

State of Hawaii
Department of Health

MOBILE INTENSIVE CARE TECHNICIAN

ADULT & PEDIATRIC STANDING ORDERS



September 2013

Emergency Medical Services
&
Injury Prevention System Branch



NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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Standing Orders Policy for Mobile Intensive Care Technicians

Adult & Pediatric Patients

September 2013

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Approved Medication List

Acetaminophen Elixir	Glucagon
Activated Charcoal	Glucose, oral preparation
Adenosine	Glucose, intravenous
Albuterol Inhaler	Ipratropium
Albuterol Sulfate	Lidocaine 1%
Amiodarone	Lidocaine 20%
Aspirin	Lorazepam
Atropine	Morphine Sulfate
Diphenhydramine	Magnesium Sulfate
Calcium Chloride	Methylprednisolone
Dextrose 50%	Midazolam
Diazepam	Naloxone
Dopamine	Nitroglycerine
Epinephrine 1:1,000	Norepinephrine
Epinephrine 1:10,000	Ondansetron
Etomidate	Oxytocin
Fentanyl	Sodium Bicarbonate
Furosemide	Succinylcholine

If available:

Atropine Auto-Injector

Sodium Thiosulfate

Valium Auto-Injector

2-PAM Chloride Auto-Injector

List of Abbreviations

AV.....atrioventricular (block)	<u>UNITS OF MEASURE</u>
BP.....blood pressure	bpmbeats per minute
CHF.....congestive heart failure	cccubic centimeter
CPAP.....continuous positive airway pressure	g.....gram
CPR.....cardiopulmonary resuscitation	g/kggram per kilogram
ECG.....electrocardiogram	mcg.....microgram
EMTEmergency Medical Technician	mcg/kg.....microgram per kilogram
ET.....endotracheal tube	mEq/kgmilliequivalents per kilogram
IM.....intramuscular	mgmilligram
INintranasal	mg/dlmilligram per deciliter
IOintraosseous	mg/kgmilligram per kilogram
IVintravenous	mg/mlmilligram per milliliter
MI.....myocardial infarction	mlmilliliter
MICT.....Mobile Intensive Care Technician	ml/kgmilliliter per kilogram
PATI.....paralytic-assisted tracheal intubation	mmmillimeter
PEA.....pulseless electrical activity	xxmm Hgmillimeters of mercury
POby mouth	
PVAD.....pre-existing vascular access device	
TKOto keep open	
VFventricular fibrillation	
VTventricular tachycardia	

MOBILE INTENSIVE CARE TECHNICIAN ADULT AND PEDIATRIC STANDING ORDERS

GENERAL GUIDELINES

These Standing Orders shall allow Mobile Intensive Care Technicians (MICTs) to perform time-sensitive procedures and treatments prior to communication with the Base Station Physician. MICTs may, at their discretion, because of how ill a patient appears or because of mechanisms of injury, administer oxygen, apply continuous cardiac monitoring, and establish prophylactic IV access with Saline lock or IV solution at “to keep open” (TKO) rate even if the circumstances are not covered in the following specific Standing Orders.

The MICT should usually perform Standing Orders before communicating with the Base Station Physician. However, the MICT may communicate prior to following Standing Orders should he/she feel it is needed.

Whenever the Standing Orders are used for a patient, a history and physical examination must be done which shall include medications, history of allergies to medications, and past medical history. The history should include the events leading up to the incident and include the physical environment as it applies or contributed to the patient’s condition. The chart should document all findings pertinent to the clinical impression that led to the use of Standing Orders. Any use of Standing Orders shall be followed by communication with the Base Station receiving the patient.

Emergency Medical Technicians (EMTs) can initiate intravenous lines and perform manual external defibrillation under the direction and personal supervision of an MICT if the EMT has completed a State-approved IV/Defibrillation course of training.

STANDING ORDERS – ADULT

A-1 AGITATION, SEVERE

For a patient so agitated and uncontrollable that they pose a danger to themselves or others.

Contact police as needed to assist with restraining the patient safely.

Do blood glucose test. If blood glucose is less than 70 mg/dl, follow HYPOGLYCEMIA/INSULIN REACTION Standing Order A-12.

Provide initial sedation with Midazolam 10 mg intranasal (IN). You must use Midazolam 5 mg/ml concentration when administering by the intranasal route. Administer half the total dose in each nostril using a mucosal atomizer device. If needed, this dose of Midazolam may be repeated once after 15 minutes.

Establish IV Normal Saline, place on cardiac monitor, and place on pulse oximeter when this becomes possible.

If needed, administer Midazolam 2 mg IV and repeat every two minutes up to a maximum of three doses (6 mg total IV dose, in addition to any intranasal Midazolam given). Call for further orders if additional sedation is still needed.

Be prepared to support airway. If oxygen is less than 94% by pulse oximetry, reposition airway and administer oxygen 10-15 liters/minute by mask or by assisted bag-valve-mask ventilation. If still unable to maintain oxygen level of 90% or more, proceed to ARREST, RESPIRATORY Standing Order A-4.

If Midazolam for IV use is unavailable, substitute with one of the following:

1. Diazepam 5 mg IV for an initial dose. Repeat every two minutes up to a maximum of three doses (15 mg total IV dose). Call for further orders if additional sedation is still needed.

OR

2. Lorazepam 2 mg IV for an initial dose. Repeat every two minutes up to a maximum of three doses (6 mg total IV dose). Call for further orders if additional sedation is still needed.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-2 ALLERGIC REACTION, SEVERE

Allergic Reaction without Shock:

Administer oxygen at 10-15 liters/minute by mask.

Administer Epinephrine 1:1,000 0.3 mg IM.

Establish IV Normal Saline give 300 ml rapid infusion.

Administer Diphenhydramine 25 mg IV. Repeat if needed in 10 minutes. If no IV available give 50 mg IM.

In case of severe, generalized reaction give Methylprednisolone 125 mg IV.

In case of wheezing or respiratory distress give aerosolized Albuterol 5 mg.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

Allergic Reaction with Shock:

Administer oxygen at 10-15 liters by mask.

Administer Epinephrine 1:1,000 0.3 mg IM

Establish IV or IO, give Normal Saline 300 ml rapid infusion.

If still in shock follow SHOCK-HYPOVOLEMIA Standing Order A-20.

If still in shock give Epinephrine 1:10,000 IV or IO at 0.1 mg increments titrated up to 0.5 mg.

Give Diphenhydramine 50 mg IV or IO.

Give Methylprednisolone 125 mg IV or IO.

In case of wheezing or respiratory distress give aerosolized Albuterol 5 mg.

If no IV or IO access available:

1. Repeat Epinephrine 1:1,000 0.3 mg IM 5 minutes after 1st dose if still in shock.
2. Administer Diphenhydramine 50 mg IM.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-3 ARREST, CARDIAC

Initiate chest compressions and administer oxygen by assisted bag-valve mask ventilation as soon as possible. Assure effective chest compressions with minimal interruption and assisted ventilation throughout incident until the return of normal spontaneous pulse and/or respiration, or until resuscitation effort is terminated.

Check cardiac monitor rhythm by attaching electrodes or by performing a “Quick Look” using defibrillation paddles.

If rhythm is ventricular fibrillation and arrest is NOT witnessed by EMS, perform chest compressions for 5 cycles (about 2 minutes) prior to first defibrillation. If witnessed by EMS or, if effective chest compressions have already been performed for 2 minutes or longer, prepare for immediate defibrillation.

FOLLOW APPROPRIATE STANDING ORDER

In the event of a cardiopulmonary arrest where an IV or IO access cannot be obtained and the patient has a pre-existing vascular access device (PVAD), the MICT may utilize the PVAD if he/she has received EMS provider training on accessing the device.

STANDING ORDERS – ADULT

A-3.a ARREST, CARDIAC - ASYSTOLE

Establish IV or IO Normal Saline at TKO rate.

Epinephrine 1:10,000 1 mg IV or IO push. Repeat every 3-5 minutes until return of pulse or resuscitation is terminated.

Secure airway with tracheal tube or placement of supraglottic airway.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

If no return of pulse or cardiac rhythm on monitor after completion of Standing Orders and twenty (20) minutes of attempted resuscitation, the MICT may discontinue cardiopulmonary resuscitation and notify Police and appropriate county agencies of unattended death.

STANDING ORDERS – ADULT

A-3.b ARREST, CARDIAC - PULSELESS ELECTRICAL ACTIVITY

Establish IV or IO Normal Saline with rapid infusion 300 ml (if no evidence of congestive heart failure).

Epinephrine 1:10,000 1 mg IV or IO push. Repeat every 3-5 minutes until return of pulse or resuscitation is terminated.

Reassess ET tube placement or secure airway with tracheal tube or placement of supraglottic airway.

Check for tension pneumothorax and other causes of Pulseless Electrical Activity.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-3.c ARREST, CARDIAC – IN RENAL DIALYSIS PATIENT

Because a renal dialysis patient in cardiac arrest (of any type) can have profound hyperkalemia, administer these medications as soon as the IV is established. These medications are in addition to any other Standing Orders applicable. This order should be carried out whether or not the patient has had recent dialysis.

1. Calcium Chloride 1 g IV or IO push.
2. Flush IV line thoroughly.*
3. Sodium Bicarbonate 1 mEq/kg IV or IO push.

If no change, flush IV line thoroughly and repeat steps 1, 2, and 3 once.

CONTINUE CARDIAC ARREST STANDING ORDERS

* **Note:** Calcium Chloride can precipitate in the presence of Sodium Bicarbonate.

STANDING ORDERS – ADULT

A-3.d ARREST, CARDIAC – VENTRICULAR FIBRILLATION (VF) OR PULSELESS VENTRICULAR TACHYCARDIA (VT)

Defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level.

Resume chest compressions for 2 minutes (5 cycles). Concomitantly establish IV or IO Normal Saline at TKO rate, and secure airway with tracheal tube or placement of supraglottic airway.

Check pulse and cardiac monitor. Minimize interruption in chest compressions whenever checking pulse and monitor.

If still in VF/VT, give Epinephrine 1:10,000 1 mg IV or IO push. Repeat every 3-5 minutes as long as VF/VT persists. In case of ventricular tachycardia consistent with torsade de pointes, give Magnesium 2 g IV or IO as first drug instead of Epinephrine, then resume this Standing Order at the top of the page.

Defibrillate at 360 joules if monophasic defibrillator; if biphasic defibrillator, use device-specific recommendation for energy level for second shock.

Resume chest compressions for 2 minutes (5 cycles). Check pulse and cardiac monitor.

If still in VF/VT, give Amiodarone 300 mg IV or IO push followed by 10 ml Normal Saline flush.

Defibrillate at 360 joules if monophasic defibrillator; if biphasic defibrillator, use device-specific recommendation for energy level for third and all subsequent shocks.

Resume chest compressions for 2 minutes (5 cycles). Check pulse and cardiac monitor.

If still in VF/VT, give second Amiodarone 150 mg IV or IO push followed by 10 ml Normal Saline flush.

Defibrillate at 360 joules if monophasic defibrillator; if biphasic defibrillator, use device-specific recommendation for energy level for shock.

Resume chest compressions for 2 minutes (5 cycles). Check pulse and cardiac monitor.

If still in VF/VT, give Lidocaine 1.5 mg/kg IV or IO.

STANDING ORDERS – ADULT

***Continued:* ARREST, CARDIAC–VENTRICULAR FIBRILLATION (VF) OR PULSELESS VENTRICULAR TACHYCARDIA (VT)**

Defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level for shock.

Resume chest compressions for 2 minutes (5 cycles). Check pulse and cardiac monitor.

If conversion occurs following Amiodarone, begin an Amiodarone drip with 150 mg mixed into 100 ml of Normal Saline and run over a 10-minute period (15 mg/min). If conversion occurs following Lidocaine, begin a Lidocaine drip by administering 1-2 mg/min.

If still no successful conversion and still in VF/VT, defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level for shock.

Check pulse and cardiac monitor.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-4 ARREST, RESPIRATORY

This Standing Order applies in case of either actual arrest or impending respiratory arrest as evidenced by inability to maintain oxygen saturation of at least 90%.

Where pulse exists:

Provide rescue breathing by assisted bag-valve mask ventilation with oxygen. If patient continues to deteriorate perform tracheal intubation.

Perform tracheal or nasotracheal intubation. If unable to intubate successfully, perform the following alternatives until successful oxygenation is achieved:

1. Continue assisted ventilations with oxygen by bag-valve mask;
2. Secure airway with supraglottic airway as an alternative device; or
3. Perform PARALYTIC-ASSISTED TRACHEAL INTUBATION Standing Order A-13.

Cricothyrotomy should be performed for inability to **oxygenate** a patient by above means due to facial trauma or persistent airway obstruction unresolved after positioning, suctioning, Heimlich maneuvers and other appropriate interventions. Note that oxygenation may be possible with minimal ventilation

Establish IV with Normal Saline at TKO rate if not already performed.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-5 BRADYCARDIA, SYMPTOMATIC

Sinus Bradycardia, Junctional Rhythm, Idioventricular Rhythm, Atrial Fibrillation with Slow Ventricular Response, Mobitz I, Mobitz II, Complete Heart Block, all with ventricular rate less than 60 beats per minute, with the patient having systolic BP <90mm Hg and one or more of these symptoms/signs: chest pain, shortness of breath, skin cool, pale or diaphoretic.

Administer oxygen at 10-15 liters/minute by mask.

Apply pacemaker pads.

Establish IV Normal Saline.

Turn on external pacemaker. (If the patient is unstable and IV access cannot be achieved or is delayed, turn on external pacemaker and assure capture.)

If systolic BP is <90mm Hg and the patient is still symptomatic:

- Give 300 ml bolus Normal Saline IV (if no evidence of congestive heart failure).
- Give Atropine 0.5 mg IV (may repeat Atropine 0.5 mg every 3-5 minutes to total dose of 3 mg).

If systolic BP is still <90mm Hg and the patient is still symptomatic after the second dose of Atropine, begin Dopamine drip 5 mcg/kg per minute and increase gradually up to 20 mcg/kg per minute to maintain BP of 100-110mm Hg systolic

NOTE: Communicate with the Base Station Physician as soon as possible for sedation if the patient is uncomfortable with the pacing.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-6 BRONCHOSPASM

Administer oxygen 10-15 liters/minute by mask or by assisted bag-valve mask ventilation.

Inhalation updraft aerosol treatment with Albuterol 5 mg.

If insufficient response, give 2nd inhalation updraft aerosol treatment with Albuterol 5 mg and add Ipratropium 0.5 mg to the updraft. If no response to first Albuterol treatment in the setting of patient history of CHF, or if pulmonary edema is suspected, do not repeat Albuterol see PULMONARY EDEMA/CONGESTIVE HEART FAILURE Standing Order A-18.

If inadequate response after second Albuterol treatment give Methylprednisolone 125 mg IV.

If still needed, give 3rd inhalation updraft aerosol treatment with Albuterol 5 mg.

If a patient with severe bronchospasm requires intubation and is very hard to ventilate because of severe bronchospasm, give 10 cc of 1:10,000 Epinephrine down the endotracheal tube to reduce the bronchospasm.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-7 BURN

For any burned person who is conscious and in considerable pain.

If there is no indication for intubation, administer oxygen at 2-4 liters/minute by nasal cannula or 10-15 liters/minute by non-rebreather mask. Monitor by pulse oximetry to keep oxygen saturation greater than 90%.

Establish IV with Normal Saline. If the burn is second or third degree and involves more than 15% of the patient's total body surface area, administer a 500 ml Normal Saline fluid bolus.

If systolic BP > 100mm Hg, give Morphine Sulfate 2 mg IV or Fentanyl 50 mcg IV.

May repeat Morphine Sulfate 2 mg IV every 3 minutes until pain is relieved, systolic pressure drops below 100mm Hg, or a total of 10 mg has been given.

OR

May repeat Fentanyl 50 mcg every 3 minutes until pain is relieved, systolic pressure drops below 100mm Hg, or a total of 150 mcg has been given.

If the patient develops respiratory depression or difficulty after administration of pain medication, give Naloxone 0.5 mg IV and repeat as needed up to a total dose of 2.0 mg. If the IV has been lost, administer Naloxone 2 mg intranasal (IN). Must use 1 mg/ml concentration when giving Naloxone IN.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-8 CHEST PAIN

For ongoing or recent chest discomfort suggestive of myocardial ischemia:

Administer oxygen at 2-4 liters/minute by nasal cannula or use 10-15 liters/minute by mask if otherwise unable to maintain pulse oximetry of 94% or higher.

Obtain 12-lead ECG. If ST elevations are present, notify receiving hospital as soon as possible.

If pain persists and if BP > 100mm Hg systolic and there is no contraindication, administer Nitroglycerine 0.4 mg (1/150 grain) oral spray or tablet. Contraindications include the use of drugs for erectile dysfunction and evidence of right ventricular infarction such as inferior MI with hypotension. May repeat every 5 minutes if BP remains >100mm Hg systolic.

Whether pain persists or has resolved, administer Aspirin 162 mg orally if the patient has no history of allergic reaction to Aspirin. If the patient has a recent history of gastrointestinal bleeding contact the Base Station Physician before administering the Aspirin.

Establish IV with Normal Saline at TKO rate.

If chest pain is unrelieved by 3 doses of nitroglycerine, communicate for additional orders.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-9 CYANIDE EXPOSURE

For MICTs/EMTs or public safety responders determined to have a high likelihood of significant cyanide exposure.

Administer oxygen at 10-15 liters/minute by mask or assisted assisted bag-valve mask ventilation.

Apply cardiac monitor.

Establish IV Normal Saline at TKO rate.

If available: Administer Sodium Thiosulfate 12.5 g (50 ml) IV, over 10 minutes.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-10 DYSPNEA/NEAR DROWNING

Administer oxygen 10-15 liters/minute by mask or by assisted bag-valve mask ventilation.

If pulmonary edema or congestive heart failure is suspected, follow PULMONARY EDEMA/CONGESTIVE HEART FAILURE Standing Order A-18.

Apply Continuous Positive Airway Pressure device (CPAP) in patients with suspected near-drowning if all of the following conditions A-D below are present and there are no contraindications:

1. The patient is awake and able to follow commands
2. You are able to fit the CPAP mask to the patient
3. The patient is able to maintain an open airway
4. The patient exhibits two or more of the following:
 - a. Respiratory rate greater than 25 breaths per minute
 - b. Oxygen saturation of less than 94% while on oxygen
 - c. Accessory muscles are used during respiration
 - d. Rales audible to auscultation are present

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-11 FRACTURE, ISOLATED EXTREMITY

For painful extremity injury with high probability of fracture or dislocation in person who is otherwise not significantly ill or injured.

Administer oxygen at 2-4 liters/minute by nasal cannula or 10-15 liters/minute by mask.

Establish IV with Normal Saline at TKO rate.

If systolic BP > 100mm Hg, give Morphine Sulfate 2 mg IV or Fentanyl 50 mcg IV.

May repeat Morphine Sulfate 2 mg IV every 3 minutes until pain is relieved, systolic pressure drops below 100mm Hg, or a total of 10 mg has been given.

OR

May repeat Fentanyl 50mcg every 3 minutes until pain is relieved, systolic pressure drops below 100mm Hg or a total of 150 mcg has been given.

If the patient develops respiratory depression or difficulty after administration of pain medication, give Naloxone 0.5 mg IV and repeat as needed up to a total dose of 2.0 mg. If the IV has been lost, administer Naloxone 2 mg intranasal (IN). Must use 1 mg/ml concentration when giving Naloxone IN.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-12 HYPOGLYCEMIA/INSULIN REACTION

Check blood glucose.

If blood glucose reading <70 mg/dl perform the following steps:

1. Draw blood sample for glucose measurement.
2. If patient is alert and able to swallow and maintain their airway, administer oral glucose preparation approximately 50 g PO.* Go to step 5 below.
3. If patient is not alert or is not able to swallow and maintain their airway, start IV with Normal Saline at TKO rate and give glucose 25 g IV.**
4. If unable to start IV, give Glucagon 2 mg IM.
5. Recheck blood glucose.

*Oral glucose preparations are commonly available ranging from 48 g to 62 g as a single unit dose or as multiple doses.

**If D50W is unavailable, D10W or D5W may be used to administer glucose. The 25 g dose for D10W requires 250 mL; and D5W requires 500 mL. These dilute Dextrose solutions should be titrated to clinical improvement to minimize fluid overload.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

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STANDING ORDERS – ADULT

A-13 INTUBATION, PARALYTIC-ASSISTED TRACHEAL

INDICATION:

Inability to maintain oxygen saturation greater than 90% by any other more conservative intervention.

PREPARATION:

1. Assure suction is available and set up.
2. Establish and secure an IV or an IO.
3. Place cardiac monitor and pulse oximeter on patient.
4. Prepare to initiate capnography.
5. Ready intubation equipment and supplies.
6. Setup alternate airway adjuncts:
 - a. Supraglottic airway
 - b. Bag-Valve-Mask (if maxilla and mandible stable)
 - c. Cricothyrotomy device
7. Restrain as appropriate

MEDICATION PROTOCOL:

If intravascular access by IV or IO is available, perform these steps in order:

- 2:30 min Preoxygenate.
- 1:30 min Administer one of the following two choices for sedation:
 1. Etomidate 0.3 mg/kg up to a maximum dose of 30 mg IV or IOOR
 2. If Etomidate is not available, give Midazolam 0.1 mg/kg up to maximum single dose of 10 mg IV or IO. You may repeat the Midazolam 0.1 mg/kg IV or IO if it is needed to a maximum total dose of 0.3 mg/kg.Support ventilation to the extent needed after giving sedation.
Administer Fentanyl 3 mcg/kg IV in addition to sedation above if severe head injury is suspected, or if additional sedation is needed.
- 0:45 min Succinylcholine IV or IO (1.5 mg/kg, up to a maximum of 200 mg)
Apply backward, upward, rightward pressure to larynx to facilitate intubation.
- 0:00 min Intubate and assess ET tube placement.
- +0:30 min Secure ET tube position and reassess tube placement.
- +1:30 min Administer additional Midazolam, or add Midazolam after Etomidate, as needed for continued patient sedation up to a total of 0.3 mg/kg.

If unable to establish IV or IO, give Midazolam intranasal (IN), 0.2 mg/kg up to a maximum of 10 mg IN in a single dose, and give Succinylcholine 3 mg/kg intramuscularly. You must use Midazolam 5 mg/ml concentration when administering by the IN route. Perform intubation when the patient becomes relaxed. The same dose of IN Midazolam may be repeated after 5 minutes as needed for patient sedation.

STANDING ORDERS – ADULT

***Continued:* INTUBATION, PARALYTIC-ASSISTED TRACHEAL**

Any sedation should be administered by slow IV push.

If relaxation is inadequate to allow intubation, after 1-2 minutes recheck IV quality, then repeat same dose of Succinylcholine and re-attempt tracheal intubation.

If unable to intubate the paralyzed patient, insert supraglottic airway.

If unable to insert supraglottic airway, use bag-valve mask assisted ventilation with maximal attention to technique.

If unable to **maintain oxygen saturation greater than 90%** with above measures, perform cricothyrotomy. Note that oxygenation may be possible with minimal ventilation

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

IMPORTANT:

The proper sequential administration of the PATI medications is critical to the success of this procedure and the care of the patient. If Succinylcholine is needed to enable tracheal intubation, then sedation with Etomidate or Midazolam should also be provided.

STANDING ORDERS – ADULT

A-14 MENTAL STATUS, ALTERED

Check respiratory status and oxygen saturation.

Check blood glucose, if less than 70 mg/dl treat as directed in HYPOGLYCEMIA/INSULIN REACTION Standing Order A-12.

If blood glucose greater than or equal to 70 mg/dl and O₂ saturation less than 94% on supplemental oxygen:

1. Administer Naloxone 2 mg intranasal (IN). Must use 1 mg/ml concentration when giving Naloxone IN.

OR

2. Administer Naloxone IV in increments of 0.5 mg until respiratory status is improved, or until a total dose of 2 mg has been given.

If not improved and no IV, give Naloxone 2 mg IM.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-15 NERVE AGENT EXPOSURE

In the event of a known or suspected exposure to nerve agents (signs of pinpoint pupils, runny nose, shortness of breath) in EMS personnel or other public safety responders

If available: Immediately administer Auto-Injector Atropine 2 mg.

If available: Administer Auto-Injector 2-PAM Chloride 600 mg.

If signs of exposure persist or reoccur: Repeat above Auto-Injection treatment up to 3 doses of each.

In case of focal or generalized seizure or muscle fasciculation:

If available: Immediately administer Auto-Injector Diazepam 10 mg.

May repeat Diazepam 10 mg x 2 for a total of 30 mg for continued seizures.

Support airway and ventilation as needed.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-16 PNEUMOTHORAX, TENSION

Suspect tension pneumothorax in the patient who has decreased breath sounds unilaterally or throughout the lungs and persistent hypoxia with poor lung compliance. Particularly at risk are patients with severe blunt trauma or penetrating trauma to the chest or abdomen who are receiving positive pressure ventilation. Note that additional signs of tension pneumothorax such as tracheal deviation and subcutaneous emphysema may be absent.

Rule out improper endotracheal tube place or equipment failure

Perform needle thoracostomy to evacuate the suspected tension pneumothorax if the oxygen saturation cannot be maintained above 90% and there is either BP < 80mm Hg systolic (impending cardiac arrest) or PEA.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-17 PREGNANCY WITH ACTIVE LABOR/IMPENDING NEWBORN DELIVERY

Administer oxygen 10-15 liters/min via mask to mother, and start IV Normal Saline at TKO rate.

Prepare for delivery of newborn

Check for prolapsed cord. If present, do the following:

1. Instruct mother not to push.
2. Position mother in knee-chest position.
3. Use gloved fingers to lift presenting part and relieve compression of cord.

For any complications (such as prolapsed cord, breech, shoulder dystocia, etc.), **COMMUNICATE** with Base Station Physician (on Oahu contact Base Station Physician at Kapiolani Medical Center for Women and Children). Stress presence of complicating factor.

If labor progresses to delivery, control head to assist mother. Feel for cord wrapped around neck and, if present, lift it gently over the head. If cord is too tight to lift over the head, double clamp cord and cut it between the clamps.

After delivery, continue care as follows:

Mother:

1. Apply firm, rubbing pressure to uterus in lower abdomen.
2. Add Oxytocin 20 units to 1 liter Normal Saline and run wide open until bleeding is controlled or until 1 liter is infused.
3. If excessive hemorrhage or shock, follow **SHOCK, HYPOVOLEMIC** Standing Order A-20.

Baby:

1. Follow **NEWBORN RESUSCITATION** Standing Order P-9.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-18 PULMONARY EDEMA/CONGESTIVE HEART FAILURE

For patient with dyspnea and rales present in both lungs, with absence of fever.

Administer oxygen 10-15 liters/minute by mask

If BP greater than 100mm Hg systolic and no contraindications (for contraindications see CHEST PAIN Standing Order A-8) administer Nitroglycerine 0.4 mg (1/150 grain) aerosol spray or tablet. May repeat every 5 minutes up to a total of 5 doses if BP remains greater than or equal to 100mm Hg systolic.

Apply CPAP if all of the following conditions are present and there are no contraindications:

1. The BP is greater than 90mm Hg systolic without Dopamine.
2. The patient is awake and able to follow commands.
3. You are able to fit the CPAP mask to the patient.
4. The patient is able to maintain an open airway.

Establish IV at TKO rate.

If BP < 90mm Hg systolic, give Dopamine 5 - 20 micrograms/kg per minute via automatic IV infusion pump, adjusted to maintain BP of 100 – 110mm Hg.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-19 SEIZURE, STATUS EPILEPTICUS

(Continuous generalized seizures or repeated seizures without return to consciousness)

Administer oxygen 10-15 liters/minute by mask or assisted bag-valve mask ventilation.

Do blood glucose test and follow HYPOGLYCEMIA/INSULIN REACTION Standing Order A-12.

If seizure has lasted more than 5 minutes since it began, administer Midazolam 10 mg intranasal (IN) or intramuscular (IM). You must use Midazolam 5 mg/ml concentration when administering by the intranasal route. Administer half the total dose in each nostril using a mucosal atomizer device. If Midazolam is not available, go directly to the next paragraph to start the IV and give Diazepam IV without any delay.

If seizure activity does not stop in 2 minutes, establish IV with Normal Saline at TKO rate. Administer Diazepam 5 mg slow IV push. This dose of IV Diazepam may be repeated once if seizure activity does not stop after an additional 2 minutes. If seizure continues more than 5 minutes after the 2nd Diazepam IV dose, call for further orders. Monitor oxygenation and be prepared to support airway.

If Diazepam for IV use is unavailable, substitute with one of the following:

1. Lorazepam 2 mg IV for an initial dose. If seizure activity does not stop in 2 minutes, repeat once. If seizure continues more than 5 minutes after the 2nd Lorazepam dose, call for further orders.

OR

2. Midazolam 2 mg IV for an initial dose. If seizure activity does not stop in 2 minutes, repeat once. If seizure continues more than 5 minutes after the 2nd Midazolam dose, call for further orders.

Monitor respiratory status and support as needed. Avoid intubation if pulse oximetry can be maintained above 90% with supplemental oxygen.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-20 SHOCK, HYPOVOLEMIC

For systolic BP < 90mm Hg which is considered to be secondary to hypovolemia:

Administer oxygen at 10-15 liters/minute by mask.

Establish IV with Normal Saline and infuse at a rapid rate.

If unable to start any IV within 2 minutes, you may choose to obtain vascular access by intraosseous means.

Do not delay transport. Establish second vascular access with Normal Saline en route. For patients with suspected hypovolemia without hemorrhage, infuse saline at a rapid rate until the BP is at least 90mm Hg systolic. If BP does not improve, check for signs of cardiogenic or obstructive shock such as neck vein distension and if present, drop infusion rate to TKO.

For patients with hemorrhagic shock a lower BP may be acceptable as excessive fluid administration can lead to increased hemorrhage. Administer fluid in 200 ml boluses until systolic BP reaches 80mm Hg if no head injury, or 100mm Hg in patients with suspected head injury. Once target pressure is reached drop infusion rate to TKO.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

Caution: Be aware of possible Hypothermia in patients with large blood loss, large open wounds, or elderly patients. Cover patient with blankets and turn off the air conditioner in the ambulance patient compartment.

STANDING ORDERS – ADULT

A-21.a TACHYCARDIA, STABLE, REGULAR, WIDE COMPLEX

The definition of tachycardia for Standing Orders is a rate greater than 150 beats per minute not due to non-cardiac causes such as fever, trauma, hypovolemia, drug effects, etc.

Administer oxygen at 10-15 liters/minute by mask.

Establish IV with Normal Saline at TKO rate.

Obtain 12-lead ECG.

Administer Amiodarone 150 mg diluted in 100 ml Normal Saline and infuse over 10 minutes.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

A-21.b TACHYCARDIA, STABLE, REGULAR, NARROW COMPLEX

The definition of tachycardia for Standing Orders is a rate greater than 150 beats per minute not due to non-cardiac causes such as fever, trauma, hypovolemia, drug effects, etc.

Administer oxygen at 10-15 liters/minute by mask.

Establish IV with Normal Saline at TKO rate.

Obtain 12-lead ECG.

Attempt conversion of tachycardia with vagal maneuvers.

If no conversion, give Adenosine 6 mg rapid IV push.

In case of conversion, repeat 12-lead ECG.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-21.c TACHYCARDIA, UNSTABLE, WITH PULSE

The definition of tachycardia for Standing Orders is a rate greater than 150 beats per minute not due to non-cardiac causes such as fever, trauma, hypovolemia, drug effects, etc.

Signs of instability include altered mental status, ongoing chest pain, pulmonary edema, hypotension or other signs of shock.

Administer oxygen at 10-15 liters/minute by mask.

Establish IV with Normal Saline at TKO rate.

Obtain 12-lead ECG.

If patient is conscious, give Midazolam 2 mg IV for sedation. May repeat twice as needed to achieve patient comfort. If cannot establish IV, give Midazolam intranasal (IN), 0.2 mg/kg up to a maximum of 10 mg per dose. You must use Midazolam 5 mg/ml concentration when administering by the IN route.

Cardiovert at 100 joules monophasic energy dose (or equivalent biphasic energy dose). In case of paroxysmal supraventricular tachycardia or atrial flutter, start at 50 joules.

If no successful conversion, repeat cardioversion at next higher energy level. Cardioversion sequence is: 50 joules if paroxysmal supraventricular tachycardia or atrial flutter, otherwise 100 joules, 200 joules, 300 joules, 360 joules.

In case of conversion, repeat 12-lead ECG.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – ADULT

A-22 TRANSFER STANDING ORDER

A certified MICT will accept an order to transfer a patient by **911** ambulance from one medical facility to another (whether directly or as a segment of air ambulance transfer) if each of the following conditions are met:

1. The order comes from a Hawaii Base Station Physician, on duty in the ambulance service region.
2. The MICT is adequately informed of the patient's diagnosis, condition, medications, allergies, expected course during ambulance transfer, specific Living Will/Comfort Care Only – Do Not Resuscitate status.
3. There is an accepting physician at the destination facility, and the destination facility agrees to be prepared to receive the patient.

Note: The above requirements 1 and 3 do not apply to emergency facilities such as Waianae Coast Comprehensive Health Center that are not hospital base stations. A request from a non-hospital medical facility should be treated as a 911 ambulance request rather than an inter-facility transfer.

The MICT may use Standing Orders during transfer, if indicated, and shall communicate with the receiving hospital if he/she does so.

STANDING ORDERS – ADULT

A-23 TRAUMA, CRITICAL

Penetrating injuries and blunt trauma are time-sensitive conditions which may require rapid hospital surgical intervention. EMS must expedite transport of these patients to hospitals and trauma centers.

The MICT shall:

1. Rapidly extricate and immobilize the patient. Initiate transport.
2. Administer oxygen 10-15 liters/minute by mask. If patient airway and effort is unstable, consider ARREST, REPIRATORY Standing Order A-4. Patients with head injury and/or shock who are breathing spontaneously and can maintain oxygen saturation above 90% should be transported without delay for definitive establishment of the airway at the hospital.
3. Open early MEDICOM communications. If the MICT is busy with patient care an advisory by the EMT can alert the receiving hospital.

STANDING ORDERS – ADULT

A-24 VOMITING, SEVERE

Apply cardiac monitor and pulse oximeter.

Choose either oral or intravenous route for treatment.

For oral treatment, administer Ondansetron 4 mg ODT (orally dissolving tablet). Repeat once if needed after 5 minutes.

For intravenous treatment, establish IV Normal Saline at TKO rate. Administer Ondansetron 4 mg IV. If vomiting is not controlled, may repeat 4 mg IV once after 5 minutes.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

SECTION II
PEDIATRIC STANDING ORDERS

INTRODUCTION

Respiratory failure is the most common cause of cardiac arrest in pediatric patients. Oxygen should be administered by high concentration partial rebreather oxygen mask at high flow rates to any serious patient. The adequacy of oxygenation and ventilation must be constantly re-evaluated. Bag-valve mask ventilation is preferred for children who require ventilatory support, especially if the transport time is short. The Broselow tape should be used to pick the correct tracheal tube size and for estimating the patient's weight. Vascular administration (IV or IO) of resuscitation medications is preferable to administration by the tracheal route. If vascular access cannot be established, initial resuscitation medications can be administered via the endotracheal tube. Medication given by endotracheal tube should be flushed with a minimum of 3-5 ml Normal Saline followed by 5 assisted manual ventilations. Stop chest compressions briefly during administration of endotracheal medications. Resuscitation drugs administered via peripheral IV or IO should be followed by a bolus of 5 ml Normal Saline. Do not delay transport attempting to initiate an IV or IO. If a line is established, it is desirable to administer medication directly into the circulation even if they have already been given via the endotracheal tube. Pediatric Standing Orders allow intraosseous line placement for pulseless ventricular fibrillation, ventricular tachycardia, asystole, and pulseless electrical activity. For all other conditions, an attempt to communicate with the Base Station Physician should be made first.

Critical pediatric patients may have unsuspected hypoglycemia. Check blood glucose early in resuscitation.

**** As defined in the Base Station Manual as a patient less than 13 years old. If patient appears older than 8 years of age and is the size of a small adult, then consider using adult standing orders for situations not covered in pediatric standing orders.***

STANDING ORDERS – PEDIATRIC

P-1 ALLERGIC REACTION, SEVERE

Allergic Reaction without Shock:

Administer oxygen 10-15 liters/minute by mask.

Give Epinephrine 1:1,000 0.01 mg/kg IM (maximum dose 0.3mg).

If patient is wheezing, refer to BRONCHOSPASM Standing Order P-5. Give aerosolized Albuterol 2.5 mg.

Establish IV with Normal Saline, TKO rate.

Give Diphenhydramine (Benadryl) 1 mg/kg up to 25 mg IV slowly. If no IV available give IM.

If signs and symptoms continue, give Methylprednisolone 2 mg/kg IV (maximum dose 125 mg).

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

Allergic Reaction with Shock:

Administer oxygen 10-15 liters/minute by mask.

Give Epinephrine 1:1,000 0.01 mg/kg IM (maximum dose 0.3 mg) .

Start IV with Normal Saline followed with a fluid bolus of 20 ml/kg.

If patient is in critical condition and unable to start IV, start IO.

Give Epinephrine 1:10,000 0.01 mg/kg IV/IO over 1-2 minutes.

Give Diphenhydramine (Benadryl) 1 mg/kg up to 25 mg IV slowly. If no IV available give IO if available, otherwise give IM.

Give Methylprednisolone 2 mg/kg IV/IO (maximum dose 125 mg).

If patient is wheezing, refer to BRONCHOSPASM Standing Order P-5. Give aerosolized Albuterol 2.5 mg.

If signs and symptoms continue:

1. Repeat 2nd Epinephrine 1:1,000 0.01 mg/kg IM (maximum dose 0.3 mg) or communicate for Epinephrine IV.
2. Repeat Normal Saline IV bolus 20 ml/kg.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-2 ARREST, CARDIAC (Absence of Pulse or Blood Pressure)

Initiate chest compressions and administer oxygen by assisted bag-valve mask ventilations as soon as possible. Maintain chest compressions and assisted ventilation throughout incident until the return of normal spontaneous pulse and/or respiration.

Check cardiac monitor rhythm by attaching electrodes or by performing a “Quick Look” using defibrillation paddles.

If the rhythm is Ventricular Fibrillation or Pulseless Ventricular Tachycardia and arrest is NOT witnessed by EMS, perform chest compressions for 2 minutes prior to the first defibrillation attempt. If the arrest is witnessed by EMS or if effective chest compressions have already been performed for 2 minutes or longer, prepare for immediate defibrillation.

FOLLOW SPECIFIC CARDIAC ARREST 2a, 2b or 2c STANDING ORDERS

STANDING ORDERS – PEDIATRIC

P-2.a ARREST, CARDIAC - ASYSTOLE

Continue chest compressions.

Consider endotracheal intubation.

Establish IV or IO (perform IO access in one leg only).

Epinephrine 1:10,000 0.01 mg/kg IV or IO (or 0.1 mg/kg 1:1,000 via endotracheal tube). Repeat every 3-5 minutes.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-2.b ARREST, CARDIAC - PULSELESS ELECTRICAL ACTIVITY (PEA)

Continue chest compressions.

Consider endotracheal intubation.

Establish IV or IO. (Perform intraosseous access in one leg only.)

Epinephrine 1:10,000 0.01 mg/kg IV or IO (or 0.1 mg/kg 1:1,000 via endotracheal tube). Repeat every 3–5 minutes.

Administer Normal Saline bolus 20 ml/kg IV/IO.

Assess for possible causes for PEA.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-2.c ARREST, CARDIAC – VENTRICULAR FIBRILLATION OR PULSELESS VENTRICULAR TACHYCARDIA

Defibrillate 2 joules/kg. (Note: Perform chest compressions while the defibrillator is charging.)

Resume chest compressions for 2 minutes (10 cycles). Concomitantly establish IV or IO.

Check pulse and cardiac monitor. Minimize interruption in chest compressions whenever checking pulse and monitor.

If still in VF/pulseless VT, give Epinephrine 1:10,000 0.01 mg/kg IV or IO (or 1:1,000 0.1 mg/kg via endotracheal tube). Repeat every 3-5 minutes as long as VF/VT persists. In case of ventricular tachycardia consistent with torsades de pointes, give Magnesium 25 mg/kg IV/IO, maximum of 2 g.

Defibrillate 4 joules/kg.

Resume chest compressions for 2 minutes (10 cycles). Check pulse and cardiac monitor.

If still in VF/VT, give Amiodarone 5 mg/kg IV/IO (Lidocaine 1 mg/kg IV/IO if Amiodarone unavailable.)

Defibrillate 4 joules/kg.

Resume CPR for 2 minutes (10 cycles). Check pulse and cardiac monitor.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-3 ARREST, RESPIRATORY OR INADEQUATE AIRWAY

Where Pulse Exists:

Administer oxygen by bag-valve mask ventilation, if no response:

1. Endotracheal intubation.
2. If unable to intubate, continue assisted mask ventilations.

Establish IV with Normal Saline at TKO rate.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-4 BRADYCARDIA, SYMPTOMATIC

< 60 beats/minute with poor perfusion

Assist ventilation with oxygen by bag-valve mask as virtually all bradycardia in children is secondary to anoxia. If no response to ventilations:

Endotracheal Intubation.

If poor perfusion, initiate chest compressions.

Establish IV/IO (perform intraosseous access in one leg only).

Epinephrine 1:10,000 0.01 mg/kg IV/IO (or 0.1 mg/kg 1:1,000 via endotracheal tube). Repeat every 3-5 minutes.

Normal Saline bolus 20 ml/kg.

If increased vagal tone is possible or AV block is present, administer Atropine 0.02 mg/kg. May repeat. (Minimum dose 0.1 mg; maximum total dose: 1 mg.)

If not monitoring patient through pacemaker pads, apply pads only. Do not turn on external pacer until ordered by Base Station Physician.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-5 BRONCHOSPASM

(Respiratory distress with wheezing not involving foreign body)

Administer oxygen at 10-15 liters/minute by mask.

If in severe respiratory distress, administer 0.01 mg/kg Epinephrine 1:1,000 IM (up to 0.3 mg maximum).

Administer 1st inhalation updraft aerosol treatment with Albuterol 2.5 mg via nebulizer. If initially in severe bronchospasm or impending respiratory arrest, increase medication dose in 1st updraft treatment to Albuterol 5 mg plus Atrovent 0.5 mg via nebulizer.

If not improving 2nd inhalation updraft treatment with Albuterol 2.5 mg plus Atrovent 0.5 mg (if Atrovent not already given) via nebulizer.

If patient with severe bronchospasm requires intubation and is very hard to ventilate because of severe bronchospasm, administer Epinephrine 1:10,000 0.01 mg/kg down the endotracheal tube to reduce the bronchospasm.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-6 NEAR DROWNING

If pulse is absent:

Follow CARDIOPULMONARY ARREST Standing Order P-2.

If pulse is present:

Administer oxygen 10-15 liters/minute by mask.

Consider CPAP if respiratory distress persists.

Apply CPAP if all of the following conditions are present and there are no contraindications:

1. The BP is greater than 90mm Hg systolic
2. The patient is awake and able to follow commands;
3. You are able to fit the CPAP mask to the patient; and
4. The patient is able to maintain an open airway.

Establish IV at TKO rate.

Be aware of possible Hypothermia. Prevent further heat loss. Patient should be dry. Cover the patient with blankets and turn off the air conditioner in the ambulance patient compartment.

Advise receiving facility/physician of CPAP use.

If respiratory status deteriorates, remove the device and assist ventilations with BVM.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDER

STANDING ORDERS – PEDIATRIC

P-7 DRUG OVERDOSE

Assess airway.

Apply cardiac monitor.

Start IV Normal Saline at TKO rate.

In patients with no gag reflex, transport in left lateral decubitus position and be prepared to suction or intubate the airway if necessary. Use ARREST, RESPIRATORY, OR INADEQUATE AIRWAY Standing Order P-3.

Bring in bottles / containers.

COMMUNICATE WITH BASE STATION PHYSICIAN BEFORE GIVING ANY ACTIVATED CHARCOAL

STANDING ORDERS – PEDIATRIC

P-8 HYPOGLYCEMIA / INSULIN REACTION

Check blood glucose.

If blood glucose reading <70 mg/dl (or <40 mg/dl in newborn) perform the following steps:

1. Draw blood sample for glucose measurement.
2. If child is alert and able to swallow and maintain their airway, administer glucose oral preparation 1 g/kg PO (maximum dose 50 g).* Go to step 5 below.
3. If child is not alert or is not able to swallow and maintain their airway, start IV with Normal Saline at TKO rate and administer Glucose according to the age as follows:
 - a. For newborns, administer 10% Dextrose solution in a 0.2 g/kg dose IV. This may be supplied as D10W or diluted from D50W solution 1 part to 4 parts Normal Saline. 0.2 g/kg is supplied by 2 ml/kg of D10W.
 - b. For infants and children <30 kg, administer 25% Dextrose solution in a 0.5 g/kg dose IV. Mix D50W with an equal volume of Normal Saline to provide D25W. 0.5 g/kg is supplied by 2 ml/kg of D25W.**
 - c. For all other children, administer Glucose 0.5 g/kg (1 ml/kg of 50% Dextrose Solution) up to 25 g maximum.**
4. If unable to obtain IV access, give Glucagon 1 mg IM (0.5 mg IM if less than one year of age).
5. Recheck blood glucose.

*Oral glucose preparations are commonly available ranging from 48 g to 62 g as a single unit dose or as multiple doses.

**If D50W is unavailable, D10W or D5W may be used to administer glucose. The 0.5 g/kg dose of D10W is 5 ml/kg IV and a 25 g dose requires 250 ml. The 0.5 g/kg dose of D5W is 10 ml/kg and a 25 g dose requires 500 ml. These dilute dextrose solutions should be titrated to clinical improvement to minimize fluid overload.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-9 NEWBORN RESUSCITATION

(If heart rate is less than 100/min, with poor respirations and noted to be cyanotic and limp)

Warm, position, suction, dry, stimulate and evaluate respirations, heart rate and color.

Ventilate 20 breaths in 30 seconds by mask using positive pressure and 100% O₂.

If heart rate < 60, continue assisting ventilation with bag-mask or intubate with 3.5 ET tube for full term (premature: 3.0 ET for 2-3 kg and 2.5 ET for <2 kg), and ventilate 40-60 breaths/minute.

If heart rate is still < 60, begin cardiac compressions at rate of 120/minute, and give:

Epinephrine 1:10,000 0.03 mg/kg IV/IO or Epinephrine 1:10,000 0.1 mg/kg ET (followed by 2 ml Normal Saline). Repeat every 3-5 minutes.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-10 SEIZURE, STATUS EPILEPTICUS

(Continuous generalized seizures or repeated seizures without return to consciousness)

Administer oxygen 10-15 liters/minute by mask or bag-valve mask ventilation.

Do blood glucose test and follow HYPOGLYCEMIA/INSULIN REACTION Standing Order P-8.

If seizure has lasted more than 5 minutes since it began:

Administer one dose of Midazolam 0.2 mg/kg intranasal (IN) or intramuscular (IM) up to 10 mg maximum. Must use 5 mg/ml concentration for intranasal route. Administer half in each nostril using mucosal atomizer device.

If midazolam is not available,

1. Establish IV with Normal Saline at TKO rate. Administer Diazepam 0.1 mg/kg slow IV push up to 5 mg per dose.

OR

2. Administer one dose of Diazepam 0.5 mg/kg rectally up to 10 mg maximum.

If Diazepam is unavailable, substitute with Lorazepam 0.1 mg/kg slow IV push up to 2 mg per dose.

Monitor respiratory status and support as needed (avoid intubation if adequate oxygenation is present).

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

STANDING ORDERS – PEDIATRIC

P-11 SHOCK, HYPOVOLEMIC

If the patient exhibits signs of shock considered to be secondary to hypovolemia:

Administer oxygen via mask or endotracheal tube.

Establish IV with Normal Saline. If unable to start IV, and patient is in critical condition start IO.

Rapidly infuse Normal Saline 20 ml/kg.

Do not delay transport, while enroute may infuse 2nd Normal Saline 20 ml/kg fluid bolus if needed.

For patients with hemorrhagic shock due to trauma, excessive fluid administration can lead to increased hemorrhage. Limit initial fluid bolus to 10ml/kg Normal Saline and reassess. Do not give second bolus prior to communication with trauma center/base station physician.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

Caution: Be aware of possible hypothermia in patients with large blood loss or large open wounds. Cover patient with blankets and turn-off the air conditioner in the ambulance patient compartment.

STANDING ORDERS – PEDIATRIC

P-12 TACHYCARDIA

(Pediatric tachycardia with pulses and poor perfusion/adequate perfusion)

Administer oxygen.

Obtain 12-lead ECG.

COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS