely during transport.
17. ~~Whether the umbilical cord is cut or not,~~ allow the placenta to deliver naturally. Do not pull on the umbilical cord.
18. If the placenta delivers, package it in a bag or wrapped towel and transport with the baby to allow for examination of the placenta for potential abnormalities by the receiving physician.
19. Comfort the mother and assure her that post-delivery contractions are normal and the contractions will help decrease bleeding.
20. To aid in inducing uterine contraction and decrease bleeding after delivery of baby, firmly massage the uterus by pressing and massaging over the anterior lower abdomen.
21. Document time of delivery and condition of baby (breathing, muscle tone, color). Assess APGAR Score at 1 minute and 5 minutes from delivery (see APGAR) chart below)
22. Transport to the nearest ERC or hospital where mother's physician is on medical staff if mother and baby stable and transport time less than 20 minutes.
23. Keep baby warm and observe to assure breathing is adequate and color pink. If breathing poor, stimulate the baby by drying with towel or gently rubbing feet with hands. If secretions are in baby's mouth, roll to one side to allow drainage.

SPECIAL CIRCUMSTANCES:

Breech Presentation: (Buttocks or feet present first as opposed to head)

1. Follow the procedure for normal presentation delivery, with the exception that you **do not touch the baby until the head delivers.** Touching and stimulating the skin of a baby in breech position can induce the baby to gasp and aspirate amniotic fluid while still in the birth canal.

2. As the shoulders deliver, encourage the mother to push to deliver the head and clear the birth canal.

Depressed Neonate (Blue Baby or Non-breathing Baby:

~~1. With the stimulation of drying with a towel, a baby should gasp and begin breathing and gain a pinkish color of the lips. If after 30 seconds to a minute of stimulation the baby does not begin breathing or retains a blue color of the lips, initiate infant CPR. Keep the baby as warm and dry as possible.~~

~~2. If despite spontaneous breathing effort, the baby remains bluish in color around the lips and nose, provide oxygen at 6 L/min by the "blow by" technique.~~

If the baby is depressed (i.e., flaccid, apnea/gasping respirations, persistent central cyanosis), the cord

should be clamped and cut immediately to facilitate the newborn resuscitation procedure, which includes the following:

1. Assure baby is dry and warm, the airway is clear, and the baby is positioned to keep the airway open.
2. Stimulate the baby by rubbing the back with a towel.
3. If stimulation fails to revive the baby, begin BVM ventilation.
4. If above steps fail and heart rate less than 60 bpm, initiate chest compressions.
5. Provide blow-by oxygen after about 5 minutes or if chest compressions are initiated.

Post-partum Hemorrhage:

1. If after delivery of the baby the mother continues to have vaginal bleeding, massage the uterus with gentle pressure over the lower abdomen. As the uterus contracts, it is often palpable through the abdominal wall allowing for more direct massaging of the uterus.

2. Most often, the placenta will deliver with massaging and bleeding will gradually decrease. Continue to massage the uterus over the abdomen until bleeding is minimal.

SPECIAL CIRCUMSTANCES (continued):

Maternal Seizure During or After Delivery:

1. Seizure of the mother during or after delivery is an extreme emergency. Protect the baby and attend to the mother's airway (suctioning if available and keeping clear and open), immediately notify the 911 dispatch center of the change in status.

APGAR SCORE:

- The Apgar Score measures a newborn's physical status.
- Each of the five categories are scored from 0-2 and then totaled. Apgar scoring is done twice: 1 minute after birth and 5 minutes after birth.
- Resuscitation, if needed, should not await Apgar scoring.

Scoring	*0*	*1*	*2*
Heart rate	Absent	Slow (below 100)	100
Respiratory Effort	Absent	Weak Cry; Hypoventilation	Strong Cry
Muscle Tone	Limp	Slight Flexion of Extremities	Active Flexion
Reflex Responses (to bulb syringe in nostril)	No response	Some Grimace	Cough or cry

Color	Blue, pale	Body pink, Extremities blue	Completely pink

~~Example of Apgar Score Calculation:~~
~~A newborn is found to have:~~

~~Heart rate~~	~~= 160~~	~~= 2~~
~~Resp Effort weak cry~~	~~= weak cry~~	~~= 1~~
~~Muscle Tone~~	~~= limp~~	~~= 0~~
~~Reflex Response~~	~~= some grimace~~	~~= 1~~
~~Color~~	~~= pink~~	~~= 2~~

~~Apgar Score = 6~~

~~Total Apgar Score indications:~~ A total (summed) APGAR score of the following, 1 minute after birth, indicates:

7-10	a healthy neonate.
4-6	a potentially sick neonate.
0-3	a severely depressed neonate.

5 minutes after birth a healthy neonate APGAR score should be 7 -10; below 7 requires constant monitoring and management as described above for a depressed neonate.

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- Contractions (strong muscle cramps experienced by the mother and palpable over the lower abdomen) that are approximately 3 minutes or less apart.
- Leaking of amniotic fluid (ruptured membranes) that is blood tinged or cloudy in character with onset of contractions.
- A mother with active contractions reports feeling that she needs to have a bowel movement.
- A mother with active contractions reports an uncontrollable urge to push the child down or out.
- Sudden vaginal bleeding associated with contractions.
- History of previous vaginal childbirth with active contractions 3 minutes or less apart.

PROCEDURE:

1. Explain to the mother that you will assist her to deliver the baby.
2. Activate the 911 System, if not already done
3. Calm the mother as much as possible; use reassuring and normal voice tones. Many mothers will naturally grab your arm with contractions – gently release her grip and do not reprimand the mother for this natural action.
4. Use universal blood borne precautions, with a minimum of sterile gloves and mask.
5. Assure that the mother's clothing is not in a position to restrict the birthing process; the mother's legs should be free to move.
6. Allow the mother to assume a position comfortable for her. Be aware that in some cultures, squatting or assuming a position on "all fours" is preferred for birthing.
7. Allow the mother to push down the baby when she feels the unstoppable urge to do so. This should occur concurrent with contractions.
8. Using one hand, support the area below the birth canal with moderate pressure and slowly control delivery of head as much as possible to prevent tearing of mother's perineal tissue.
9. Assist the delivery by supporting the baby's head as it emerges. Allow the head to rotate to one side which will occur naturally to allow the body to be delivered.
10. While supporting the baby's head allow the shoulders to be delivered, usually top or anterior shoulder first, then the lower or posterior shoulder second. Delivery of the shoulders is often difficult and may require gently moving the head downward to allow the anterior shoulder to deliver and then moving the head upward to allow the posterior shoulder to deliver.
11. Allow the remainder of the baby's body to deliver while carefully holding the baby's head and supporting the baby's neck.
12. If the umbilical cord is looped around the baby's neck, insert a finger below the cord and move it over the head to free the baby for delivery (sometimes the cord can be wrapped twice around the neck).
13. Once delivered, keep the baby at the level of the vagina while drying the baby with clean towels. Ensure obvious fluids are gently wiped from the baby's mouth and nose area. Do not use a bulb syringe to suction the baby unless clearly needed (e.g., BVM ventilation indicated due to gasping respirations or apnea). Drying the baby should naturally stimulate the baby to cry and initiate breathing. If child remains bluish in skin color, provide oxygen 6 L/min by "blow by" technique.

14. After about 30 seconds after birth, clamp the umbilical cord. Place umbilical clamps at 4 and 6 inches away from the baby, then cut between the clamps (for safety, use scissors, not a scalpel or knife). If the baby is depressed (i.e., flaccid, apnea/gasping respirations, persistent central cyanosis), the cord should be clamped and cut immediately to facilitate the newborn resuscitation procedure.
15. Place the dried, naked baby, skin-to-skin on the mother's abdomen to allow for breast-feeding, then wrap the baby and mother together in a warm blanket. Alternatively, wrap the baby in the baby wrap provided in the O.B. kit, then place the baby on its side with the mother.
16. If umbilical clamps are not available, place baby on mother's chest above the level of the abdomen and uterus. Instruct mother to hold baby securely during transport.
17. Allow the placenta to deliver naturally. Do not pull on the umbilical cord.
18. If the placenta delivers, package it in a bag or wrapped towel and transport with the baby to allow for examination of the placenta for potential abnormalities by the receiving physician.
19. Comfort the mother and assure her that post-delivery contractions are normal and the contractions will help decrease bleeding.
20. To aid in inducing uterine contraction and decrease bleeding after delivery of baby, firmly massage the uterus by pressing and massaging over the anterior lower abdomen.
21. Document time of delivery and condition of baby (breathing, muscle tone, color). Assess APGAR Score at 1 minute and 5 minutes from delivery (see APGAR) chart below)
22. Transport to the nearest ERC or hospital where mother's physician is on medical staff if mother and baby stable and transport time less than 20 minutes.
23. Keep baby warm and observe to assure breathing is adequate and color pink. If breathing poor, stimulate the baby by drying with towel or gently rubbing feet with hands. If secretions are in baby's mouth, roll to one side to allow drainage.

SPECIAL CIRCUMSTANCES:

Breech Presentation: (Buttocks or feet present first as opposed to head)

1. Follow the procedure for normal presentation delivery, with the exception that you **do not touch the baby until the head delivers.** Touching and stimulating the skin of a baby in breech position can induce the baby to gasp and aspirate amniotic fluid while still in the birth canal.

2. As the shoulders deliver, encourage the mother to push to deliver the head and clear the birth canal.

Depressed Neonate (Blue Baby or Non-breathing Baby):

If the baby is depressed (i.e., flaccid, apnea/gasping respirations, persistent central cyanosis), the cord should be clamped and cut immediately to facilitate the newborn resuscitation procedure, which includes the following:

1. Assure baby is dry and warm, the airway is clear, and the baby is positioned to keep the airway open.
2. Stimulate the baby by rubbing the back with a towel.
3. If stimulation fails to revive the baby, begin BVM ventilation.
4. If above steps fail and heart rate less than 60 bpm, initiate chest compressions.
5. Provide blow-by oxygen after about 5 minutes or if chest compressions are initiated.

SPECIAL CIRCUMSTANCES (continued):

Post-partum Hemorrhage:

1. If after delivery of the baby the mother continues to have vaginal bleeding, massage the uterus with gentle pressure over the lower abdomen. As the uterus contracts, it is often palpable through the abdominal wall allowing for more direct massaging of the uterus.

2. Most often, the placenta will deliver with massaging and bleeding will gradually decrease. Continue to massage the uterus over the abdomen until bleeding is minimal.

Maternal Seizure During or After Delivery:

1. Seizure of the mother during or after delivery is an extreme emergency. Protect the baby and attend to the mother's airway (suctioning if available and keeping clear and open), immediately notify the 911 dispatch center of the change in status.

APGAR SCORE:

- The Apgar Score measures a newborn's physical status.
- Each of the five categories are scored from 0-2 and then totaled. Apgar scoring is done twice: 1 minute after birth and 5 minutes after birth.
- Resuscitation, if needed, should not await Apgar scoring.

Scoring	*0*	*1*	*2*
Heart rate	Absent	Slow (below 100)	100
Respiratory Effort	Absent	Weak Cry; Hypoventilation	Strong Cry
Muscle Tone	Limp	Slight Flexion of Extremities	Active Flexion
Reflex Responses (to bulb syringe in nostril)	No response	Some Grimace	Cough or cry
Color	Blue, pale	Body pink, Extremities blue	Completely pink

A total (summed) APGAR score of the following values, 1 minute after birth, indicates:

7-10	a healthy neonate.
4-6	a potentially sick neonate.
0-3	a severely depressed neonate.

5 minutes after birth a healthy neonate APGAR score should be 7 -10; below 7 requires constant monitoring and management as described above for a depressed neonate.

ADVANCED LIFE SUPPORT (ALS) 9-1-1 UNIT MINIMUM INVENTORY

I. AUTHORITY: California Code, Title 22, Div 9,sec 100170.a.2

II. APPLICATION:
This policy describes the standardized minimum drug and equipment inventory for an advanced life support (ALS) 9-1-1 unit in Orange County. Title 8 CCR Section 5193, Bloodborne Pathogens, requires sharps injury prevention/ needleless products to be utilized when appropriate. All equipment and supplies must be latex free.

III. DEFINITIONS:

~~**FDA** means U.S. Food and Drug Administration.~~

"Optional" means equipment, supplies, or pharmaceuticals that are not required in the minimum inventory, but which ALS providers are authorized to include in unit inventories.

"**or"** means either equipment, supply, or pharmaceutical is appropriate and effective. It does not imply that both must be stocked in inventory, rather either or both can be stocked.

~~**Preferred** means recommended, but alternate listed equipment, supply, or pharmaceutical is equally effective.~~

IV. CRITERIA:
~~This policy lists the minimum OCEMS ALS Unit equipment, supplies, and drug inventory required for OCEMS Accredited ALS personnel to perform their duties under base hospital or standing orders.~~ The number or amount of each item and any addition to the inventory is at the discretion of the ALS provider and must reflect a specific unit's needs for its service area. Equipment, supplies, and drug inventory that is not part of the authorized Orange County ALS Scope of Practice is not permitted without formal approval of the Orange County EMS Agency and the California EMS Authority. Inventory for special ALS units (tactical, fireline, search and rescue) are defined ~~elsewhere~~ in other OCEMS policy.

EQUIPMENT

BAG-VALVE DEVICE WITH OXYGEN INLET AND RESERVOIR:	Adult Pediatric ~~15 mm patient connector~~
BANDAGE SCISSORS	
BACKBOARDS:	Adult, X-ray transparent. Minimum of three straps ~~(disposable straps, OPTIONAL).~~ ~~- Adult~~ ~~- (Pediatric backboard (OPTIONAL)~~
LARYNGOSCOPE:	~~Battery operated, quick-change blades~~ ~~Handles: Adult and/or pediatric, with extra batteries or recharger~~ Blades: Adult - curved/straight #3 and #4 recommended Pediatric - straight #1 and #2 (for direct laryngoscopy foreign body removal) ~~Bulbs (extra, when using bulb equipped blades)~~

~~EQUIPMENT (continued)~~

MAGILL FORCEPS:	Adult and pediatric; closed tip

ADVANCED LIFE SUPPORT (ALS) 9-1-1 UNIT MINIMUM INVENTORY

MONITOR / DEFIBRILLATOR:	Biphasic, adjustable output, defibrillator with oscilloscope (FDA approved) Defibrillator-pacer pads with functional cables and connectors ECG pads with functional cables and connectors Synchronizer: designed to deliver a synchronized defibrillating pulse, timed to avoid the T-wave of the cardiac cycle. 12-lead ECG capability with internal interpretation protocol to identify an acute myocardial infarction and ability for transmission to CVRC. Transcutaneous pacing module End-tidal CO_2 monitor with either single or continuous wave-form reading output Recorder: Must be able to produce a paper print out of high quality. Batteries/Charge Units as Main Power Source
SPHYGMOMANOMETER:	Assorted cuff sizes, including adult and pediatric ~~20 to 300 mm Hg. dial with no pin stop~~ ~~Blood pressure cuffs~~ ~~Pediatric and adult cuffs~~ ~~Thigh cuff (OPTIONAL)~~
STETHOSCOPE:	Disposable or non-disposable diaphragm type
SUCTION UNIT:	Portable, with disposable canister
TOURNIQUET:	Manufactured, FDA approved
TRACTION SPLINTS:	Lightweight, portable: adult, pediatric (BARRIER PROTECTION ACCEPTABLE)

OPTIONAL APPROVED EQUIPMENT

BREAKAWAY FLAT:	Vertically stable for full spinal immobilization
EXTRICATION SPLINT:	Horizontal flexible, vertical rigidity; stabilizes head, neck and back
BACKBOARDS:	Pediatric
RESUSCITATOR:	40 L/min maximum delivery capability, portable, lightweight, minimum 6' length hose to head, constant flow valve 0-15 L/min demand valve head
SLIDING (TRANSFER) FLAT	

SUPPLIES

Airway adapters: standard 15mm ID X 22mm OD both ends
Airway, nasopharyngeal: 4.5mm - 9.0mm or adult and pediatric sizes
Airway, oral: Adult and pediatric sizes
Alcohol wipes
Arm board: short, with rigid insert, padded (BARRIER PROTECTION ACCEPTABLE)
Arm board: long, with rigid insert, padded (BARRIER PROTECTION ACCEPTABLE)
Atomizer for nasal administration of medications ~~(OPTIONAL)~~

Bags (for trash)
Basin, emesis (BARRIER PROTECTION ACCEPTABLE)
Blanket, disposable
Burn dressing: Clean sheet or FDA approved burn covering

Cannulas, nasal oxygen: Adult and pediatric
Catheter, suction: sizes #6, #10, #14,
~~CAT tourniquet for approved Tactical Medical Units (OCEMS approved with quick release) (OPTIONAL)~~
C-Collar, ~~semi rigid: sizes: range of~~ adult and pediatric sizes or adjustable
~~Chest seal, occlusive vented, for approved Tactical Medical Units (OPTIONAL)~~
Cold packs, chemical (BARRIER PROTECTION ACCEPTABLE)

Combitubes®: Regular and Small Adult
OR
King® Airway: Sizes 3, 4, 5

CO_2 detector – End tidal CO_2 detector (colorimetric or as module integrated with defibrillator)

Dressings: Kerlix or equivalent
Gauze 4 in. x 4 in. /2 in. X 2 in.
OP site* or equivalent, approx. 2" x 3" (for IV sites)
~~Israeli medical bandage for approved Tactical Medical Units (OPTIONAL)~~

ET tube: soft cuff, assorted adult sizes ~~Assorted soft cuff (sizes 6.0, 6.5, 7.0, 7.5, and 8)~~ with stylets

Flexible intubation guide

Gloves: Assorted sizes, including clean and sterile packaged
Glucose meter with non-expired test strips

Intraosseous (IO) needles with or without introducer device ~~with mechanical drill placement device (OPTIONAL)~~
IV catheters, over needle type: assorted sizes ~~16, 20 gauge (sizes 18, 22 OPTIONAL); and 24 gauge for pediatric IVs~~
IV rate flow regulator
IV tubing: Macro drip, 15 drops/mL or 10 drops/mL with ~~IV tubing must have~~ at least two medication injection sites and ~~Recommended tubing has~~ a "Y" adapter.

~~King® Airway: Sizes 3, 4, 5~~
~~OR~~
~~Combitubes®: Regular and Small Adult~~

Lancet (for glucose determination)

Lock, saline

Masks, disposable ventilation: sizes Neonate, infant, and child
Mask, oxygen non-rebreather: adult and pediatric

Nebulizer, Acorn type, with mouth piece and mask attachments
Needle-ARS type for chest decompression OR Needle chest decompression kit
~~Needle Cricothyroidotomy kit for approved Tactical Medical Units (OPTIONAL)~~
~~Needles with catheters, IV: sizes: 18 gauge, 20 gauge (21gauge)~~
Needles for IM injection, assorted sizes: ~~21, 23 gauge (25 gauge OPTIONAL)~~
Needle (sharps) disposal unit

OB kit with Bulb syringe

Pediatric length-based resuscitation tape
Personal protective equipment (OSHA compliant masks, gowns, gloves, eye shields)
Pulse oximetry device, may be incorporated within defibrillator

Razors, disposable
Restraints: Soft

Solution, sterile; NS 1000 mL (for irrigation)
~~Stylette, malleable (for ET tubes)~~
Suction, tonsil tip; semi rigid or rigid, large bore (Yankauer suction tip)
~~SWAT-T tourniquet for approved Tactical Medical Units (OPTIONAL)~~
Syringes, assorted sizes
~~1 mL~~
~~3 mL~~
~~5 OR 6 mL~~
~~10 OR 12 mL~~
~~50 OR 60 mL (OPTIONAL)~~

Tape (paper, plastic hypoallergenic): assorted sizes and types
Tourniquets, for facilitating IV placement

Petrolium (Vaseline®) guaze

Underpads (CHUX®)/protective pads)

OPTIONAL APPROVED SUPPLIES

Band-Aids

Dressings: abdominal gauze
eye pads
Hemostatic ~~(California EMS Authority approved)~~ gauze

ET tube holders

Infant Transport Mattress, heated, consistent temperature not to exceed 42 degrees centigrade
Infusion Pump, portable, FDA Approved
IV tubing: Micro drip, 60 drops/mL

Mechanical chest compression device for CPR

One-way 'flutter' valve

Penlight/flashlight

Restraints: Hard leather restraints padded and quick release

Thermometer; temporal, otic, or oral; electronic with disposable patient contact probes, FDA Approved
Tubing, oxygen connecting

PHARMACEUTICAL ~~DRUG~~ INVENTORY

~~MEDICATION~~ PHARMACEUTICAL	PREPARATION
Adenosine	12 mg/ 4mL vial or prefilled syringe or 6 mg/2 mL vial or prefilled syringe
Albuterol (for nebulizer inhalation)	3.0 mL (2.5 mg) of a 0.083% solution
Amiodarone	50 mg/mL, vial or prefilled syringe
Aspirin, chewable	81 mg tablet individually packaged or 325 mg tablet individually packaged
Atropine	1 mg ampule, vial or prefilled syringe ~~0.4 mg/mL, 20 mL vial (OPTIONAL)~~
Dextrose 10%	250 mL sterile IV bag
Diphenhydramine (Benadryl™)	50 mg/mL, 1 mL single dose vial or carpuject
Epinephrine 0.1 mg/mL	1 mg/10 mL prefilled syringe
Epinephrine 1.0 mg/mL	1 mg/1 mL ampule, 1 mg/1 mL vial, or 30 mL vial
~~Fentanyl~~ ~~OR~~ ~~Morphine sulfate~~	~~100 mcg/2 mL vial~~ ~~10 mg/10 mL, prefilled syringe or 4 mg/ 1 mL, carpuject; or 10 mg/1 mL, 1 mL vial~~
Glucose, oral solutions	Various formulations
Glucagon	1 mg ampule with diluent
Midazolam	5 mg/1 mL vial or carpuject
Morphine sulfate (may carry or replace with optional fentanyl)	10 mg/10 mL, prefilled syringe or 4 mg/ 1 mL, carpuject; or 10 mg/1 mL, 1 mL vial
Naloxone (Narcan®)	~~0.4mg/mL or 0.5mg/mL /1 mL~~ ampule ~~or 10 mL~~ vial or ~~0.8mg/2mL or 2mg/2mL/2 mL~~ prefilled syringe or carpuject; or 4mg/0.1 mL preloaded nasal spray
Nitroglycerin	0.4 mg/metered dose spray, 0.4 mg/tabs or

	0.4 mg powder (single dose packets)
Normal saline for nebulized inhalation	10 mL prefilled syringe or vial without preservative
Normal saline	1000 mL (1 liter) or 500 mL sterile IV bag (OPTIONAL: 250 mL sterile IV bag)
Ondansetron (Zofran®)	4 mg oral dissolving tablet (ODT) or 4 mg/2 mL prefilled syringe or 4 mg/2 mL single dose vial
Sodium bicarbonate	1mEq/mL, 50 mL prefilled syringe or 44.6 mEq/50 mL prefilled syringe

OPTIONAL APPROVED PHARMACEUTICALS

PHARMACEUTICAL	PREPARATION
Albuterol metered dose inhaler	18 gram canister (200 inhalation doses) (SINGLE PATIENT USE ONLY)
Dopamine	250 mL IV bag, 10% solution
Duodote Autoinjector	Prepackaged kit containing Atropine and 2-PAM
Epi Pen Auto Injector	0.3 mg Auto injector
Epi Pen Auto Injector Junior	0.15 mg Auto injector
Fentanyl (may carry in addition to morphine)	100 mcg/2 mL vial or carpuject
Lidocaine 2% solution (for IO insertion)	100 mg / 5 mL, 5 mL prefilled syringe

Approved:

Sam J. Stratton, MD, MPH
OCEMS Medical Director

Tammi McConnell, MSN, RN
OCEMS Administrator

Original Date: 1/31/1989
Reviewed Date(s): 9/02/2014, 10/03/2014, 8/21/2015, 6/20/2016, 9/01/2016; 4/1/2017; 02/6/18
Revised Date(s): 8/21/2015, 6/20/2016, 11/1/2016; 4/1/2017; 02/6/18
Effective Date: 4/01/2018

ADVANCED LIFE SUPPORT (ALS) 9-1-1 UNIT MINIMUM INVENTORY

I. AUTHORITY: California Code, Title 22, Div 9,sec 100170.a.2

II. APPLICATION:
This policy describes the standardized minimum drug and equipment inventory for an advanced life support (ALS) 9-1-1 unit in Orange County. Title 8 CCR Section 5193, Bloodborne Pathogens, requires sharps injury prevention/ needleless products to be utilized when appropriate. All equipment and supplies must be latex free.

III. DEFINITIONS:

"Optional" means equipment, supplies, or pharmaceuticals that are not required in the minimum inventory, but which ALS providers are authorized to include in unit inventories.

"**or**" means either equipment, supply, or pharmaceutical is appropriate and effective. It does not imply that both must be stocked in inventory, rather either or both can be stocked.

IV. CRITERIA:
The number or amount of each item and any addition to the inventory is at the discretion of the ALS provider and must reflect a specific unit's needs for its service area. Equipment, supplies, and drug inventory that is not part of the authorized Orange County ALS Scope of Practice is not permitted without formal approval of the Orange County EMS Agency and the California EMS Authority. Inventory for special ALS units (tactical, fireline, search and rescue) are defined in other OCEMS policies.

V. **EQUIPMENT:**

BAG-VALVE DEVICE WITH OXYGEN INLET AND RESERVOIR: Adult and Pediatric

BANDAGE SCISSORS

BACKBOARDS: Adult, X-ray transparent. Minimum of three straps

LARYNGOSCOPE: Blades: Adult - curved/straight #3 and #4 recommended
Pediatric - straight #1 and #2 (for direct laryngoscopy foreign body removal)

MAGILL FORCEPS: Adult and Pediatric; closed tip

MONITOR / DEFIBRILLATOR:
Biphasic, adjustable output, defibrillator with oscilloscope (FDA approved)
Defibrillator-pacer pads with functional cables and connectors
ECG pads with functional cables and connectors
Synchronizer: designed to deliver a synchronized defibrillating pulse, timed to avoid the T-wave of the cardiac cycle.
12-lead ECG capability with internal interpretation protocol to identify an acute myocardial infarction and ability for transmission to CVRC.
Transcutaneous pacing module
End-tidal CO_2 monitor with either single or continuous wave-form reading output
Recorder: Must be able to produce a paper print out of high quality.
Batteries/Charge Units as Main Power Source

SPHYGMOMANOMETER:	Assorted cuff sizes, including adult and pediatric
STETHOSCOPE:	Disposable or non-disposable diaphragm type
SUCTION UNIT:	Portable, with disposable canister
TOURNIQUET:	Manufactured, FDA approved
TRACTION SPLINTS:	Lightweight, portable: adult, pediatric (BARRIER PROTECTION ACCEPTABLE)

OPTIONAL APPROVED EQUIPMENT:

BREAKAWAY FLAT:	Vertically stable for full spinal immobilization
EXTRICATION SPLINT:	Horizontal flexible, vertical rigidity; stabilizes head, neck and back
BACKBOARDS:	Pediatric
RESUSCITATOR:	40 L/min maximum delivery capability, portable, lightweight, minimum 6' length hose to head, constant flow valve 0-15 L/min demand valve head

SLIDING (TRANSFER) FLAT

VI. **SUPPLIES:**

Airway adapters: standard 15mm ID X 22mm OD both ends
Airway, nasopharyngeal: 4.5mm - 9.0mm or adult and pediatric sizes
Airway, oral: Adult and pediatric sizes
Alcohol wipes
Arm board: short, with rigid insert, padded (BARRIER PROTECTION ACCEPTABLE)
Arm board: long, with rigid insert, padded (BARRIER PROTECTION ACCEPTABLE)
Atomizer for nasal administration of medications

Bags (for trash)
Basin, emesis (BARRIER PROTECTION ACCEPTABLE)
Blanket, disposable
Burn dressing: Clean sheet or commercial burn covering sheet

Cannulas, nasal oxygen: Adult and pediatric
Catheter, suction: sizes #6, #10, #14,
Cold packs, chemical (BARRIER PROTECTION ACCEPTABLE)

Combitubes®: Regular and Small Adult
OR
King® Airway: Sizes 3, 4, 5

Dressings: Kerlix or equivalent
Gauze 4 in. x 4 in. /2 in. X 2 in.
OP site* or equivalent, approx. 2" x 3" (for IV sites)

ET tubes: soft cuff, assorted adult sizes with stylets

Flexible intubation guide

Gloves: Assorted sizes, including clean and sterile packaged
Glucose meter with non-expired test strips

Intraosseous (IO) needles with or without introducer device
IV catheters, over needle type: assorted sizes
IV rate flow regulator
IV tubing: Macro drip, 15 drops/mL or 10 drops/mL with two medication injection sites and a "Y" adapter.

Lancet (for glucose determination)
Lock, saline

Masks, disposable ventilation: sizes Neonate, infant, and child
Mask, oxygen non-rebreather: adult and pediatric

Nebulizer, Acorn type, with mouth piece and mask attachments
Needle-ARS type for chest decompression OR Needle chest decompression kit
Needles for IM injection, assorted sizes
Needle (sharps) disposal unit

OB kit with Bulb syringe

Pediatric length-based resuscitation tape
Personal protective equipment (OSHA compliant masks, gowns, gloves, eye shields)
Pulse oximetry device, may be incorporated within defibrillator

Razors, disposable
Restraints: Soft

Solution, sterile; NS 1000 mL (for irrigation)
Suction, tonsil tip; semi rigid or rigid, large bore (Yankauer suction tip)
Syringes, assorted sizes

Tape (paper, plastic hypoallergenic): assorted sizes and types
Tourniquets, for facilitating IV placement

Petroleum (Vaseline®) gauze

Underpads (CHUX®)/protective pads)

OPTIONAL APPROVED SUPPLIES:

Band-Aids

CO_2 detector – End tidal CO_2 detector attachable to endotracheal tube (colorimetric)

Dressings: Abdominal gauze
Eye pads
Hemostatic gauze

ET tube holders

Infant Transport Mattress, heated, consistent temperature not to exceed 42 degrees centigrade
Infusion Pump, portable, FDA Approved
IV tubing: Micro drip, 60 drops/mL

Mechanical chest compression device for CPR

One-way 'flutter' valve

Penlight/flashlight

Restraints: Hard leather restraints padded and quick release

Thermometer; temporal, otic, or oral; electronic with disposable patient contact probes
Tubing, oxygen connecting

VII. **PHARMACEUTICAL INVENTORY:**

PHARMACEUTICAL	PREPARATION
Adenosine	12 mg/ 4mL vial or prefilled syringe or 6 mg/2 mL vial or prefilled syringe
Albuterol (for nebulizer inhalation)	3.0 mL (2.5 mg) of a 0.083% solution
Amiodarone	50 mg/mL, vial or prefilled syringe
Aspirin, chewable	81 mg tablet individually packaged or 325 mg tablet individually packaged
Atropine	1 mg ampule, vial or prefilled syringe
Dextrose 10%	250 mL IV bag, 10% solution
Diphenhydramine (Benadryl™)	50 mg/mL, 1 mL single dose vial or carpuject
Epinephrine 0.1 mg/mL	1 mg/10 mL prefilled syringe
Epinephrine 1.0 mg/mL	1 mg/1 mL ampule, 1 mg/1 mL vial, or 30 mL vial
Glucose, oral solutions	Various formulations
Glucagon	1 mg ampule with diluent
Midazolam	5 mg/1 mL vial or carpuject
Morphine sulfate (may carry or replace with optional fentanyl)	10 mg/10 mL, prefilled syringe or 4 mg/ 1 mL, carpuject; or 10 mg/1 mL, 1 mL vial
Naloxone (Narcan®)	Various IV/IM formulations ampules, vials, prefilled syringe,or carpujects; or 4mg/0.1 mL preloaded nasal spray

Nitroglycerin	0.4 mg/metered dose spray, 0.4 mg/tabs or 0.4 mg powder (single dose packets)
Normal saline for nebulized inhalation	10 mL prefilled syringe or vial without preservative
Normal saline	1000 mL or 500 mL or 250 mL sterile IV bag
Ondansetron (Zofran®)	4 mg oral dissolving tablet (ODT) or 4 mg/2 mL prefilled syringe or 4 mg/2 mL single dose vial
Sodium bicarbonate	1mEq/mL, 50 mL prefilled syringe or 44.6 mEq/50 mL prefilled syringe

OPTIONAL APPROVED PHARMACEUTICALS

PHARMACEUTICAL	PREPARATION
Albuterol metered dose inhaler	18 gram canister (200 inhalation doses) (SINGLE PATIENT USE ONLY)
Atropine	0.4 mg/mL, 20 mL vial
Dopamine	400 mg/10 mL, 10 mL prefilled syringe/or 400 mg/5 mL vial; or 400 mg/250 mL D5W premixed bag
Duodote Autoinjector	Prepackaged kit containing Atropine and 2-PAM
Epi Pen Auto Injector	0.3 mg Auto injector
Epi Pen Auto Injector Junior	0.15 mg Auto injector
Fentanyl (may carry in addition to morphine or as primary opioid in place of morphine)	100 mcg/2 mL vial or carpuject
Lidocaine 2% solution (for IO insertion)	100 mg / 5 mL, 5 mL prefilled syringe

Approved:

Sam J. Stratton, MD, MPH
OCEMS Medical Director

Tammi McConnell, MSN, RN
OCEMS Administrator

Original Date: 1/31/1989
Reviewed Date(s): 9/02/2014, 10/03/2014, 8/21/2015, 6/20/2016, 9/01/2016; 4/1/2017; 02/6/18
Revised Date(s): 8/21/2015, 6/20/2016, 11/1/2016; 4/1/2017; 02/6/18
Effective Date: 4/01/2018

INDICATIONS:

- Use of a tourniquet is appropriate when hemorrhage from a wound of an upper or lower extremity cannot be controlled by applying direct pressure to the bleeding site.

CONTRAINDICATIONS:

- None.

EQUIPMENT:

- A tourniquet device.
- Personal protective equipment, dressings and bandages.

PROCEDURE:

- Use personal protective equipment (PPE) appropriate for potential blood exposure.
- Visually inspect injured extremity and avoid placement of a tourniquet over joint, angulated or open fracture, stab or gunshot wound sites.
- Assess and document circulation, motor and sensation distal to injury site.
- Apply tourniquet proximal to wound (usually 2-4 inches).
- Tighten tourniquet as required to stop bleeding.
- Cover wound with an appropriate sterile dressing and/or bandage.
- Do not cover tourniquet (keep tourniquet visible).
- Ensure EMS response team or receiving facility staff are aware of tourniquet placement and time tourniquet placed.

DOCUMENTATION:

- Vital signs, assessment of circulation, motor, and sensation distal to injury site before tourniquet application.
- Time tourniquet is applied.

NOTES:

- Advanced Life Support (ALS) level response is required when a tourniquet is placed.
- During multi-casualty incidents, consider a patient requiring a tourniquet to have a (**P**) perfusion problem and categorize as START category "Immediate" (Red) to facilitate treatment and minimize tourniquet time.