

STATE OF HAWAII  
DEPARTMENT OF HEALTH

MOBILE INTENSIVE CARE TECHNICIAN  
ADULT AND PEDIATRIC  
STANDING ORDERS

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Emergency Medical Services  
&  
Injury Prevention System Branch

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EMERGENCY MEDICAL SERVICES & INJURY PREVENTION SYSTEM

# Standing Orders Policy For Mobile Intensive Care Technicians

## Adult & Pediatric Patients

APPROVED:

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## *Approved Medication List*

Acetaminophen (Tylenol) Elixir	Glucagon
Activated Charcoal	Glucose, oral preparation
Adenosine (Adenocard)	Ipratropium (Atrovent)
Albuterol Inhaler	Lidocaine 1%
Albuterol Sulfate	Lidocaine 20%
Amiodarone (Cordarone)	Morphine Sulfate
Aspirin, Chewable	Magnesium Sulfate
Atropine	Methylprednisolone
Diphenhydramine (Benadryl)	Midazolam (Versed)
Calcium Chloride	Naloxone (Narcan)
Dextrose 50%	Nitroglycerine
Diazepam (Valium)	Norepinephrine (Levophed)
Dopamine	Ondansetron (Zofran)
Epinephrine 1:1,000	Pitocin (Oxytocin)
Epinephrine 1:10,000	Sodium Bicarbonate
Fentanyl	Succinylcholine
Furosemide (Lasix)	Terbutaline (Brethine)

If available:

Atropine Auto-Injector  
Sodium Thiosulfate  
Valium Auto-Injector  
2-PAM Chloride Auto-Injector

## **MOBILE INTENSIVE CARE TECHNICIAN ADULT AND PEDIATRIC STANDING ORDERS**

### **GENERAL GUIDELINES**

These Standing Orders shall allow Medical 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 O2, apply continuous cardiac monitoring, and establish prophylactic IV access with Saline lock or IV solution at 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 physical exam should state the finding(s) from the physical examination that needs special attention and clarification that is directly related in support of the clinical impression. 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 ALLERGIC REACTION, SEVERE**

#### **Allergic Reaction without Shock:**

Administer O2 at 10-15 liters by mask.

Administer Epinephrine 1:1,000 0.3 mg IM.

Establish IV Normal Saline give 300 ml rapid infusion.

Administer Diphenhydramine (Benadryl) 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 O2 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 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 every 5 minutes as needed.
2. Administer Diphenhydramine 50 mg IM.

#### **COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## **STANDING ORDERS – ADULT**

### **A-2 ARREST, CARDIAC**

Initiate CPR and administer 100% O<sub>2</sub> by assisted mask ventilation as soon as possible. Maintain CPR 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 CPR for 5 cycles (about 2 minutes) prior to first defibrillation. If witnessed by EMS or if effective CPR has 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-2.a ARREST, CARDIAC - ASYSTOLE**

Continue CPR.

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 as early as possible in course of treatment.

Atropine 1 mg IV or IO push. Repeat every 3-5 minutes to a maximum of 3 mg.

Sodium Bicarbonate 1mEq/kg IV push.

### **COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

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

## **STANDING ORDERS – ADULT**

### **A-2.b ARREST, CARDIAC - PULSELESS ELECTRICAL ACTIVITY**

Continue CPR.

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.

Secure airway with tracheal tube or placement of supraglottic airway as early as possible in course of treatment.

Atropine 1mg IV or IO push if bradycardia <60 bpm. Repeat every 3 - 5 minutes to maximum of 3 mg.

Reassess tube placement and re-check for tension pneumothorax and other causes of Pulseless Electrical Activity.

Sodium Bicarbonate 1 mEq/kg IV push.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## STANDING ORDERS – ADULT

### A-2.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 STANDING ORDERS

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

## STANDING ORDERS – ADULT

### **A-2.d ARREST, CARDIAC – VENTRICULAR FIBRILLATION OR PULSELESS VENTRICULAR TACHYCARDIA**

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

Resume CPR 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 CPR 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 CPR 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 CPR 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 CPR 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 OR PULSELESS VENTRICULAR TACHYCARDIA**

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

Resume CPR 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.

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

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## **STANDING ORDERS – ADULT**

### **A-3 ARREST, RESPIRATORY OR INADEQUATE AIRWAY**

This Standing Order applies in case of either actual or impending respiratory arrest.

#### **Where pulse exists:**

Provide rescue breathing, assisted mask ventilations with 100% O<sub>2</sub> until ready to perform tracheal intubation.

Perform tracheal or nasotracheal intubation. If unable to intubate successfully, perform the following alternatives (not necessarily in this order) until successful ventilation is achieved:

1. Continue assisted ventilations with 100% oxygen by BVM;
2. Secure airway with supraglottic airway as an alternative device; or
3. Perform PARALYTIC-ASSISTED TRACHEAL INTUBATION Standing Order A-10.

Establish IV with Normal Saline at TKO rate.

Cricothyrotomy should be performed for:

1. Inability to ventilate a patient with airway obstruction after appropriate number of Heimlich maneuvers and unsuccessful assisted ventilation; or

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## STANDING ORDERS – ADULT

### A-4 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 <90 and one or more of these symptoms/signs: chest pain, shortness of breath, skin cool, pale or diaphoretic.

Administer O<sub>2</sub> at 10-15 liters by non-rebreather mask.

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

Establish IV Normal Saline.

If systolic BP is <90 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 <90 and the patient is still symptomatic after the second dose of Atropine, begin Dopamine drip 5-20 mcg/kg per minute via automatic IV infusion pump titrated to BP 100–110 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-5 BRONCHOSPASM**

High flow oxygen 10-15 liters by mask or assisted bag-valve mask ventilation.

Inhalation updraft treatment with Albuterol 5 mg. If insufficient response, give 2<sup>nd</sup> inhalation updraft treatment with Albuterol 5 mg. and add Atrovent 0.5 mg to the updraft.

If no adequate response after second aerosol, establish IV. Give Methylprednisolone 125 mg IV.

If still needed, give 3<sup>rd</sup> inhalation updraft treatment with Albuterol 5 mg.

Consider tracheal intubation if impending respiratory arrest.

If patient is wheezing but has a history of CHF, or if pulmonary edema is suspected, an Albuterol Aerosol may be tried. If no favorable response, do not repeat Albuterol in this case.

If patient with severe bronchospasm requires intubation and mechanical ventilation, and is very hard to ventilate because of severe bronchospasm, give 10 ml 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-6 CHEST PAIN**

With signs or symptoms indicative of myocardial ischemia:

Administer O<sub>2</sub> at 2-4 liters/minute by nasal cannula or 10-15 liters by non-rebreather mask.

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

If BP > 100 systolic and 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. If BP is less than 100 systolic do not give Nitroglycerine unless MEDICOM physician orders it. May repeat every 5 minutes if BP is >100 systolic.

Administer Aspirin 160 mg orally if the patient has no history of allergic reaction to Aspirin. If the patient has a recent history of gastrointestinal bleeding or is taking antiplatelet or anticoagulant medication, contact the Base Station Physician before administering the Aspirin.

Establish IV with Normal Saline at TKO rate.

If systolic BP > 100 and chest pain is unrelieved by nitroglycerine, communicate for possible Morphine Sulfate or Fentanyl order.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## STANDING ORDERS – ADULT

### **A-7 CYANIDE EXPOSURE**

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

Administer O2 at 10-15 liters by non-rebreather mask or assisted BVM 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**

### **A-8 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 O2 at 2-4 liters/minute by nasal cannula or 10-15 liters/minute by non-rebreather mask.

Establish IV with Normal Saline at TKO rate.

If systolic BP>100, 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 100, 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 100 or a total of 150mcg has been given.

If the patient develops respiratory depression or difficulty after administration of pain medication, give Naloxone (Narcan) 0.5 mg IV and repeat as needed up to a total dose of 2.0 mg.

### **COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## **STANDING ORDERS – ADULT**

### **A-9 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 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 (50 ml of 50% Dextrose Solution).
4. If unable to start IV, give Glucagon 2 mg IM.
5. Recheck blood glucose.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## STANDING ORDERS – ADULT

### A-10 INTUBATION, PARALYTIC-ASSISTED TRACHEAL

#### PREPARATION:

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

#### MEDICATION PROTOCOL:

- 3:00 min Preoxygenate.
- 2:00 min Lidocaine (1.5 mg/kg) if head injury or CVA.
- 1:30 min Administer Midazolam (Versed) 0.06 mg/kg and may repeat same dosage in increments as needed to a maximum total dose of 0.3 mg/kg.

#### *Versed “Quick-Look” Incremental Dose (0.06 mg/kg)*

40-50 kg:	3 mg
60-70 kg:	4 mg
80-90 kg:	5 mg
100-110 kg:	6 mg

- 1:00 min Apply cricoid pressure.
- 0:45 min Succinylcholine IV (1.5 mg/kg) **NOTE:** If unable to establish IV, give double the IV dose intramuscularly.
- 0:00 min Intubate and assess ET tube placement.
- +0:30 min Secure ET tube position and reassess tube placement.
- +1:00 min If bradycardic and BP <100 systolic, administer Atropine 0.02 mg/kg.
- +1:30 min Administer additional Midazolam (Versed) as above, titrating remaining doses to total of 0.3 mg/kg for continued patient sedation.

## **STANDING ORDERS – ADULT**

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

If relaxation is inadequate 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 still unable to secure the patient's airway, make additional attempt at ventilation with bag-valve mask with maximal attention to technique.

If still unable to ventilate the patient, perform cricothyrotomy.

### **COMMUNICATE WITH BASE STATION 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 Midazolam (Versed) should also be provided.

## **STANDING ORDERS – ADULT**

### **A-11 MENTAL STATUS, ALTERED**

Check respiratory status and oxygen saturation.

Check blood glucose, if <70 mg/dl treat as directed in HYPOGLYCEMIA/INSULIN REACTION Standing Order A-9.

If blood glucose >70 mg/dl:

1. Start IV.
2. Administer Naloxone (Narcan) in increments of 0.5 mg IV up to 2 mg total.
3. If no IV, Naloxone (Narcan) 2 mg IM.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## **STANDING ORDERS – ADULT**

### **A-12 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 (Valium) 10 mg.

May repeat Diazepam (Valium) 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-13 PNEUMOTHORAX, TENSION**

Administer O<sub>2</sub> 10-15 liters/min via mask or assisted BVM ventilation.

In the event that a patient is hypotensive (BP <90 systolic) and has decreased breath sounds on one side, needle thoracostomy should be performed on that side if any of the following are present:

1. Tracheal deviation,
2. Subcutaneous emphysema, or
3. Signs of shock.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## STANDING ORDERS – ADULT

### A-14 PREGNANCY WITH ACTIVE LABOR/IMPENDING NEWBORN DELIVERY

Administer O<sub>2</sub> 10-15 liters/min via mask to mother, and start IV Normal Saline TKO.

Prepare for delivery of newborn

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

- (a) Instruct mother not to push
- (b) Position mother in knee-chest position.
- (c) Use gloved fingers to lift presenting part and relieve compression of cord.

For any complications (such as prolapsed cord, breech, shoulder dystocia, etc.)

**COMMUNICATE STAT** 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 case as follows:

**Mother:**

- (a) Apply firm, rubbing pressure to uterus in lower abdomen.
- (b) Add Oxytocin (Pitocin) 20 units to 1 liter Normal Saline and run wide open until bleeding is controlled or until liter is infused.
- (c) If excessive hemorrhage or shock, follow SHOCK, HYPOVOLEMIC Standing Order A-17.

**Baby:**

- (a) Follow NEWBORN RESUSCITATION Standing Order P-8.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## **STANDING ORDERS – ADULT**

### **A-15 PULMONARY EDEMA, ACUTE**

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

Administer 100% oxygen, assist as needed.

If BP greater than 100 systolic and no contraindications (for contraindications see CHEST PAIN Standing Order A-6). 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 100 systolic.

Establish IV at TKO rate.

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

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## **STANDING ORDERS – ADULT**

### **A-16 SEIZURE, STATUS EPILEPTICUS** (Continuous Seizures)

Administer O2 10-15 liters/min by mask or assisted BVM ventilation.

Establish IV Normal Saline at TKO rate.

Do blood glucose test and if blood glucose is less than 70 mg/dl follow MENTAL STATUS, ALTERED Standing Order A-11.

If seizure has lasted more than 5 minutes, administer Diazepam (Valium) 5 mg slow IV push. If seizure activity does not stop in 2 minutes, may repeat once.

#### **COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

\* If seizure continues more than 5 minutes after the 2<sup>nd</sup> Diazepam IV dose, administer additional Diazepam IV slow push, until seizure is controlled or until a total cumulative dose of 20 mg has been given to the patient. Be prepared to support airway with intubation.

#### **COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## STANDING ORDERS – ADULT

### **A-17 SHOCK, HYPOVOLEMIC**

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

Administer O<sub>2</sub> at 10-15 liters/minute by mask. If apneic, or if respiratory arrest is impending, perform tracheal intubation.

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

*Do not* delay transport. Establish second or more IVs with Normal Saline enroute and continue to infuse IVs at a rapid rate until the BP is >90 systolic or until the patient's neck veins start to distend while in the supine position.

### **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-18.a TACHYCARDIA, STABLE, REGULAR, WIDE COMPLEX**

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

Administer O<sub>2</sub> at 10-15 liters 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-18.b TACHYCARDIA, STABLE, REGULAR, NARROW COMPLEX**

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

Administer O<sub>2</sub> at 10-15 liters 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-18.c TACHYCARDIA, UNSTABLE, WITH PULSE**

The definition of tachycardia for Standing Orders is a rate greater than 150 beats per minute and 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 O2 at 10-15 liters by mask.

Establish IV with Normal Saline at TKO rate.

Quickly obtain 12-lead ECG.

If patient is conscious, give Midazolam (Versed) 2 mg IV. May repeat twice as needed to achieve patient comfort.

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. Shock 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-19 TRANSFER STANDING ORDER

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

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

### A-20 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. Secure and maintain a clear airway, administer O2 10-15 liters/min. If patient airway and effort is unstable, consider ARREST, REPIRATORY, OR INADEQUATE AIRWAY Standing Order A-3, without delay during transport.
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-21 VOMITING, SEVERE**

Administer O<sub>2</sub> at 2-4 liters/minute by nasal cannula or 10-15 liters/minute non-rebreather mask.

Apply cardiac monitor.

Establish IV Normal Saline at TKO rate.

Administer Ondansetron 4mg IV.

If vomiting is not controlled, may repeat 4mg IV in 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-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. If CPR is in progress, 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 O2 by mask.

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

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/IO (maximum dose 125 mg).

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

#### COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS

#### Allergic Reaction with Shock:

Administer O2 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 extremis 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/IO slowly. If no IV available 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 2<sup>nd</sup> 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 CPR and administer 100% O<sub>2</sub> by assisted mask ventilations as soon as possible. Maintain CPR 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 CPR for 2 minutes prior to the first defibrillation attempt. If the arrest is witnessed by EMS or if effective CPR has 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 CPR.

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**

Continue CPR.

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 CPR while the defibrillator is charging.)

Resume CPR for 2 minutes (10 cycles). Concomitantly establish IV or IO and secure airway.

Check pulse and cardiac monitor. Minimize interruption in CPR 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 CPR 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:**

Assist ventilation with 100% O<sub>2</sub>, if no response to 100% O<sub>2</sub> mask ventilations:

1. Endotracheal Intubation.
2. If unable to intubate, continue assisted mask ventilation with 100% O<sub>2</sub>.

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 (< 80 beats/minutes if less than one (1) year of age) with poor perfusion

**Assist ventilation as virtually all bradycardia in children is secondary to anoxia. If no response to 100% O2 mask ventilations:**

Endotracheal Intubation.

If poor perfusion, initiate CPR.

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 primary 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 O2 at 10-15 liters by high concentration mask.

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

1<sup>st</sup> inhalation updraft treatment with Albuterol 2.5 mg via nebulizer. If initially in severe bronchospasm or impending respiratory arrest, increase updraft treatment to Albuterol 5mg plus Atrovent 0.5 mg via nebulizer.

2<sup>nd</sup> 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 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-7 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 give Glucose according to age as follows:
  - a. For newborns, dilute 50% Dextrose solution 1part to 4 parts Normal Saline (10% Dextrose solution) and give 0.2 g/kg (2 ml/kg of 10% Dextrose Solution).
  - b. For infants and children <30 kg, mix 50% Dextrose solution with equal volume of Normal Saline. Give Glucose 0.5 g/kg IV (2 ml/kg of 25% Dextrose Solution).
  - c. For all other children, administer Glucose 0.5 g/kg (1 ml/kg of 50% Dextrose Solution).
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.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## **STANDING ORDERS – PEDIATRIC**

### **P-8 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% O<sub>2</sub>.

If heart rate < 80, 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 < 80, begin cardiac compressions at rate of 120/minute, and give:

Epinephrine 1:10,000 0.03 mg/kg IV/IO or ET (diluted with 1.0 cc Normal Saline). Repeat every 3-5 minutes.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## **STANDING ORDERS – PEDIATRIC**

### **P-9 SEIZURE, STATUS EPILEPTICUS**

(Continuous Seizures)

Administer O2 by mask or assisted BVM ventilation.

Do blood glucose test and follow HYPOGLYCEMIA / INSULIN REACTION Standing Order P-7.

Establish IV with Normal Saline at TKO rate.

If seizure has lasted more than 5 minutes since it began and is generalized, administer  
\*Diazepam (Valium) 0.1 mg/kg slow IV push up to 2 mg per dose.

If IV not quickly established, administer Diazepam (Valium) 0.5 mg/kg rectally up to 10 mg maximum.

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

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**

## STANDING ORDERS – PEDIATRIC

### P-10 SHOCK, HYPOVOLEMIC

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

Administer 100% oxygen via mask or endotracheal tube.

Establish IV with Normal Saline. If unable to start IV, start IO. Infuse Normal Saline 20 ml/kg as an initial fluid bolus.

Do not delay transport, while enroute:

1. Infuse 2<sup>nd</sup> Normal Saline 20 ml/kg fluid bolus.
2. Establish 2<sup>nd</sup> IV.

### 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-11 TACHYCARDIA**

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

Administer oxygen.

Obtain 12-lead EKG.

**COMMUNICATE WITH BASE STATION PHYSICIAN FOR FURTHER ORDERS**