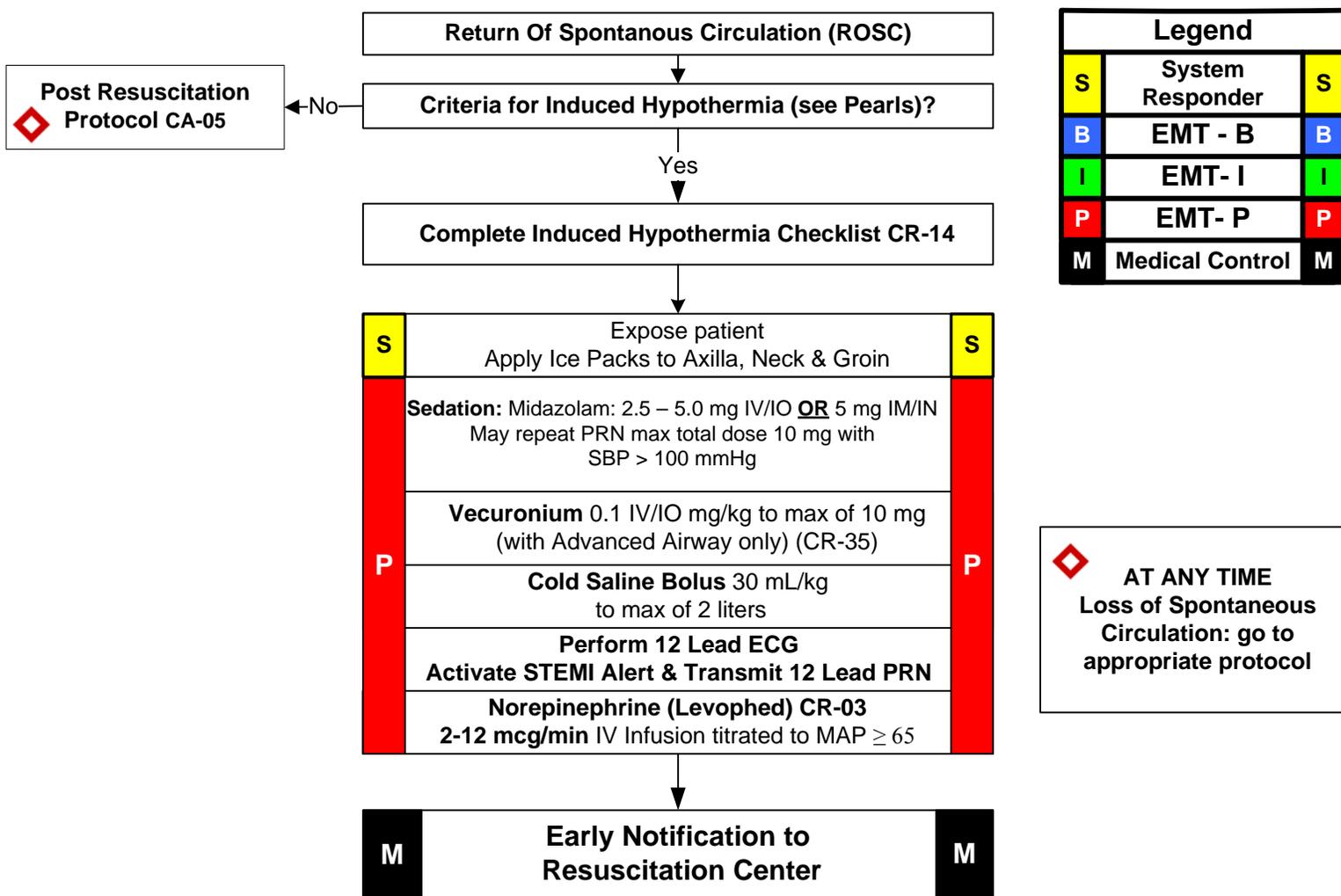


COG Change	Effected Document (s)
MOT exception for time dependent Trauma patients	Clinical Standard CS-18, CS-19
igel (BIAD) airway secure with tape <b>and</b> device's strap	Clinical Procedure CP-40
Updated Pearls language concerning use of Versed and Vecuronium.	Protocol CA-04
Update language for medication actions for Dilitem	Drug Formulary DF- 12
Update language to add documentation requirement of DFPS report information	Clinical Standard CS-12
Levophed infusion: lower approved MAP pressure to $\geq 65$ for all Protocols	Adult Induced Hypothermia CA-04, Adult Hypotension M-11, Adult Multi. Trauma T-07, Clinical References: (Adult Infusion) CR-03, CR-14, CR-28, 5x7 cards, pocket guide, Medications Quick Reference Chart CR – 37
Change in terminology from "Pronouncement" to "Termination of Resuscitation (TOR)"	Clinical Standards CS-05, CS-08, CS-14, Protocol U-04, Pocket Guides
Clarify application of wrist band for IO	Clinical Procedure CP-38
Smart Bag, removed use of timing light that came with bag per OMD advisory	Clinical Procedure CP-53
Update language for signing a refusal AMA	Clinical Standard CS-27
Adult SANE Patients per CR-13 may be transported to closest facility	Clinical Reference CR-13

# Induced Hypothermia

<b>History:</b> <ul style="list-style-type: none"> <li>Non-Traumatic Cardiac Arrest</li> </ul>	<b>Signs and Symptoms:</b> <ul style="list-style-type: none"> <li>Return of pulse</li> </ul>	<b>Differential:</b> <ul style="list-style-type: none"> <li>Continue to address specific differentials associated with original dysrhythmia</li> </ul>
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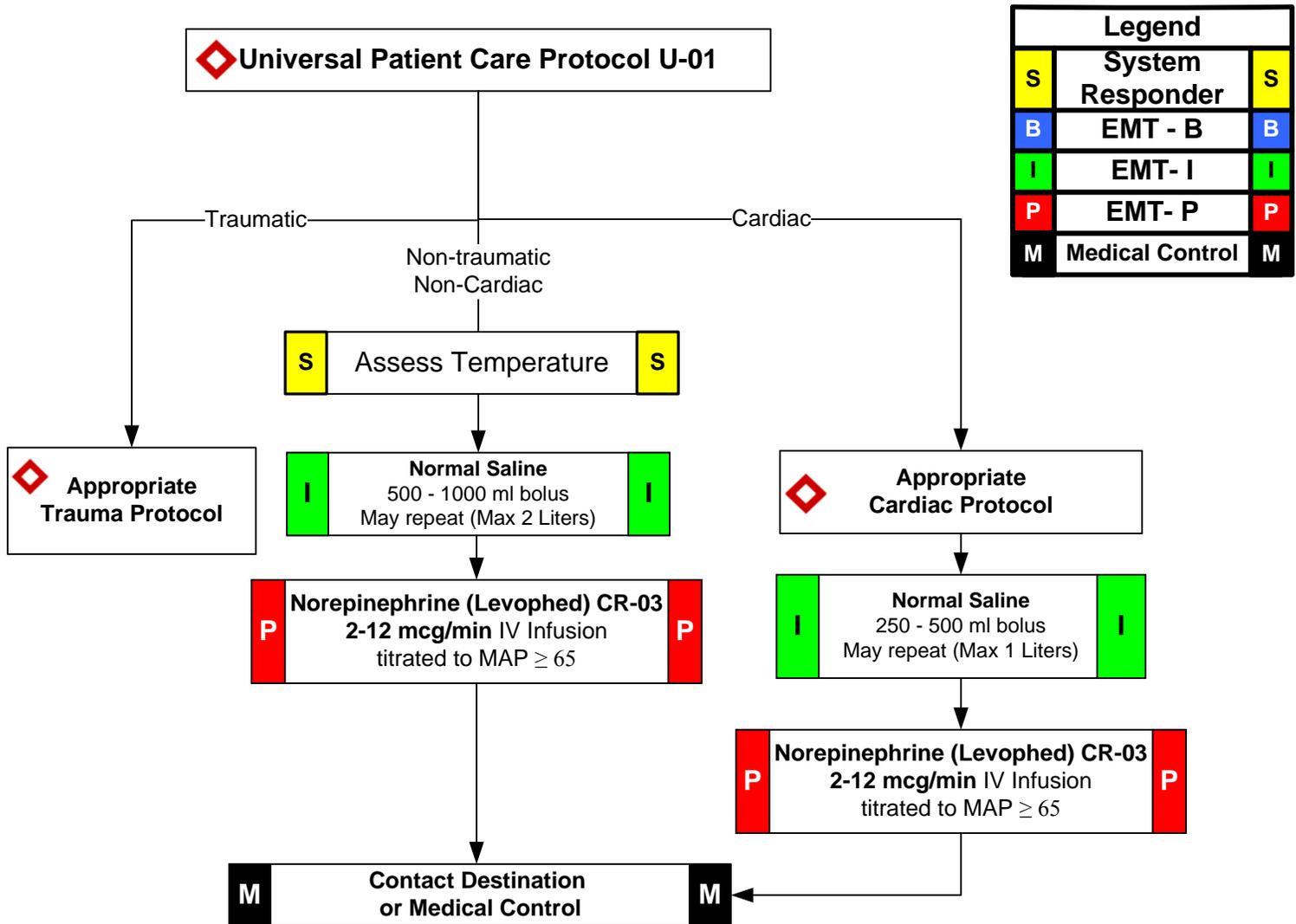
**Pearls:**  
Criteria for Induced Hypothermia:

- ROSC after cardiac arrest not related to trauma or hemorrhage.
- Weight  $\geq$  37 Kg
- Initial temperature  $>$  34C (93.2 F)
- Patient unable to follow commands

- If patient meets other criteria for induced hypothermia and does not have advanced airway, immediately provide cooling.
- If patient is hypotensive do not administer sedative/paralytic. Initiate volume replacement with cold saline.
- When exposing patient for purpose of cooling undergarments may remain in place to preserve the patient's modesty.
- Reassess airway frequently and with every patient move.
- Patients develop metabolic alkalosis with cooling. Do not hyperventilate.
- These patients should only be transported to Resuscitation Centers of Excellence.
- Notify destination ASAP when this protocol is utilized so that the receiving unit can prepare to receive patient.
- Cold Saline should be infused @ 100ml/min.
- **If Vecuronium is used for patient care for Induced Hypothermia then Midazolam MUST also be used. If Midazolam is contraindicated then do not administer Vecuronium.**

# Hypotension (non-trauma)

<p><b>History:</b></p> <ul style="list-style-type: none"> <li>Blood loss- vaginal or gastrointestinal bleeding, AAA, ectopic pregnancy</li> <li>Fluid Loss- vomiting, diarrhea, fever</li> <li>Infection</li> <li>Cardiac ischemia (MI, CHF)</li> <li>Medications</li> <li>Allergic Reaction</li> <li>Pregnancy</li> </ul>	<p><b>Signs and Symptoms:</b></p> <ul style="list-style-type: none"> <li>Restlessness, confusion</li> <li>Weakness, dizziness</li> <li>Hypotension</li> <li>Weak, rapid pulse</li> <li>Pale, cool, clammy skin</li> <li>Delayed capillary refill</li> <li>Coffee-ground emesis</li> <li>Tarry stools</li> </ul>	<p><b>Differential:</b></p> <ul style="list-style-type: none"> <li>Shock</li> <li>Ectopic pregnancy</li> <li>Dysrhythmias</li> <li>Pulmonary embolus</li> <li>Tension pneumothorax</li> <li>Toxic exposure</li> </ul>
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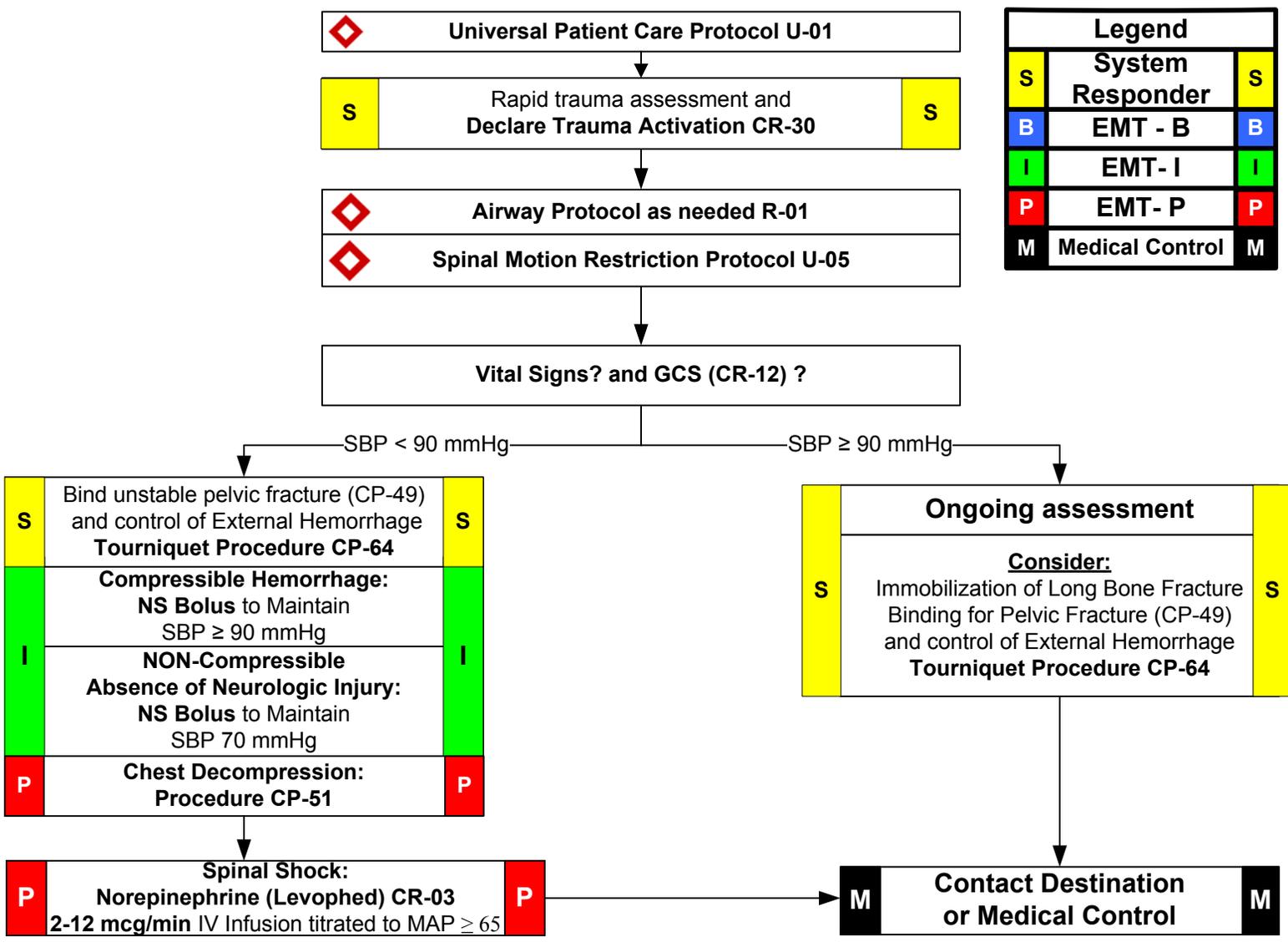


**Pearls:**

- Hypotension can be defined as a systolic blood pressure of (less than) < 90 mmHg or MAP < 60
- Consider all possible causes of shock and treat per appropriate protocol.
- Patients should always have adequate intravascular fluid load prior to the use of vasopressors .
- Place in supine position unless otherwise contraindicated.

# Multiple Trauma

<b>History:</b> <ul style="list-style-type: none"> <li>• Time and mechanism of injury</li> <li>• Damage to structure or vehicle</li> <li>• Location in structure or vehicle</li> <li>• Others injured or dead</li> <li>• Speed and details of MVC</li> <li>• Restraints / protective equipment</li> <li>• Past medical history</li> <li>• Medications</li> </ul>	<b>Signs &amp; Symptoms:</b> <ul style="list-style-type: none"> <li>• Pain, swelling</li> <li>• Deformity, lesions, bleeding</li> <li>• Altered mental status or unconscious</li> <li>• Hypotension or shock</li> <li>• Cardiac Arrest</li> </ul>	<b>Differential (Life threatening):</b> <ul style="list-style-type: none"> <li>• Chest      Tension pneumothorax</li> <li>                 Flail chest</li> <li>                 Pericardial tamponade</li> <li>                 Open chest wound</li> <li>                 Hemothorax</li> <li>• Intra-abdominal bleeding</li> <li>• Pelvis / Femur fracture</li> <li>• Spine fracture / Cord injury</li> <li>• Head injury (see Head Trauma)</li> <li>• Extremity fracture / Dislocation</li> <li>• HEENT (Airway obstruction)</li> <li>• Hypothermia</li> </ul>
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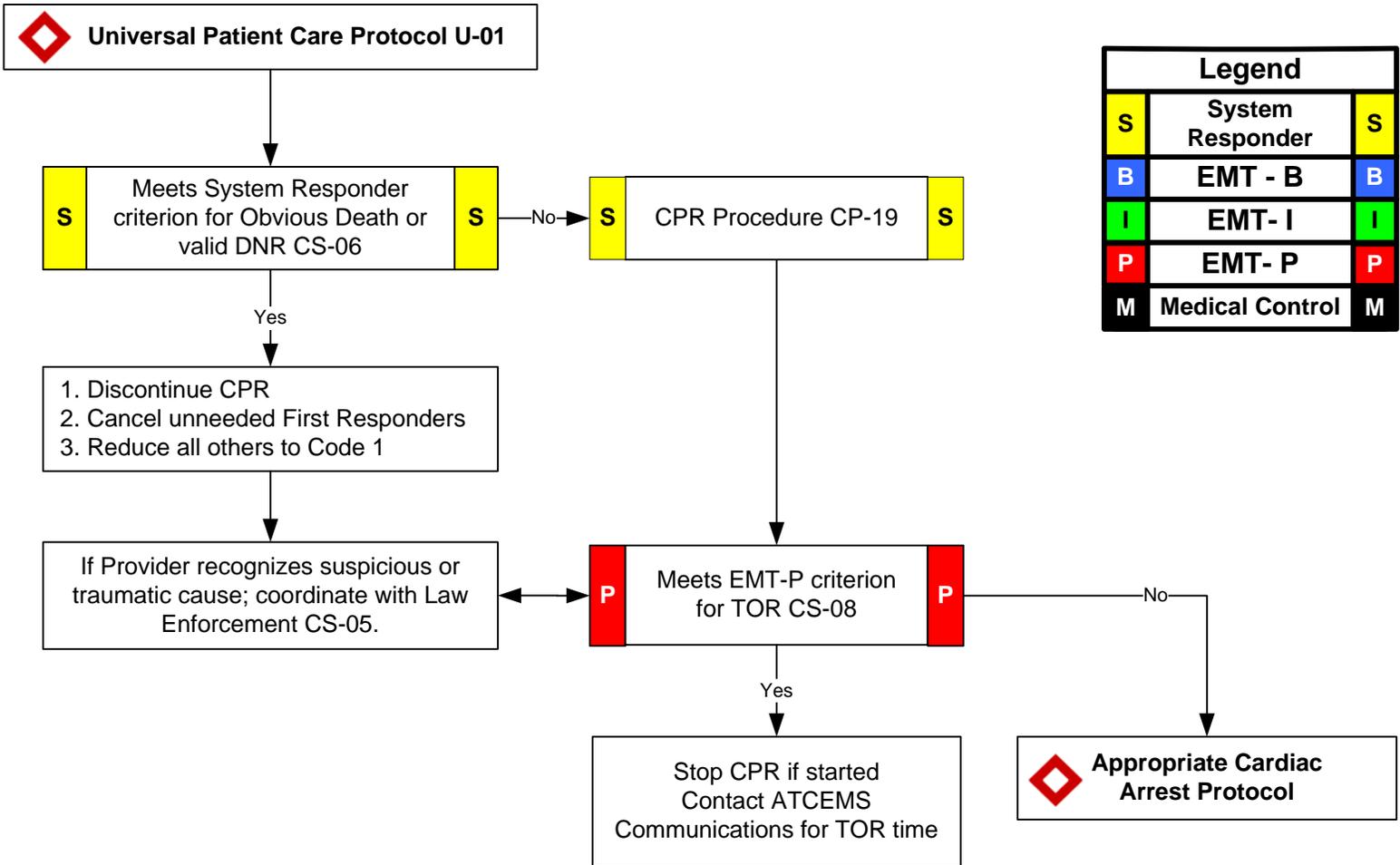
Legend		
S	System Responder	S
B	EMT - B	B
I	EMT - I	I
P	EMT - P	P
M	Medical Control	M

**Pearls:**

- Consider Chest Decompression with signs of shock and diminished/absent breath sounds. If patient arrests perform bilateral decompression.
- See Regional Trauma Guidelines for criteria when declaring trauma activation.
- If patient meets Trauma Activation criteria interventions should be performed enroute. Minimize scene time.
- Severe bleeding from an extremity not rapidly controlled by direct pressure may necessitate the application of a tourniquet
- Record "Trauma Activation" in patient record.
- Permissive hypotension should be used in the absence of neurologic injury. **If suspected neurologic injury maintain SBP ≥ 90.**

# Deceased Person

<b>History:</b> Past Medical History Recent Illness Last seen alive Mechanism Trauma/Medical Resuscitation efforts PTA	<b>Signs/Symptoms:</b> Dependent Lividity Pulseless Apneic Decapitation Rigor Mortis	<b>Differential:</b> Primary Cardiac Disease Homicide Diving Trauma Asphyxiation
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Legend		
S	System Responder	S
B	EMT - B	B
I	EMT - I	I
P	EMT - P	P
M	Medical Control	M

**Pearls:**

- Anytime a provider feels the need to have Law Enforcement on the scene they should make the request via EMS Communications (suspicious death or assistance with family/bystanders).
- Victim Services should be requested via EMS Communications as soon as possible for deceased person with family members present.

Criteria for withholding resuscitation; one or more of the following is present:

- Rigor mortis and/or dependent lividity;
- Decomposition, Decapitation, Incineration;
- Obvious mortal wounds (severe trauma with obvious signs of organ destruction)
- Patient submersion > 20 minutes from arrival first Public Safety to patient positioned for resuscitation.
- Patients with suspected traumatic mechanism found pulseless and apneic by first provider on scene with no respiratory effort after basic airway maneuvers **AND** Organized electrical activity on ECG with rate < 40 BPM.
- Fetal death with a fetus < 20 weeks by best age determination available at scene

**Standard:**

To establish guidelines for conducting patient related activities on a potential crime scene.

**Purpose:**

When all resuscitative efforts have ceased it is every Provider's responsibility to assist law enforcement by preserving evidence at potential crime scene. Any scene involving a patient that is pulseless and apneic is to be considered a crime scene and treated accordingly. In such situations Provider's should also maintain a heightened awareness for the presence of weapons.

**Application:****General principles of crime scene management:**

1. **The existence of a possible crime scene should not influence the decision to initiate resuscitative efforts.** The first arriving Credentialed Provider on-scene must make patient access to determine whether resuscitative efforts are indicated. If law enforcement prevents entry, additional responding units should be reduced to "Code 1" response. All law enforcement refusal of access to patients by Providers will be retrospectively reviewed with law enforcement.
2. A provider should not handle weapons unless necessary to ensure a safe patient care environment. If weapons must be handled, the Provider must wear gloves, clearly document the items original and new location, and inform on-scene Law Enforcement.
3. Never use anything (phones, sink, bathroom, towels, sheets, blankets, pillows, etc.) from an incident scene.
4. Victims of suspected assault should be strongly discouraged against "cleaning up," washing or showering prior to arrival of Law Enforcement or transport.
5. Providers should not touch anything in the crime scene unless required for patient care activities. Patient demographic information should be obtained from law enforcement when possible.
6. Any ligature(s) involved should be left as intact as possible and should be cut rather than untied. All cuts made should be in an area well away from any knots.
7. Containers of any substance, which may have been ingested by the patient/victim, should be left in the position found unless needed for ongoing patient care. If the container must be touched, use gloved hands and limit handling to a minimum in order to preserve any fingerprints that may be present.
8. Disposable items used during resuscitation efforts are to be left in place on the body. Sharps used during the resuscitation should be stored in an appropriate container and taken away by EMS personnel. Any extraneous trash should be taken away as well.
9. Intravenous/IO lines, airways and all other disposable equipment used, that are successfully placed, are to remain in place on the body.
10. Termination of Resuscitation (TOR) should be made in accordance with the standards outlined in the Criteria for Death or Withholding Resuscitation/Discontinuation of Resuscitation Standards.
11. If requested to do so by Law Enforcement; providers may cover a body with a trace evidence blanket (when available), clean sheet or sterile drape. All efforts should be made to protect the dignity of the patient and block the public view of the body.
12. Once a TOR time is obtained the body falls under the jurisdiction of the Medical Examiner. It may not be touched or altered in any way without authorization from the Medical Examiner's Office.
13. It is acceptable to share Patient Care information with appropriate on-scene law enforcement once the TOR has been completed.

## **Crime scene management where no resuscitation is initiated:**

1. Any Responder, who is not credentialed to seek a TOR of an obvious Dead on Scene (DOS), should immediately leave the area via the path of entry without touching anything.
2. When TOR is required, only one properly Credentialed Provider should make entry to the area.

## **Crime scene management with unsuccessful resuscitation:**

1. Once resuscitation efforts have ceased and a TOR has been obtained providers should immediately vacate the area.
2. The Medical Examiner must be able to differentiate between punctures originating from resuscitation efforts and those present prior to arrival. All unsuccessful IV/IO or pleural decompression attempts should be marked on the body by circling with a marker or pen.

## **Crime scene management with patient transport:**

1. Clothing, jewelry or other objects removed from the patient should be left on-scene. Clearly document any items left and inform on-scene Law Enforcement of the items original and current locations.
2. When cutting clothing for the purpose of assessment and/or treatment avoid cutting through existing defects in the clothing (tears, entry or exit points) whenever possible.
3. If the patient has been placed on a sheet, notify the receiving facility that the sheet and all personal effects may be considered evidence.
4. If law enforcement is not on-scene prior to transport, the first response agency is to remain on scene, out of the crime scene perimeter, until arrival of law enforcement. An effort should be made to keep all individuals out of the area.

## **Crime scene management with “exigent” circumstances:**

1. Code of Criminal Procedure Title 1 Chapter 49.25 Removal of Bodies Section 8: *“When any death under circumstances set out in Section 6 (below) shall have occurred, the body shall not be disturbed or removed from the position in which it is found by any person without authorization from the medical examiner or authorized deputy, **except** for the purpose of preserving such body from loss or destruction or maintaining the flow of traffic on a highway, railroad or airport.”*
2. In the case of these exceptions providers may be requested by law enforcement to assist with the movement/removal of the body. When possible evidence blankets should be used for patient movement and every effort should be made to preserve evidence where possible.

N.B. Section 6 Death Investigations: This section outlines the indications for inquest by the medical examiner. For more information visit <http://www.statutes.legis.state.tx.us/Docs/CR/htm/CR.49.htm#49.25>

# Discontinuation of Prehospital Resuscitation

## Standard:

Unsuccessful cardiopulmonary resuscitation (CPR) and other advanced life support (ALS) interventions may be discontinued prior to transport when this standard is followed.

## Purpose:

The purpose of this standard is to allow for discontinuation of prehospital resuscitation after the delivery of adequate and appropriate ALS therapy.

## Application:

1. Any System Credentialed Provider, in the following circumstances, may discontinue resuscitation efforts without OLMC:
  - Resuscitation efforts were inappropriately initiated when criteria outlined in the Criteria for Death/Withholding Resuscitation Standard were present
  - A valid Out of Hospital Do Not Resuscitate Form (OOH-DNR) and/or OOH-DNR ID device was discovered after resuscitative efforts have been initiated. The form and device may be from any (US) State (Original or Copy) as defined in the DNR Standard
2. In addition to the previously stated criteria a Paramedic Credentialed Provider, in the following circumstances, may discontinue resuscitation efforts without OLMC:
  - If the patient suffers a traumatic injury meeting the following criteria:
    - The patient is pulseless and apneic on arrival of the first provider on scene **AND**
    - Lacks respiratory effort after basic airway maneuvers **AND**
    - Organized electrical activity on ECG with a rate (less than) < 40.
3. In the case of suspected medical cause of arrest all of the following criteria must be met:
  - Patient must be at least 18 years of age **OR** the family of a minor is agreeable;
  - Cause of arrest is NOT due to suspected hypothermia;
  - Adequate CPR has been administered;
  - Airway has been successfully managed with verification of device placement. Acceptable management techniques include endotracheal intubation, blind insertion airway device (BIAD) or cricothyrotomy;
  - IV/IO access has been achieved;
  - Rhythm-appropriate medications and defibrillations have been administered according to protocol;
  - Persistent (>20 min) Asystole or agonal rhythm is present and no reversible causes are identified;
  - Failure to establish spontaneous circulation (palpable pulse) at any point in the arrest;
  - Failure to establish persistently recurring or refractory ventricular fibrillation/tachycardia or any continued neurological activity (eye opening, or motor response) after appropriate BLS and ALS resuscitation efforts over 20 minutes;
  - All Paramedic Credentialed providers on scene agree with decision to cease efforts.
  - If all of the above are not met and the provider feels it is appropriate to discontinue resuscitative efforts contact an on call System Medical Director.
4. When an on call System Medical Director is involved in the decision to terminate; resuscitative efforts must be continued while:
  - the family is counseled on the patients unchanging condition and impending discontinuation of efforts;
  - requesting a Termination of Resuscitation from an on call System Medical Director
5. If termination of efforts is anticipated Victim Services, when available, should be contacted as early as possible
6. Document all patient care and any interactions with the patient's family, personal physician, medical examiner, law enforcement, and medical control in the EMS patient care report (PCR)

## Domestic Violence ( $\geq 18$ years old) (Partner and/or Elder Abuse) Recognition and Reporting

### Standard:

Domestic violence is physical, sexual, or psychological abuse and/or intimidation, which attempts to control another person in a current or former family, dating, or household relationship. Elder abuse is the physical and/or mental injury, sexual abuse, negligent treatment, or maltreatment of a senior citizen by another person. Abuse may be at the hand of a caregiver, spouse, neighbor, or adult child of the patient. The recognition, appropriate reporting, and referral of abuse is a critical step to improving patient safety, providing quality health care, and preventing further abuse. For people < 18 years old Refer to CS – 03.

### Purpose:

Assessment of an abuse case is based upon the following principles:

- **Protect** the patient from harm.
- **Suspect** that the patient may be a victim of abuse, especially if the injury/illness is not consistent with the reported history.
- **Respect** the privacy of the patient and family.
- **Collect** and document as much information as possible.

### Application:

1. Assess all patients for any psychological characteristics of abuse, including excessive passivity, compliant or fearful behavior, excessive aggression, violent tendencies, excessive crying, behavioral disorders, substance abuse, medical non-compliance, or repeated EMS requests. This is typically best done in private with the patient.
2. Assess all patients for any physical signs of abuse, especially any injuries that are inconsistent with the reported mechanism of injury. Defensive injuries (e.g. to forearms), and injuries during pregnancy are also suggestive of abuse. Injuries in different stages of healing may indicate repeated episodes of violence.
3. Assess all patients for signs and symptoms of neglect, including inappropriate level of clothing for weather, inadequate hygiene, absence of attentive caregiver(s), or physical signs of malnutrition.
4. System Credentialed Providers are required to immediately report any suspicious findings to the Texas Department of Family and Protective Services (DFPS) hot line 800-252-5400. This phone is answered 24 hours everyday. This should occur as soon as reasonably possible after leaving the scene (if patient refuses) or at the hospital after patient transfer is completed. Providers may need to request a **brief** “out of service time” for this process to be completed. Other than the phone interview, there are no other immediate written documentation reporting requirements by the State.
5. If the patient is transported to the hospital; the RN/MD receiving report should be advised of the conditions/situation the patient was found in. Law Enforcement may also be notified if available. These must be reported to the “Department” (DFPS). Reporting options are additionally discussed including criterion for on-line reporting vs. hotline call; including, creating an account and login to make the on-line report : <https://www.txabusehotline.org/Login/Default.aspx>
6. All patient encounters with DFPS reporting must be documented in your PCR/ePCR with the DFPS intake/case number included.

Reference: Human Resources Code Title 2, Subtitle D, Chapter 48, Sec. 48.002 and 48.051.

Purpose: To define patients that cannot be transferred to a provider other than a Credentialed Paramedic.

Application:

For the purposes of this standard, “Paramedic” refers to an Austin/Travis County EMS System Credentialed Paramedic with no current restrictions on their credential to practice.

All providers on scene are expected to participate in patient care. Both providers are responsible for conducting an initial evaluation to determine a chief complaint, level of distress and initial treatment plan. Stable patients not in need of paramedic level care may be attended by another provider. The Transport Paramedic is responsible for making the decision for which patients can be safely transported by a provider with lower credentials.

The care of the following patients **cannot** be transferred to a lower level of Credential by a Transport Paramedic:

1. Any patient who requires additional or ongoing medications, intervention and/or monitoring beyond the scope of practice of the System Credentialed EMT - B provider refer to OMD Reference OMDR – 03.
2. Any patient that receives medications beyond the scope of practice of the System Credentialed EMT-B provider.
3. Postictal seizure patients who have not returned to baseline mental status.
4. Any patient with the following: Trauma Activation (steps 1 and/or 2), Stroke Alert, STEMI Alert, or Syncope.
5. Any patient for which the transporting providers **do not agree** can be safely transported without a Paramedic attending in the back of the ambulance.
6. Any “High Risk Refusal” as defined by Clinical Reference CR – 29.

### Exceptions to the above listed items:

- Patients who received a **single dose** of intranasal (IN) narcotic for the purpose of pain control in a traumatic injury **not involving** the head, chest, or abdomen.
- Patients having a Syncopal episode, who are < 50 yrs. old, have a normal blood sugar, and a normal ECG.
- Monitor IV Saline Lock.
- Monitor PO route medications administered by a Medic II.
- Any hypoglycemic patient that returns to baseline mental status after treatment
- A BLS Transport Provider may call and obtain a Termination of Resuscitation (TOR) time on behalf of a Paramedic Transport Provider post ALS patient assessment and upon request.
- Refer to OMDR-3 for additional Scope of Practice.

## BLS Transport Decision Process

The ePCR should reflect the decision making process to determine which provider attends in the back of the ambulance. As with all documentation, both providers are responsible for the content of the ePCR.

### Standard:

Establish a process for guidance on Emergent inter-facility transfers (ETRAN).

### Purpose:

To transport a patient who requires Advanced Life Support care during their transport from one medical facility to another.

### Application:

1. The transporting paramedic should ensure that all appropriate documentation accompanies the patient. Known STEMI or time dependent Stroke or Trauma patients are exceptions to this rule. An MOT must be obtained (location/facility exceptions noted in CS – 19) but all other records may be faxed to the receiving facility if not presented at time of transfer.
2. In the event a Transport Provider arrives at the transferring facility and; the patient is on a pump, vent, receiving medication (s) not in the System COGs, or on a medical device not used in the System; the Transport Provider **must** contact the on call System Medical Director.
3. When transporting hospital staff, both the transport crew and accompanying staff are responsible for management of the patient.
4. All EMS rendered treatments must comply with the A/TCEMS System Clinical Operating Guidelines.
5. An A/TCEMS patient care record will be completed in accordance with the Documentation of the Patient Care Report Standard (CS – 10).
6. The following items are required equipment for all transfers.
  - Cardiac monitor/defibrillator
  - Combo kit with oxygen
  - Obstetrics kit (OB/GYN transfers only)
7. All patients that fall within the intent of this Standard should, at a minimum receive:
  - Continuous ECG and oxygen saturation monitoring
  - Non-invasive hemodynamic monitoring (auscultated blood pressure, palpated pulse rate)
8. If the patient deteriorates, the transferring facility should be notified via radio or cellular phone. Additional orders if needed should be obtained from the receiving physician or facility whenever possible.

## Memorandum of Transfer (MOT)

### Standard:

To establish the expectations that ATCEMS transporting crews will review the Memorandum of Transfers (MOT) in order to transfer the patient to the appropriate receiving facility as ordered in the MOT.

### Purpose:

A Memorandum of Transfer (MOT) is a medical order written for the transfer of care of a patient between one hospital to another hospital. The transport providers will honor the MOT unless there is a change in patient condition that necessitates transport to a closer facility for the purpose of stabilization.

### Application:

1. Ensure that there is an MOT for every patient that is being transferred from one hospital to another that it includes the signature of the sending physician, the name of a receiving physician and a destination that is an approved transport destination as outlined in the COG's. If the transport providers perceive a conflict with the existing ATCEMS destination policy and the indicated destination this must be clarified with the sending physician or his designee before transport is initiated.
2. Review the MOT to ensure the intended destination is listed on the MOT. If it is not indicated or there is a change in destination this must be modified by the sending facility prior to transport. The transport providers shall not modify or document on the MOT.
3. The patient is to be transported to the intended destination unless there is a change in the patient status that can not be managed through existing ATCEMS treatment protocols or through contact with the sending/receiving physician. In such cases the provider may divert to a closer appropriate facility for immediate stabilization. The reasons for diversion should be thoroughly documented in the PCR.
4. Treat the patient in accordance with the COG's or medical orders provided by the transferring physician. Providers must ensure that the orders from the transferring physician are within their defined scope of practice according to the COG's.
5. A patient with present mental capacity who has not had this capacity removed by physician or court order and who is not in custody retains the rights of consent and refusal outlined in the Refusal of Treatment/Transport Standard. If the patient wishes to refuse care or alter the prescribed destination this should be discussed with the sending physician.

### Location/Facility exceptions to MOT Requirement:

- Transfers from St David's Bee Cave (FSED) to St David's South Austin Medical Center
- Transfers from St David's Pflugerville (FSED) to St David's North Austin Medical Center
- Transfers from St David's Cedar Park (FSED) to St David's Round Rock Medical Center
- Private Physicians Offices
- Urgent Care Facilities

## Refusal of Treatment and/or Transport

### **Standard:**

To establish guidelines for Providers when addressing issues of consent or for patients who wish to refuse the treatment and/or transportation offered.

### **Purpose:**

Adult patients with present mental capacity retain the right to refuse care and/or transport against medical advice.

### **Definitions:**

#### **Informed Consent/Refusal**

In Texas the general rule of law is that before a person may receive medical treatment they must give informed consent for that treatment. Without consent the medical treatment is unlawful. This is true regardless of whether the person receiving the treatment is a minor or has reached the age of majority (18 years of age).

Informed consent is based on an individual's appreciation and understanding of the facts, implications and future consequences of an action. In order to provide informed consent or refusal a patient must have adequate reasoning faculties(capacity) and be provided with information (risks/benefits) relevant to the decision making process. They should also be aware of the options available to them if they choose not to accept evaluation and/or treatment.

#### **Implied Consent**

In potentially life-threatening emergency situations where a patient is unable to give informed consent the law presumes that the patient would give consent if able. In potentially life-threatening emergency situations, consent for emergency care is implied if the individual is:

- Unable to communicate because of an injury, accident, illness, or unconsciousness and suffering from what reasonably appears to be a life-threatening injury or illness

**OR**

- Suffering from impaired present mental capacity

**OR**

A minor who is suffering from what reasonably appears to be a life-threatening injury or illness and whose parents, managing or possessory conservator, or guardian is not present

#### **Substituted (Surrogate) Consent**

An individual with legal standing may give consent for a patient when the patient does not have the ability to do so because they are a minor, incarcerated or have been determined by courts to be legally incompetent. Parents or guardians are entitled to provide permission because they have the legal responsibility, and in the absence of abuse or neglect, are assumed to act in the best interests of the child.

## Refusal of Treatment and/or Transport

The following person(s) may consent to, or refuse, the evaluation, treatment, and/or transportation of a minor:

- Parent
- Grandparent
- Adult (> 18) sibling
- Adult (> 18) aunt or uncle
- Educational institution in which the child is enrolled that has received written authorization to consent/refuse from a person having the right to consent/refuse.
- Adult who has actual care, control, and possession of the child **and** has written authorization to consent/refuse from a person with the power to consent /refuse (i.e., daycare camps, soccer moms, carpools, etc.)
- Adult who has actual care, control, and possession of a child under the jurisdiction of a juvenile court
- A court having jurisdiction over a lawsuit affecting the parent-child relationship of which the child is the subject
- A peace officer who has lawfully taken custody of minor, if the peace officer has reasonable grounds to believe the minor is in need of immediate medical treatment.
- A managing or possessory conservator or guardian.

### Application:

1. All patients refusing treatment and/or transport must :
  - Be at least 18 years of age or an Emancipated Minor;
  - Be able to demonstrate present mental capacity in accordance with the Determination of Capacity Procedure: Clinical Procedure CP - 23.
  - NOT have been declared legally incompetent by a court of law. (If a patient has been declared legally incompetent, his/her court appointed guardian has the right to consent to, or refuse, evaluation, treatment, and/or transportation for the patient.)
  - NOT be suicidal or homicidal. (A law enforcement officer may arrest a patient who threatens or attempts suicide under Texas Health and Safety Code Section 573.001. The statute also covers other mentally ill patients and a similar statute allows an arrest for chemical dependency. Only a law enforcement officer can make these arrests.)
2. Patients meeting the above criteria who demonstrate present mental capacity retain the right to refuse any or all treatment and/or transportation. All patients should be encouraged to seek care. Additional resources may be employed including but not limited to involving the patients physician, additional providers such as a Commander, DMO, or On-line Medical Control.
3. Under no circumstances will ATCEMS System providers refuse or deny treatment or EMS transportation to any patient (or legal patient representative) who requests medical assistance from the provider or agency. The initiation of treatment should not be dependent on the patient's willingness to accept transport. (e.g. Hypoglycemia, Asthma, etc.) This does not include the administration of narcotic pain medications or sedative agents.
4. ATCEMS System providers shall not discourage any patient (or legal patient representative) from seeking medical care from a physician or from accepting EMS transport to a hospital.

## Refusal of Treatment and/or Transport

5. When a patient with present mental capacity wishes to refuse care:
  - The patient will be instructed that the evaluation and/or treatment is incomplete due to the limitations of the pre-hospital care environment;
  - The providers will attempt to identify any patient perceived obstacles to treatment/transport and make reasonable efforts to address these obstacles. This includes but is not limited to the offer of transportation without treatment, or the offer of transportation to a facility not recommended by protocol. These should be offered only for the purpose of facilitating additional evaluation and/or treatment which would otherwise be refused.
  - The provider will inform the patient of the risks of refusal and benefits of treatment/transport in accordance with their presenting complaint. It should be explained that the risks described are not comprehensive due to the diagnostic limitations of the pre-hospital environment and that their refusal may result in worsening of their condition, serious disability or death.
  - The patient will be advised that they should seek immediate medical care at an Emergency Department or with their own physician and that they may call 911 again at any time if they wish to be transported to the hospital or if their condition changes or worsens.

### Documentation:

1. The provider must document facts sufficient to demonstrate the patient's present mental capacity and understanding of his/her condition and the consequences of refusing treatment and/or transport to include those mentioned above.
2. If a patient wishes to refuse assessment, treatment and/or transport, have the patient sign (Against Medical Advice-AMA) relating to the refusal of specific assessment, treatment, destination recommendation, or transport and have a third party witness the signature.
3. If the patient refuses to sign the refusal form, the provider will document the circumstances under which the patient refused to sign.

## Intraosseous Infusion EZ - IO

I	EMT- I	I
P	EMT- P	P

### Clinical Indications:

- As the initial means of circulatory access in cardiac arrest (**ILS**)
- Patient where rapid vascular access is unavailable by other means in the following conditions: (**Paramedic Only**)
  - Multisystem trauma with severe hypovolemia
  - Severe dehydration with vascular collapse and/or loss of consciousness
  - Respiratory failure or respiratory arrest
  - After 3 unsuccessful attempts & patient is unstable

### Contraindications:

- Fracture proximal to proposed intraosseous site
- History of Osteogenesis Imperfecta
- Current or recent infection at proposed Intraosseous site
- Previous Intraosseous insertion within 24 hours or joint replacement at or above the selected site

### Procedure:

1. Prepare EZ-IO assuring that complete needle set with trochar and needle is present.
  - Examine needle set to insure that seal is intact and needle is sterile, unused
2. Landmark for insertion as follows:
  - Humeral head: Place the patient palm on the umbilicus with the elbow on the ground or stretcher. Use your thumb to identify the humeral shaft. Slide thumb towards humeral head with firm pressure. Locate the tubercle by the prominent bulge. Use the opposite hand to pinch anterior and posterior humerus to assure midline position on the humerus
  - Proximal Tibia: Identify anteromedial aspect of the proximal tibia palpated just below the inferior border of the patella. Insertion site is 1-2 cm (2 finger breadths) below this on the flat surface of the tibia
  - Distal Tibia: (reserved for > 12 years of age) Identify the anteriomedial aspect of the distal tibia (2 cm proximal to the medial malleolus)
3. Prep the selected insertion site with Chlorohexadine.
4. Hold the Intraosseous needle at 60-90 degree angle aimed away from the nearest joint. Power the driver until a “pop” or “give” is felt indicating a loss of resistance. Do not advance the needle further.
5. Remove the stylette and place in approved sharps container.
6. Attach a syringe filled with at least 5 mL of NS and aspirate to confirm placement. Inject 5 mL of NS to clear the needle while observing for infiltration.
7. Attach IV tubing and adjust flow rate as desired. A pressure bag may be used to enhance flow where appropriate.
8. Stabilize and secure the needle.
9. If the patient experiences pain with infusion or medication administration lidocaine may be instilled in the IO catheter line. Discontinue fluid/medication administration prior to administering lidocaine and wait 15 seconds prior to restarting. Lidocaine dosing as follows may be repeated once if pain persists:
  - Adult: 40 mg (2 mL of 2% solution)
10. When administering medications via the IO route delivery should be followed with a 10mL flush of NS.
11. Document the procedure, time and result on the patient care report and apply wrist band as appropriate if time allows.

## i-gel O<sub>2</sub> Airway (BIAD)

B	EMT - B	B
I	EMT- I	I
P	EMT- P	P

### Clinical Indications:

- Cardiac arrest after assuring continuous compressions, defibrillation and BLS airway management has been completed
- Non-cardiac arrest patient without a gag reflex.  
**(PARAMEDIC and Intermediate ONLY)**
- Intubation is difficult/impossible due to patient access or airway anatomy **(PARAMEDIC ONLY)**

### Contraindications:

- Patients who are conscious or who have an intact gag reflex
- Patients under/over weight for airway size used
- Patients with known esophageal disease (varices, alcoholism, cirrhosis etc.) or ingestion of caustic substances
- Deforming facial trauma that prevents proper seating of the airway

### Size Selection:

Select the appropriate size i-gel o<sub>2</sub> by assessing the patient's anatomy/weight.

	Weight	Size
i-gel O <sub>2</sub> Resus Pack Yellow	30-60 kg (66-132 lbs)	size 3.0
i-gel O <sub>2</sub> Resus Pack Green	50-90 kg (110-198 lbs)	size 4.0
i-gel O <sub>2</sub> Resus Pack Orange	90+ kg (198 lbs and up)	size 5.0

### Pre-use checks:

1. Inspect the packaging and ensure it is not damaged prior to opening.
2. Inspect the device carefully, check that the airway is patent and confirm there are no foreign bodies or a bolus of lubricant obstructing the distal opening of the airway or gastric channel.
3. Carefully inspect inside the bowl of the device ensuring surfaces are smooth and intact and also that the gastric channel is patent
4. Discard the device if the airway tube or the body of the device looks abnormal or deformed.

### Pre-insertion preparation:

1. Always wear gloves.
2. Open the i-gel O<sub>2</sub> package, and on a flat surface remove the inner tray containing the airway support strap and sachet of lubricant and place to one side (Figure 1).
3. In the final minute of pre-oxygenation, remove the i-gel o<sub>2</sub> open the sachet of supplied lubricant and place a small bolus of the lubricant on the base of the inner side of the main shell of the packaging (Figure 2).

## i-gel O<sub>2</sub> Airway (BIAD)

4. Grasp the i-gel O<sub>2</sub> along the integral bite block and lubricate the back sides and front of the cuff with a thin layer of lubricant. This process may be repeated if lubrication is not adequate, but after lubrication has been completed. Check that no BOLUS of lubricant remains in the bowl of the cuff or elsewhere on the device. Avoid touching the cuff of the device with your hands. (Figures 3, 4, and 5).
5. Ensure the supplementary oxygen port is firmly dosed with the integral cap until it is required for use.
6. Place the i-gel back into the main shell of the packaging in preparation for insertion. (Figure 6).

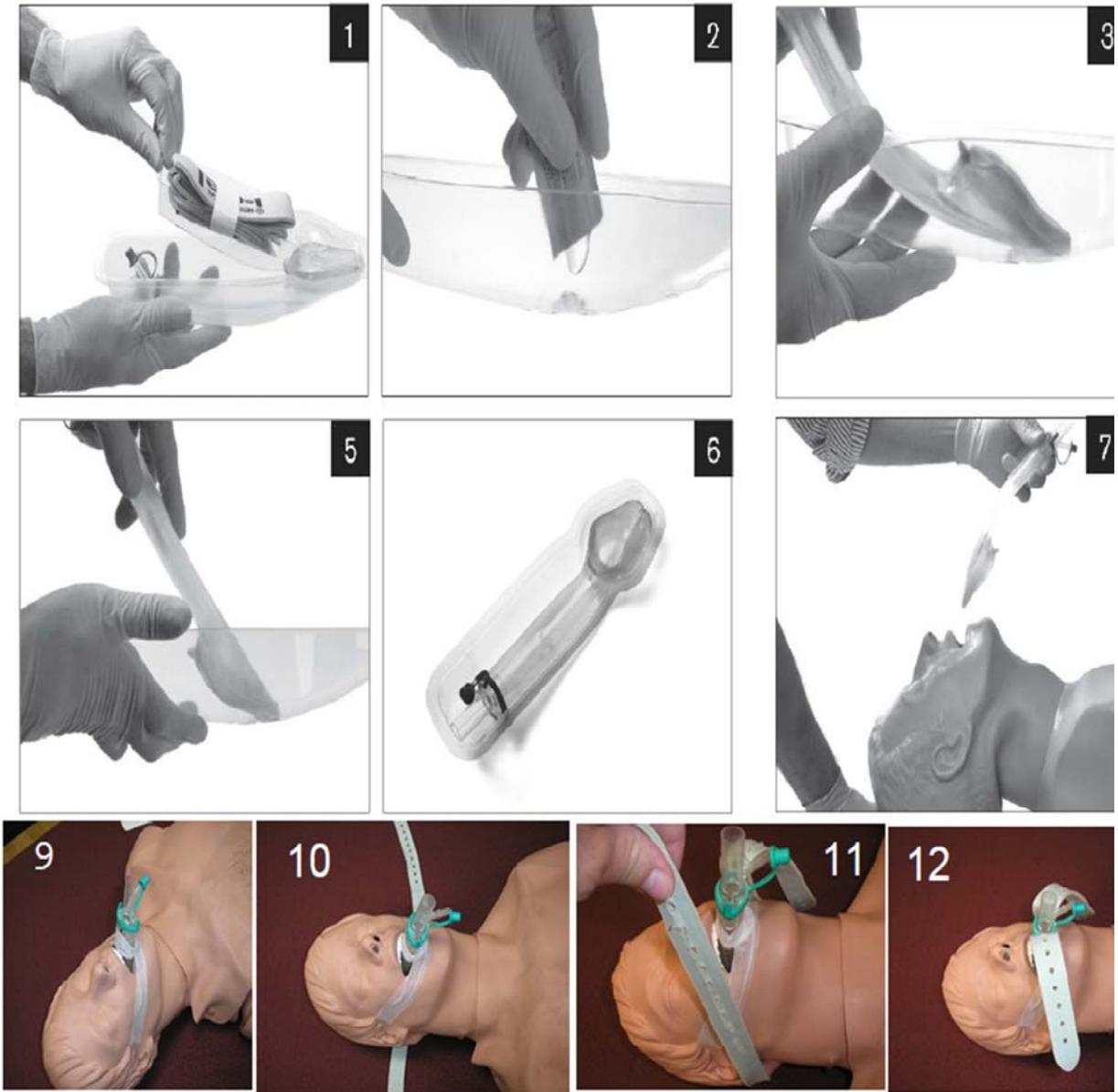
### **Recommended insertion technique:**

WARNING: REMOVE DENTURES OR REMOVABLE PLATES FROM THE MOUTH BEFORE ATTEMPTING INSERTION OF THE DEVICE. DO NOT APPLY EXCESSIVE FORCE DURING INSERTION.

IT IS NOT NECESSARY TO INSERT FINGERS OR THUMBS INTO THE PATIENT'S MOUTH DURING THE PROCESS OF INSERTING THE DEVICE.

1. Grasp the lubricated i-gel O<sub>2</sub> firmly along the integral bite block. Position the device so that the i-gel O<sub>2</sub> cuff outlet is facing towards the chin of the patient (Figure 7).
2. The patient should be in the 'sniffing the morning air' position (Figure 7) with head extended and neck flexed. The chin should be gently pressed down by an assistant before proceeding to insert the i-gel O<sub>2</sub>.
3. Introduce the leading soft tip into the mouth of the patient in a direction towards the hard palate.
4. Glide the device downwards and backwards along the hard palate with a continuous but gentle push until a definitive resistance is felt.
5. At this point the tip of the airway should be located into the upper esophageal opening (Figure 8a) and the cuff should be located against the laryngeal framework (Figure 8b). The incisors should be resting on the integral bite-block (Figure 8c)
6. i-gel O<sub>2</sub> should be taped down from maxilla to maxilla **AND** secured with the airway support strap provided (Figures 9,10,11 and 12).
7. If an ITD is to be used it must be placed at this time, connected directly to the airway.
8. Apply CO<sub>2</sub> detection device (or capnography if available).
9. Confirm proper position by auscultation, chest movement and verification of CO<sub>2</sub> by capnography/ capnometry after 6 breaths.
10. Once proper position is confirmed by auscultation and/or chest rise; the provider must continue to stabilize the i-gel with their free hand. (Figure 13).
11. Providers may continue to use backboards to assist in patient movement as needed.

## i-gel O<sub>2</sub> Airway (BIAD)



Legend		
S	System Responders	S
B	EMT - B	B
I	EMT- I	I
P	EMT- P	P

**Clinical Indications:**

- Patient in need of ventilatory support and/or in acute respiratory distress.

**Contraindications: None**

**Preparation for use:**

1. Inspect the **SMART BAG<sup>®</sup>MO** resuscitator to ensure that all components are present and properly assembled.
2. Test for leaks by occluding the patient port completely squeezing the bag (Any leaks in the system may prevent the delivery of sufficient volume to the patient).
3. Squeeze and release the **SMART BAG<sup>®</sup>MO** hard a few times to ensure that air is moving through the valve system to the mask. The **SMART<sup>®</sup>** Valve in the neck of the bag should move freely indicating increased airway pressure and you should notice an immediate increase in bag tension (stiffness).
4. Gently squeeze and release the **SMART BAG<sup>®</sup>MO** a few times to ensure that the bag tension is reduced and the **SMART<sup>®</sup>** Valve in the neck of the bag does not move forward when you gently squeeze. This provides confirmation that the airway pressure will be kept to the minimum required for adequate ventilation to occur while reducing the risk of gastric insufflation.
5. If using supplemental oxygen, attach the reservoir system to the bag refill port and ensure that the oxygen tubing is attached to an oxygen source with a flow rate of at least 15 lpm. Ensure that the collapsible reservoir system is fully extended to allow maximum oxygen storage.

**Procedure:**

1. Select the appropriate **SMART BAG<sup>®</sup>MO** resuscitator model for the size of patient to be ventilated.
2. Ensure that the patient's airway is clear of any obstructions and remains open by properly positioning the patient's head.
3. Maintain a proper mask-to-face seal with one hand by lifting the chin upward with the last three fingers of the hand. Keep the index finger and thumb on top of the mask to form a tight seal around the patient's mouth and nose. The 2 handed technique is preferred for maintaining mask-to-face seal during Pit Crew operations.
4. Gently squeeze the **SMART BAG<sup>®</sup>MO** with the other hand until the chest rises, then release. Ventilate the patient with a steady squeeze and release of the **SMART BAG<sup>®</sup>MO** allowing sufficient time between ventilations to allow for full emptying of the patient's lungs.
5. If the child **SMART BAG<sup>®</sup>MO** is being used and the Pressure Relief override is required to be applied, place a finger over the Pressure Relief Button, depress the button and rotate 90° to lock in place. To unlock simply rotate the button until the arrow lines up with the arrow on the patient valve and release.
6. If you are unable to effect a positive mask seal/good airway control, rotate the lock out mechanism to lock out the **SMART<sup>®</sup>** valve. (Adult or Pedi)
7. If you are ventilating a patient that is breathing, rotate the lock out mechanism to lock out the **SMART<sup>®</sup>** valve. (Adult or Pedi)
8. Safely dispose of the **SMART BAG<sup>®</sup>MO** after use.

## Adult Norepinephrine (Levophed) Infusion

Range of Infusion 2 - 12 mcg/min

**Titrate to MAP  $\geq$  65**

Step 1  
Determine concentration

**Mix 4 mg Levophed into 250 mL N/S (must use 60 drop set)**  
Concentration = 16mcg/1mL

Step 2  
Determine Rate

Dose	2mcg/min	3mcg/min	4mcg/min	5mcg/min	6mcg/min	7mcg/min	8mcg/min	9mcg/min	10mcg/min	11mcg/min	12mcg/min
gtts/min	8	11	15	19	22	26	30	34	38	41	45

	Seton Medical Center Williamson	Round Rock Medical Center	University Medical Center	Seton Medical Center Brackenridge	St. David's Medical Center Austin	North Austin Medical Center	Heart Hospital of Austin	South Austin Medical Center	Westlake Medical Center	Seton Northwest Center	Scott & White Hospital	Cedar Park Regional Medical Center	Lakeway Regional Medical Center	Dell Children's Medical Center	North Austin Medical Center	Children's Medical Center	Seton Southwest Hospital	St. David's Cedar Park FSED	St. David's Bee Cave FSED	St. David's Pflugerville FSED
<b>Basic Receiving Facilities</b>																				
All Ages Alpha - Charlie < 20 weeks OB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	
All Ages Alpha - Charlie ≥ 20 weeks OB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	
All Ages Alpha - Charlie OPEN fractures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓				
<b>Comprehensive Receiving Facilities (includes capabilities of all Basic Receiving Facilities)</b>																				
All Ages Alpha - Echo YES OB		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
≥ 18 y/o Alpha - Echo NOT OB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
STEMI Alert YES OB		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
STEMI Alert NOT OB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
Resuscitation Alert YES OB		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
Resuscitation Alert NOT OB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
Stroke Alert			✓	✓	✓															
Trauma Alert ≥ 15 y/o	✓	✓	✓																	
Sexual Assault Male > 11 y/o	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	
Sexual Assault Female ≥ 18 y/o or OB or Menses has begun	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	
<b>Pediatric Facilities</b>																				
≤ 17 y/o Alpha-Echo < 20 weeks OB or NOT OB													✓	✓						
≤ 17 y/o Injured <b>NO</b> Trauma Alert													✓	✓						
≤ 14 y/o Injured <b>NO</b> Trauma Alert													✓	✓						
≤ 14 y/o Injured Trauma Alert													✓							
≤ 17 y/o STEMI, Stroke & Resuscitation Alerts NOT OB													✓	✓						
Sexual Assault Male ≤ 11 y/o													✓							
Sexual Assault Female ≤ 17 y/o NO OB or NO Menses													✓							

## Induced Hypothermia Checklist:

- Meets criteria for induction
  - ROSC
  - $\geq 37$  Kg
  - Non-traumatic cause
  - No suspected hemorrhagic cause
  - Temp  $> 34$  C (93.2 F)
  - Unable to follow commands
- ITD removed
- If Lucas used release/retract “pressure pad”
- Airway confirmed with each move
- Oxygen titrated to  $>94 < 100\%$
- Continuous ETCO<sub>2</sub>
- 12-Lead ECG (If STEMI, transmit 12 Lead ASAP)
- Resuscitation Alert/STEMI Alert Declared
- Versed/Vecuronium if not hypotensive (advanced airway only)
- Cold fluids/Levophed for MAP  $\geq 65$
- Ice packs applied to neck, axilla, groin
- Cold saline infused 30ml/kg max 2L
- Controlled Ventilation  $< 12$  bpm
- Adequate personnel for transport
- If loss of ROSC go to appropriate Protocol

## Post Resuscitation Checklist

- ITD Removed
- Lucas Device “pressure pad” released and retracted
- Oxygen titrated to  $>94 < 100\%$
- Fluids and Levophed considered for  $MAP \geq 65$
- 12-Lead ECG (If STEMI, transmit 12 Lead ASAP)
- Resuscitation Alert/STEMI Alert Declared
- Continuous ETCO<sub>2</sub> monitoring
- Controlled Ventilation  $< 12$  bpm
- Adequate personnel for transport
- Airway placement confirmed with each move
- Ensure BVM mask secured onto O<sub>2</sub> tubing and immediately available.
- Consider Criteria for Induced Hypothermia

## Medications Quick Reference Chart

<b>Medication &amp; COG or Document used in:</b>	<b>Adult Dose ≥ 37 Kg</b>	<b>Pedi Dose &lt; 37 Kg</b>
<b>Acetaminophen (APAP) (Tylenol):</b> Adult Fever/Infection M-09, Adult Pain M-16, Pedi Fever/Infection PM-03, Pedi Pain PM-06, Pedi Seizure PM-07, Clinical Reference: (Pedi) CR - 36	Up to 1 Gram PO (M-09, M-16)	15 mg/kg PO (max dose 500mg) (PM-03, PM-06, PM-07, CR-27)
<b>Adenosine:</b> Adult SVT C-04, Pedi SVT PC-02 Clinical Reference:(Pedi)CR-36	12 mg IV/IO may repeat x1 (max 24 mg total) (C-04)	0.2mg/kg, IV/IO (max of 12 mg per dose) may repeat X1 (PC-02)
<b>Albuterol:</b> Adult Allergic Reaction M-02, Adult Respiratory Distress R-04, Adult Respiratory Distress Spcl. Ops.SO-01 Adult and Pedi Drowning T-04 Pedi Allergic Reaction PM-01, Pedi Respiratory Distress PR-03 Clinical Standard CS-20	2.5 mg single dose Neb. (T-04)  2.5 mg continuous Neb. (M-02, R-04)  Assist with "Patients MDI" (R-04)  2 "puffs" MDI unit doses q5 x3 prn (SO-01)	2.5 mg single dose Neb. (T-04)  2.5 mg continuous Neb. (PM-01, PR-03)  Assist with "Patients MDI" x 6 (PR-03)
<b>Amiodarone:</b> Adult Wide Complex Tachycardia C-05, Adult Pulseless VF/VT CA-03, Pedi Wide Complex Tachycardia PC-03, Pedi Pulseless VF/VT PCA-03 Clinical References: (Adult Infusion Charts) CR-01, CR-02, (Pedi Infusion Chart) CR-36	150mg IV/IO over 10 minutes. May repeat x2 150 mg q10 min (max. total dose 450 mg) (C-05)  300mg IV/IO push Repeat in 4min at 150 mg IV push x 1 (CA-03)	5mg/kg IV/IO over 20 min. (max. dose of 150 mg) (PC-03)  5 mg/kg IV/IO (max 300mg) may repeat x1 (max 2nd dose 150 mg) (PCA-03)
<b>Aspirin:</b> Adult Chest Pain/Suspected ACS (C-01)	324 mg PO (C-01)	∅
<b>Atropine Sulfate:</b> Adult Organophosphate Exposure (M-14) Adult Bradycardia Algorithm (C-02) Pedi Bradycardia Algorithm (PC-01) Clinical Reference: (Pedi Dose Chart) CR-36	0.8 mg q3 up to 0.04mg/kg IV/IO (C-02)  2 mg up to 6 mg atropine IV/IO/IM. May repeat every 3 to 5 mins until symptoms improve (M-14)	0.02 mg/kg (Min 0.1 mg--Max 1 mg) IV/IO May repeat x1 in 5 min. (PC-01)
<b>Calcium Chloride:</b> Adult Bradycardia C-02 ( <b>OLMC</b> ), Adult Asystole/PEA CA-02, Adult Pulseless VF/VT CA-03, Adult Persistent Pulseless DSED CA-06 Adult Overdose M-15 ( <b>OLMC</b> ), Clinical References: (Pedi Infusion Charts) CR-36 ( <b>OLMC</b> )	1 gram IV/IO (CA-02,CA-03, CA-06)  1 gram IV/IO over 10 minutes (C-02, M-15)	∅

## Medications Quick Reference Chart

<b>Chlorohexadine:</b> Wound site preparation Clinical Procedures: CP-05, CP-10, CP-17, CP-28, CP-34, CP-37, CP-38, CP-61	Unit dose (packet)	Unit dose (packet) if ≥ 6 months old
<b>Dextrose:</b> Adult Asystole/PEA CA-02, Adult Altered Mental Status M-03, Newly Born OB-03, Pedi Bradycardia PC-01, Pedi Altered mental Status PM-02, Pedi Asystole/PEA PCA-02 Clinical Reference: (Pedi Dose Chart) CR-36 Clinical Standard CS-20	IV Infusion of 10% Dextrose in 250mL premixed bag of Sterile Water (CA-02, M-03) Titrate to patient's response/condition.	1g/kg IV Infusion of 10% Dextrose in 250mL premixed bag of Sterile Water Max dose 25 grams (OB-03, PC-01, PM-02, PCA-02, CR-21) Must use volume control device (IV Burette) for infusion. Titrate to patient's response/condition.
<b>Diltiazem:</b> Adult Atrial fib. with RVR C-03 ( <b>OLMC</b> ), Adult SVT C-04 ( <b>OLMC</b> ) Clinical Reference:(Adult)CR-35	1 <sup>st</sup> dose 0.25 mg/kg (max 20 mg) May repeat in 15 min: 2 <sup>nd</sup> dose 0.35 mg/kg (max 25 mg) (C-03, C-04)	∅
<b>Diphenhydramine (Benadryl):</b> Adult Allergic Reaction M-02, Adult Behavioral M-05, Pedi Allergic Reaction PM-01, Pedi Overdose PM-09 Clinical Reference:(Pedi)CR-36	25 mg IM/IV/PO (M-02)  50 mg IV/IM (M-02, M-05)	1 mg/kg IV/IM x1 dose (PM-01, PM-09) <b>Do Not administer if &lt; 5kg</b>
<b>Enalapril (Vasotec):</b> Adult Pulmonary Edema R-03	1.25 mg IV if SBP ≥ 140 mmHg (R-03)	∅
<b>Epinephrine:</b> Adult Bradycardia C-02 ( <b>OLMC</b> ), Adult Asystole/PEA CA-02, Adult Pulseless VF/VT CA-03, Adult Allergic Reaction M-02, Adult Respiratory Distress R-04 Adult Respiratory Distress Spcl. Ops.SO-01 Pedi Bradycardia PC-01, Pedi Allergic Reaction PM-01, Pedi Overdose PM-09, Pedi Respiratory Distress PR-03, Pedi Asystole/PEA PCA-02, Pedi Pulseless VF/VT PCA-03, Pedi Hypotension PM-04 ( <b>OLMC</b> ), Pedi Multi. Trauma PT-03 ( <b>OLMC</b> ), Clinical References: (Adult Infusion) CR-4, (Pedi Infusion) CR-23 Clinical Standard CS-20 Clinical Reference:(Pedi)CR-36	0.3 mg 1:1,000 IM per dose x 4 q5min (max total <b>1.2 mg</b> ) (M-02)  EMT-B and ILS Providers single dose of 0.3 mg IM (1:1,000) if ≥ 30 kg (M-02)  Epi Pin ≥ 30 kg (M-02)  0.3 mg 1:1,000 IM per dose x 1 (S0-01)  2 mg 1:1,000 Neb.(mixed with 1ml NS) (R-04)  1 mg 1:10,000 IV/IO per dose q4 min (CA-02, CA-03)  2-10 mcg/min IV Infusion titrated to MAP ≥ 65 (C-02 OLMC)	0.01mg/kg 1:1,000 IM per dose (max single dose 0.3mg) x 1 (PR-03) <b>Do Not administer if &lt; 8kg</b>  0.01mg/kg 1:1,000 IM per dose (max single dose 0.3mg) x 4 q5min (max total <b>1.2 mg</b> ) (PM-01) <b>Do Not administer if &lt; 8kg</b>  EMT-B and ILS Providers single dose of 0.15 mg IM (1:1,000) if < 30 kg (PM-01) <b>Do Not administer if &lt; 8kg</b>  Epi Pin Jr. < 30 kg (PM-01) <b>Do Not administer if &lt; 8kg</b>  0.5 mg 1:10,000 (5 ml) Neb (PR-03)  Epinephrine 0.01 mg/kg IV/IO (max 1mg) (0.1 mL/kg of 1:10,000) Repeat every 3-5 min (PCA -02, PCA-03, PC-01)  0.1-1 mcg/kg/min infusion (PC-01, PM-04, PT-03)  0.1 mcg/kg/min infusion (PCA-02, PM-09)

## Medications Quick Reference Chart

<p><b>Fentanyl Citrate:</b> Adult Pain Management M – 16, Adult Chest Pain/Suspected ACS C – 01, Adult Burns T – 02, Adult Constant Crush Injury &gt; 4 hrs. SO-11, Pedi Pain Management PM – 06, Pedi Burns PT – 01 Clinical Reference:(Adult)CR-35(Pedi)CR-36</p>	<p>1 mcg/kg IV/IM/IN up to 100 mcg may repeat 25 mcg q 10 min (Max total 300 mcg) SBP &gt; 100mmHg As needed until improvement. (M-16, C-01, SO-11)</p> <p>1 mcg/kg (per dose) q5min with SBP &gt; 100 mmHg (max total up to 400 mcg) (T-02)</p>	<p>1 mcg/kg IV/IM/IN Repeat 0.5 mcg/kg PRN q 5 min(Max total 2 mcg/kg) with SBP &gt;70 + (age in years x 2) mmHg (PM-06) <b>Do Not administer 2<sup>nd</sup> dose if &lt; 6kg</b></p> <p>Fentanyl 1 mcg/kg IV every 5 min (Max total 200 mcg) with SBP &gt;70 + (age in years x 2) mmHg (PT-01) <b>Do Not administer 2<sup>nd</sup> dose if &lt; 6kg</b></p>
<p><b>Glucagon:</b> Adult Bradycardia C-02, Adult Asystole/PEA CA-02, Adult Altered Mental Status M-03, Adult Overdose M-15, Pedi Bradycardia PC-01, Pedi Altered Mental Status PM-02, Pedi Overdose PM-09, Pedi Asystole/PEA PCA-02 Clinical Reference:(Pedi)CR-36</p>	<p>1 mg IM (M-03)</p> <p>3 mg IV (C-02, M-15, CA-02 may use IO route for CA)</p>	<p>0.1 mg/kg (max dose 1 mg) (PC-01, PM-02, PM-09, PCA-02)</p>
<p><b>Haloperidol (Haldol):</b> Adult Behavioral M-05</p>	<p>5 mg IM, May repeat X 1 dose q 10 min. (M-05)</p>	<p>∅</p>
<p><b>Hurricane/Cetacaine Spray:</b> Nasotracheal Intubation Procedure CP-44</p>	<p>1 metered spray (may repeat x 1)</p>	<p>∅</p>
<p><b>Hydroxocobalamin (Vitamin B<sub>12</sub>)</b> Adult Cyanide M-21 Pedi Cyanide PM-11 Clinical Reference:(Pedi)CR-36</p>	<p>5 grams IV over 15 min (M-21)</p>	<p>70 mg/kg IV at 15mL/min (Max dose 5 grams) (PM-11)</p>
<p><b>Ibuprofen (Motrin):</b> Adult Fever/Infection M-09 Adult Pain Management M-16</p>	<p>Up to 400 mg PO (M-09) Up to 600 mg PO (M-16)</p>	<p>∅</p>
<p><b>Ipratropium Bromide (Atrovent):</b> Adult Respiratory Distress R-04 Adult &amp; Pedi Drowning T-04 Pedi Respiratory Distress PR-03</p>	<p>0.5 mg (unit dose) Neb. X 1 (mixed with Albuterol) (R-04, T-04)</p>	<p>0.5 mg (unit dose) Neb. X 1 (mixed with Albuterol) (T-04)</p> <p>0.5 mg (unit dose) Neb. X 3 (mixed with Albuterol) (PR-03)</p>
<p><b>Lidocaine:</b> Adult Wide Complex Tachycardia C-05, Adult Pulseless VF/VT CA-03, Adult Persistent Pulseless DSED CA-06 Adult Eye Injury/Complaint M-08, Pedi Pulseless VF/VT PCA-03, Pedi Wide Complex Tachycardia PC-03 Universal IV Access U-02 Clinical Procedure (IO) CP-38 Clinical References: (Pedi Infusion) CR-25 Clinical Reference:(Adult)CR-35 (Pedi)CR-36</p>	<p>1.5 mg/kg IV/IO q5min (max 3mg/kg) (CA-03, CA-06, C-05) If converts, <b>OLMC</b> for additional bolus doses of 1.5 mg/kg.</p> <p>100mg in each bag of NS for eye irrigation (M-08)</p> <p>40 mg for pain of IO infusion (U-02, CP-38)</p>	<p>1mg/kg IV/IO q 5 min (Max 3 mg/kg) (PC-03)</p> <p>1 mg/kg (max total dose 100 mg) May repeat x 2 (PCA-03)</p> <p>20-50 mcg/kg/min infusion (PC-03, CR-25)</p>
<p><b>Magnesium Sulfate 50%:</b> Adult Respiratory Distress R-04, Adult Wide Complex Tachycardia C-05, Adult Pulseless VF/VT CA-03, Adult Persistent Pulseless DSED CA-06, Obstetrical Emergency OB-02, Pedi Respiratory Distress PR-03, Pedi Pulseless VF/VT PCA-03, Pedi Wide Complex PC-03, Clinical Reference: (Pedi Infusion) CR-36</p>	<p>2 grams IV place into 50ml/NS and infuse over 20 min (R-04)</p> <p>2 grams IV slow push (CA-03, CA-06 may use IO for CA) (Push over 5 min for C-05)</p> <p>4 grams IV place into 50ml/NS and infuse over 5 minutes (OB-02)</p>	<p>50mg/kg IV over 20 minutes (max dose 2 grams) (PR-03, PC-03, CR-26)</p> <p>50 mg/kg slow IV/IO May repeat same dose q- 5 minutes until a maximum total dose of 2 grams. (PCA-03)</p>

## Medications Quick Reference Chart

<p><b>Methylprednisolone (Solu-Medrol):</b> Adult Allergic Reaction M-02, Adult Respiratory Distress R-04, Adult Respiratory Distress Spcl. Ops. SO-01 Pedi Allergic Reaction PM-01, Pedi Respiratory Distress PR-03 Clinical Reference:(Pedi)CR-36</p>	<p>125 mg IV (M-02, R-04, SO-01)</p>	<p>2 mg/kg IV (PM-01, PR-03 IV/IM route)</p>
<p><b>Midazolam:</b> Adult Induced Hypothermia CA-04, Adult Bradycardia C-02, Adult Atrial Fib. with RVR C-03, Adult SVT C-04, Adult Wide Complex Tachycardia C-05, Adult Behavioral M-05, Adult Excited Delirium M-07, Adult Hyperthermia, Environmental M-10, Adult Overdose M-15, Adult Seizure M-17, Pedi SVT PC-02, Pedi Wide Complex Tachycardia PC-03, Pedi Seizure PM-07, Pedi Overdose PM-09 Clinical References:(Pedi)CR-36</p>	<p><b>Anti Convulsant:</b> 5 mg IM/IN/IO/IV May repeat PRN max total dose 10 mg with SBP &gt; 100 mmHg (M-17)</p> <p><b>Sedation:</b> 2.5 – 5.0 mg IV/IO May repeat PRN max total dose 10 mg with SBP &gt; 100 mmHg</p> <p style="text-align: center;"><b>-OR-</b></p> <p>5 mg IM/IN May repeat PRN max total dose 10 mg with SBP &gt; 100 mmHg (CA-04, C-02, C-03, C-04, C-05, M-05, M-07, M-10, M-15)</p>	<p><b>Anti Convulsant:</b> 0.1mg/kg IV/IO/IM/IN (max total 5 mg) titrated to effect with SBP &gt;70 + (age in years x 2) mmHg (PM-07) <b>Do Not administer if &lt; 5kg</b></p> <p><b>Sedation:</b> 0.05 mg/kg IV/IO (max total 5 mg) titrated to effect with SBP &gt;70 + (age in years x 2) mmHg (PC-02, PC-03, PM-09) <b>Do Not administer if &lt; 5kg</b></p>
<p><b>Naloxone (Narcan):</b> Adult Overdose M-15, Newly Born OB-03, Pedi Overdose PM-09 Clinical Standard CS-20 Clinical Reference:(Pedi)CR-36</p>	<p>Up to 2 mg slow IV/IN/IM (M-15) If respirations depressed</p>	<p>0.1 mg/kg IV(OB-03, PM-09 may also use IN route in OD) If respirations depressed</p>
<p><b>Nitroglycerin:</b> Adult Chest Pain/Suspected ACS C-01 Adult Pulmonary Edema R-03</p>	<p>0.4 mg SL continuous with SBP ≥ 100 mmHg (R-03, C-01 and/or pain free with ACS)</p> <p>1” topical paste with SBP ≥ 100 mmHg (R-03, C-01)</p>	<p>∅</p>
<p><b>Norepinephrine (Levophed):</b> Adult Induced Hypothermia CA-04, Adult Hypotension M-11, Adult Suspected Sepsis M-23, Adult Multi. Trauma T-07, Clinical References: (Adult Infusion) CR-03</p>	<p>2 – 12 mcg/minute Titrated to MAP ≥ 65 (CA-04, M-11, M-23, T07, CR-03)</p>	<p>∅</p>
<p><b>Ondansetron (Zofran):</b> Adult Eye Injury/Complaint M-08, Adult Nausea/Vomiting M-13, Adult Hyperthermia, Environmental M-10, Pedi Nausea/Vomiting/Diarrhea PM-05, Pedi Hyperthermia, Environmental PM-08 Clinical Reference:(Pedi)CR-36</p>	<p>4 mg ODT single dose PO may repeat x1 q15 min. (M-08, M-10, M-13)</p> <p>4 mg IV/IM single (undiluted) dose given over &gt; 30 sec. may repeat x1 q 15 min. (M-10, M-08, M-13)</p>	<p>0.1 mg/kg IV single (undiluted) dose given over &gt; 30 sec.(max dose 4 mg) (PM-05, PM-08)</p>
<p><b>Oral Glucose:</b> Adult Altered Mental Status M-03 Pedi Altered Mental Status PM-02 Clinical Standard CS-20</p>	<p>15 grams if patient is not obtunded. May repeat x1 q 15min (M-03)</p>	<p>7.5 grams if Pt. able to protect Airway (PM-02)</p>
<p><b>Otrivin ( Afrin) nasal spray:</b> Epistaxis M-22, Nasotracheal Intubation Procedure CP-44</p>	<p>2 sprays per effected nostril (M-22, CP-44)</p>	<p>∅</p>

## Medications Quick Reference Chart

<b>Proparacaine Hydrochloride:</b> Adult Eye Injury/Complaint M-08	2 gtts in effected eye (M-08)	1 gtt in effected eye (M-08)
<b>Pyridoxine:</b> Adult Toxic Exposure – Hydrazines (SO-07) Clinical Reference:(Adult)CR-35	25 mg/kg IV over 5 min.(SO-07)	Ø
<b>Rocuronium Bromide:</b> Adult Induced Hypothermia CA-04 Clinical Reference:(Adult)CR-35	1 mg/kg x 1 IV/IO to max of 100mg (with Advanced Airway only) (CA-04)	Ø
<b>Sodium Bicarbonate:</b> Adult Wide Complex Tachycardia C-05, Adult Asystole/PEA CA-02, Adult Pulseless VF/VT CA-03, Adult Persistent Pulseless DSED CA-06, Adult Overdose M-15, Pedi Bradycardia PC-01, Pedi Asystole/PEA PCA-02, Pedi Overdose PM-09, Toxic Exposure Chlorine SO-04, Adult Constant Crush > 4 hours SO-11 Clinical Reference:(Adult)CR-35(Pedi)CR-36	1 meq/kg x 1 IV (C-05, CA-02, CA-03, CA-06 may use IO route in CA)  50 mEq (1 amp) IV followed by a maintenance drip of 100 mEq (2 amps) in 1000 mL of NS and run at 100mL/hr (M-15)  50 mEq (1 amp) in 1000 mL NS wide open IV (SO-11)  <u>Nebulized:</u> Place 2 ml sodium bicarbonate 8.4% (standard sodium bicarbonate) into 2 ml of sterile water administered by hand-held nebulizer. May be repeated every 20 minutes. Max dose total of 2 times. (SO-04)	1meq/kg IV/IO (PC-01, PCA-02, PM-09)
<b>Terbutaline Sulfate:</b> Adult Respiratory Distress Spcl. Ops. SO-01	0.25 mg SQ may repeat q15min x 2 prn (SO-01)	Ø
<b>Vecuronium Bromide:</b> Adult Induced Hypothermia CA-04 Clinical Reference:(Adult)CR-35	0.1 mg/kg to max of 10 mg (with Advanced Airway only) (CA-04)	Ø
<b>Xylocaine gel:</b> Nasotracheal Intubation Procedure CP-44 Gastric Tube Insertion Procedure CP-32 (nasal application without intubation)	1 unit dose (packet) (CP-32, CP-44)	Ø

## Diltiazem

- Class** ..... Diltiazem hydrochloride is a calcium ion cellular influx inhibitor (slow channel blocker or calcium antagonist).
- Action** ..... Nondihydropyridine calcium-channel blocker: Inhibits extracellular calcium ion influx across membranes of myocardial cells and vascular smooth muscle cells, resulting in inhibition of cardiac and vascular smooth muscle contraction and thereby dilating main coronary and systemic arteries; no effect on serum calcium concentrations; substantial inhibitory effects on cardiac conduction system, acting principally at AV node, with some effects at sinus node
- Pharmacokinetics** ..... Diltiazem hydrochloride is extensively metabolized by the liver and excreted by the kidneys and in bile.
- Contraindications** ..... Diltiazem is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, (3) patients with hypotension (less than 90 mm Hg systolic), (4) patients who have demonstrated hypersensitivity to the drug, and (5) patients with acute myocardial infarction and pulmonary congestion.
- Precaution** ..... Cardiac Conduction: Diltiazem prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction
- Adverse effects** ..... Headache, constipation, rash, nausea, flushing, edema, drowsiness, low blood pressure, and dizziness.
- Indications** ..... Atrial Fibrillation with RVR, Paroxysmal Supraventricular Tachycardia
- Dosing** ..... **Per Protocol C-03, C-04**

### Adult Norepinephrine (Levophed) Infusion

Range of Infusion 2 - 12 mcg/min  
Titrate to MAP  $\geq$  65

Step 1  
Determine concentration

Mix 4 mg Levophed into 250 mL N/S (must use 60 drop set)  
Concentration = 16mcg/1mL

Step 2  
Determine Rate

Dose	2mcg/min	3mcg/min	4mcg/min	5mcg/min	6mcg/min	7mcg/min	8mcg/min	9mcg/min	10mcg/min	11mcg/min	12mcg/min
gtts/min	8	11	15	19	22	26	30	34	38	41	45

## Induced Hypothermia Checklist:

Meets criteria for induction: ROSC (and)

- ⇒  $\geq 37$  Kg
- ⇒ Non-traumatic cause
- ⇒ No suspected hemorrhagic cause
- ⇒ Temp  $> 34$  C (93.2 F)
- ⇒ Unable to follow commands

- |   |  |
|---|--|
| <input type="checkbox"/> ITD removed                                  | <input type="checkbox"/> Versed/Vecuronium if not hypotensive (advanced airway only) |
| <input type="checkbox"/> If Lucas used release/retract "pressure pad" | <input type="checkbox"/> Cold fluids/Levophed MAP $\geq 65$                          |
| <input type="checkbox"/> Airway confirmed with each move              | <input type="checkbox"/> Ice packs applied to neck, axilla, groin                    |
| <input type="checkbox"/> Oxygen titrated to $>95 < 100\%$             | <input type="checkbox"/> Cold saline infused 30ml/kg max 2L                          |
| <input type="checkbox"/> Continuous ETCO <sub>2</sub>                 | <input type="checkbox"/> Controlled Ventilation $< 12$ bpm                           |
| <input type="checkbox"/> 12-Lead ECG If STEMI Trans. 12Lead           | <input type="checkbox"/> Adequate personnel for transport                            |
| <input type="checkbox"/> Resuscitation Alert/STEMI Alert Declared     | <input type="checkbox"/> If loss of ROSC go to appropriate Protocol                  |

## **Post Resuscitation Checklist:**

- ITD Removed
- Lucas Device “pressure pad” released and retracted
- Oxygen titrated to  $>94 < 100\%$
- Fluids and Levophed for  $MAP \geq 65$
- 12-Lead EKG & Transmit
- Resuscitation Alert/STEMI Alert Declared
- Continuous ETCO<sub>2</sub> monitoring
- Controlled Ventilation  $< 12$  bpm
- Adequate personnel for transport
- Airway placement confirmed with each move
- Consider Criteria for Induced Hypothermia

### ALS Cardiac Arrest

- Pit crew pos. ID'd
- Code Com. At Monitor
- Continuous Compressions with Metronome
- O<sub>2</sub> flowing and attached to BVM
- ITD in place, Light on
- EtCO<sub>2</sub> waveform present
- Monitor in Paddles Mode
- IV/IO Access
- Consider Gastric Distension
- Family Receiving Care & at pt side
- Consider Reversible Causes (See Reverse)
- BVM mask on O<sub>2</sub> tubing if not in use

### Reversible Causes

- Hypovolemia
- Hypoxia
- Hydrogen Ions (acidosis)
- Hypothermia
- Hyper/hypokalemia
- Hypoglycemia
- Tablets/Toxins
- Tamponade
- Tension Pneumo
- Thrombosis (MI)
- Thrombosis (PE)
- Trauma

### Post Resuscitation

- ITD Removed
- Controlled Ventilation <12 bpm
- O<sub>2</sub> titrated 95-99%
- Fluids/Levophed as needed to MAP ≥ 65
- Consider induced hypothermia (see reverse)
- 12-lead EKG & Transmit
- Adequate personnel for transport?

*Call Resuscitation / STEMI Alert on radio if needed*

- Confirm airway with each move

### Hypothermia

- Meets Hypothermia Criteria
  - ≥ 37 Kg
  - Non-traumatic cause
  - No suspected hemorrhagic cause
  - Temp > 34C (93.2F)
  - Doesn't follow commands
- Cold Saline infusion 30 ml/kg max 2L
- Ice packs to neck, axilla, groin
- Versed/Vecuronium if not hypotensive
  - Versed: 5 mg
  - Vec: 0.1mg/kg max 10mg

### Medical TOR

- Pt  $\geq$ 18 yoa or family agreeable (consult commander/DMO)
- Adequate CPR
- ET, BIAD, or Cric Present
- IV/IO Access Present
- Appropriate meds/therapy administered for rhythm
- $>$ 20 min Asystole/Agonal rhythm
- No reversible causes
- No ROSC at any time
- No recurring/persistent V-fib
- No suspected hypothermia
- All providers agree with decision to terminate

**ALL criteria above must be met—otherwise contact System MD for termination**

### Trauma TOR

- Obvious injuries incompatible with life and/or obvious signs of organ destruction
- Pt is pulseless/apneic on arrival of first provider **AND**
- No resp. effort after basic airway maneuvers **AND**
- Organized electrical activity on ECG w/ rate (less than)  $<$  40
- Medical cause of arrest has been considered

### Chest Pain Checklist

- ASA chewed by pt?
- Pt meet Rapid 12-lead Criteria?
- Transmit 12 Lead ECG
- Radio Declaration, if STEMI:
  - Symptomatic and;
  - $\geq$ 1 mm ST-elevation in 2 contiguous leads, and
  - No STEMI Alert exclusions

***Move to Unit and Begin Txprt***

*See Reverse of Card*

### Enroute:

- Maintain SpO<sub>2</sub> 95-99%
- Manage Pain (NTG/Narcs)
  - Allergy/ED med use?
- Contact Receiving Hospital
- Via radio preferred**
- Via phone if radio not working
- IV access if time permits

### Exclusions for STEMI Alert

- LBBB
- LVH (S in V1 + R in V5 or V6)  $\geq$  35
- Isolated V1 – V2 elevation only
- Early Repolarization
- Diffuse ST Elevation
- Ventricular / Ventricular Paced

### Rapid 12-lead Criteria

Any Patient  $\geq$  30 yrs with:

- Pain between navel and jaw
- Pressure, discomfort, tightness, or heartburn
- Heart racing, palpitations, or heart “too slow”
- Syncope
- Severe Weakness
- Difficulty Breathing (no obvious respiratory cause)
- Suspected OD

OR pt of any age with any of above symptoms AND history (cardiac, diabetes, obese, fam. Hx early CHD, Recent Cocaine use)

If the patient meets any of the above criteria: EMT providers are to attach ECG electrodes ASAP and ALS providers are to obtain a 12 lead ECG within 5 minutes of ALS patient contact. [Transmit 12lead ASAP](#)